



# **HAMILTON – AUCKLAND COMMUTER RAIL SERVICE FEASIBILITY STUDY**

## **Final Report**

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Dear Bill

### HAMILTON-AUCKLAND COMMUTER RAIL FEASIBILITY STUDY

In association with Ross Rutherford, I have pleasure in submitting the Final Report for the Hamilton-Auckland Commuter Rail Feasibility Study.

This report takes into account the written and verbal comments we have received following the submission of the draft Final Report in late July 2006. While the position with regard to the continuation of the Overlander services remains uncertain, we have included an additional section which very briefly considers the implications of the cessation of these, although we do not believe that these materially alter the case for the new services. We have also taken the opportunity to consider some of the issues associated with a lower cost option for restarting services, using only the existing stations at Hamilton and possibly Huntly. Because of the reduced costs of this option, the funding gap would be reduced and the benefit cost ratio improved.

While there are a number of challenges which would need to be addressed if the service is to be re-instated, we believe that it would form an important step in the improvement of the links between the Auckland and Hamilton and the integration of the two regional economies.

We would like to thank you for this opportunity to assist in the development of the links between Hamilton and Auckland and of the rail network in New Zealand in general.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'RSPal', followed by a long horizontal stroke and a large, stylized 'J' shape.

R S Paling  
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# **HAMILTON – AUCKLAND COMMUTER RAIL SERVICE FEASIBILITY STUDY**

## **EXECUTIVE SUMMARY**

### **1 Introduction**

Environment Waikato (EW) and Hamilton City Council (HCC) engaged Richard Paling Consulting Ltd to investigate a possible commuter rail service between Hamilton and Auckland. The purpose of this study is to answer a number of questions including:-

- Is a service operationally feasible
- How many people might use the service
- What would it cost and would the service be financially self-supporting
- Is there an economic case for the provision of the service
- When might it be put in place
- What agencies would be involved with the establishment of the new services
- What are the next steps for EW and HCC

### **2 Is a service operationally feasible?**

By combining the proposed commuter rail service from Hamilton to Auckland with the existing Auckland Regional Transport Authority (ARTA) service between Pukekohe and Auckland, it should be possible to provide a service which has access to central Auckland along a route and a time likely to be attractive to commuters. While there is no rolling stock currently available which is of a suitable quality and capacity for sustaining the service over the longer term, this could be procured over a reasonable time scale. We have assumed that the service would be operated jointly by ARTA and EW.

### **3 How many people might use the service?**

The numbers forecast to use the train from the Waikato range from about 50-100 per day in each direction assuming stations in Hamilton, Ngaruawahia, Huntly and Te Kauwhata.

### **4 What would it cost to set up and operate and would the service be financially self-supporting?**

The costs of setting up the service would include the provision of a refurbished train and the provision of supporting infrastructure at the stations, including platforms, shelters, park and ride facilities and revisions to signalling. It is assumed that there would be some form of cost-sharing with ARTA, and the appraisal is based on the incremental costs which would need to be met by regional sources (EW and the Territorial Authorities). The incremental costs of the refurbished rolling stock and the cost of the supporting infrastructure would amount to about \$10 million. The incremental annual operating costs of the train over and above the costs assumed to be incurred by ARTA are estimated at about \$1.4 millions. These costs are summarised in Table 1.

<b>Table 1</b> <b>Incremental Capital and Operating Costs of Proposed Hamilton-Auckland</b> <b>Commuter Rail Services</b> <b>(\$ millions)</b>			
	<b>Total Costs</b>	<b>Costs assumed met by ARTA</b>	<b>Incremental Cost to be met by Regional Sources</b>
Rolling stock	12.6	8.2	<b>4.4</b>
Other supporting infrastructure	6.0	-	<b>6.0</b>
<b>Total Capital Costs</b>	<b>18.6</b>	<b>8.2</b>	<b>10.4</b>
<b>Annual Operating Costs</b>	<b>2.3</b>	<b>0.9</b>	<b>1.4</b>

Converting the capital costs to annual equivalents, the total annual cost to regional sources would amount to about \$3 million per year before any LTNZ subsidy. Incremental revenues from the service in the Waikato would fall short of the operating costs and an operating subsidy would be required throughout the period of service.

When discounted the overall funding gap from the incremental operation would amount to about \$11 millions Net Present Value (NPV). In strict financial terms, the service as proposed would not be commercially viable and would need to be supported by subsidy. Lower cost options involving the use of existing stations may exist which would reduce but not avoid the need for financial support.

## 5 Is there an economic case for the provision of the service?

The provision of the rail services will generate benefits to the users that are greater than the fares for the service and by diverting traffic away from the road network will generate benefits to other road users, particularly within the Auckland urban area. The overall economic position is summarized in Table 2.

<b>Table 2</b> <b>Base Case Benefit Cost Analysis (NPV \$millions)</b>	
PT Users Benefits	2.4
Road User Benefits	9.3
<b>Total Benefits</b>	<b>11.7</b>
<b>Funding Gap</b>	<b>11.7</b>
<b>Benefit Cost Ratio (BCR)</b>	<b>1.0</b>

The user benefits from the proposed service just offset the funding gap and the scheme has a BCR of about 1. In a range of sensitivity tests the BCR ranged from 0.6 to 1.2, suggesting that in conventional economic terms the scheme is broadly marginal. Lower cost options would have slightly improved economic returns but the scheme would still be marginal.

The extent to which the proposed service would be in line with NZTS/LTMA criteria and objectives is summarized in Table 3. The proposal is generally supportive of these criteria.

<b>Table 3</b> <b>Summary of Assessment against LTMA and NZTS Criteria</b>	
Criteria/Objective	Assessment
Economic Development	Moderately beneficial - beneficial
Safety and Personal Security	Neutral
Accessibility and Mobility	Moderately beneficial
Public Health	Neutral
Sustainability	Beneficial
Integration	Neutral-Moderately beneficial
Responsiveness	Beneficial

A key element of the scheme is its potential importance as the precursor of a more general improvement in rail services between Auckland and Hamilton. This would result in a more effective integration of the two economies with consequent increases in economic output and choices for those living and working in the Waikato and Auckland regions.

## 6 What agencies would be involved with the establishment of the new services?

There are a number of agencies who would be concerned with the implementation of the proposed new service. The most important of these are set out in Table 4:-

<b>Table 4</b> <b>Key Agencies Involved in the Establishment of New Services</b>	
EW/HCC	Project Sponsors and funders
ARTA	Potential owners of the rolling stock and co-partners in the new rail service
Land Transport New Zealand	Potential providers of funding to supplement local contributions
Train operators	Operators of the trains and potential suppliers of new or refurbished rolling stock
Ontrack	Owners and operators of the rail track and station platforms. Access provider
Other territorial authorities	Providers of supporting infrastructure at locations outside Hamilton and the Auckland region
Other Government agencies such as MoT and MED	Possible providers of political support

## 7 When might it be put in place?

While there is pressure to start the service as soon as possible, the need to provide refurbished or new rolling stock and develop the stations to be used by the service precludes an early date. In reality, it is likely that services would not be able to commence until 2009 at the earliest.

## 8 What are the next steps?

Because of the range of parties involved, the complexity of the project and the need for subsidy, there are a number of steps which are required to progress the project. A possible action programme up to the submission for funding for LTNZ is set out in Figure 1. This is based on the inclusion of the continuing investigation of possible new services in the Regional Passenger Transport Plan review with consultation through the LTCCP and Annual Plan processes.

Action	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07
Review Business case and identify scheme to be progressed								
Discussions with ARTA and ARC to discuss principle of approach and identify form of project governance								
Establish project team								
Discussions with LTNZ to seek approval for project in general and identify ways in which a service might be procured and requirements for any submission for funding								
Discussions with Toll to define in greater detail the possible costs of the rolling stock and its operation								
Talk to ONTRACK to identify ways in which changes in tracks and signalling can be progressed and refine the associated costs.								
Identify the full costs and timescale for the infrastructure works and rolling stock procurement								
Review and refine the patronage forecasts through local surveys, particularly identifying the demand at the smaller towns along the route etc								
Review business case and identify appropriate way forward								
Further detailed negotiations with ARTA on operations and funding								
Submission to LTNZ for funding for the service								

**Figure 1**  
**Proposed Initial Action Programme**

## 9 Overall Assessment

The proposed development of a successful inter-regional rail commuter service between Hamilton and Auckland is a complex project, in part by the numbers of parties involved and in part because of the constraints in providing an attractive service into central Auckland at a time to suit the needs of commuters. However, by extending existing services between Pukekohe and Auckland, an opportunity potentially exists to provide such a facility.

The service as proposed requires a substantial financial subsidy and in terms of a conventional transport economic analysis, it is marginal. However it does score well against the standard LTMA criteria, and its key role is possibly as a precursor of more regular rail services between the two major cities. This would, encourage integration and resulting economic development and would expand the opportunities for those living and working in the area in a sustainable manner.

# **HAMILTON – AUCKLAND COMMUTER RAIL SERVICE FEASIBILITY STUDY**

## **1 Introduction and Background to the Study**

With the rapid growth of Auckland and Hamilton and the increasing congestion within the Auckland Region making travel more lengthy and unreliable, there has been increasing interest in reinstating rail services between the two cities. Proposals, modelled broadly on the successful Capital Connection operated between Palmerston North and Wellington aimed to supplement the very limited service between Hamilton and Auckland operated as part of the longer distance services between Auckland and Wellington. In the late 1990s, a study was undertaken on the potential viability of a commuter rail service by Symonds Travers Morgan (STM). This is reviewed in detail below. A range of patronage forecasts were developed and the report suggested that if the new services were successful in attracting passenger volumes at the upper end of the range the service could be financially viable.

On 26 June 2000, Tranz Scenic, a subsidiary of Tranz Rail (now Toll NZ) established a commuter service between Hamilton and Auckland, calling at intermediate stations at Huntly, Pukekohe and Papakura, and operating into the railway terminus in Auckland at the Strand, at a distance from the main city centre. The service used the Silver Fern railcars. The ridership on this service steadily built up but was not sufficient to achieve financial viability. Following the sale of Tranz Scenic, the new owners reviewed the service and requested a subsidy, reported to be about \$400,000 per year, to continue operations. This subsidy was not forthcoming and in October 2001, the service was terminated.

Auckland Region subsequently extended one of its commuter services to Pukekohe replacing the Hamilton service and using the Silver Fern railcars leased from Tranz Rail.

Since that date, there has been increasing growth in Auckland and Hamilton and increasing interaction between the two particularly with the increase in economic activity in northern Hamilton as an alternative to Auckland. In addition, there has been continued growth in congestion on the road network particularly within Auckland. Passenger rail in the Auckland region has undergone a renaissance with passenger flows increasing from about 2.2 million per year in 2001 to 5 million per year currently, in part reflecting the relocation of the central Auckland rail station from the Strand to a much more central location at Britomart and there is the prospect of continuing strong growth.

There has therefore been renewed interest in the development of rail services between Hamilton and Auckland, and Auckland Regional Transport Authority (ARTA) in the section of their publication "High Quality Rail Rapid Transit for Auckland" dealing with the future "What will the Rail Network look like in 25 years time" make the statement: "Regular commuter services reach out to the north and south as far as Wellsford and Hamilton using diesel trains." This interest has led to the undertaking of this initial study of the feasibility of re-introducing a commuter rail service between Hamilton and Auckland.

## **2 The Existing Position**

### **2.1 The Existing Rail System**

#### **2.1.1 Track**

The Hamilton rail system consists of two lines, namely the North Island Main Trunk Line (NIMT), and the single track East Coast Main Trunk Line (ECMT) which leads to the Ports of Tauranga and Mount Maunganui. Both lines are predominantly freight lines.

The NIMT crosses State Highway 1 at Kahikatea Drive to the south of the city and at Avalon Drive in Te Rapa. To the north of Hamilton, the line passes through Ngaruawahia, Huntly, Te Kauwhata and Mercer then on to Pukekohe.

The NIMT is mainly double track from Hamilton to central Auckland, with a few single-track sections, including the crossing of the River Waikato at Ngaruawahia. Within the single track sections there are passing loops and although there are significant movements of freight on the line, shortage of track capacity outside the Auckland region is not perceived as a significant problem.

Within the Auckland region, the NIMT passes through Pukekohe, Papakura, Manurewa, Papatoetoe then Otahuhu. North of Westfield the line splits into two. The NIMT runs via Glen Innes along the waterfront to Quay Park Junction, beside the former Auckland railway station. A new double track line links the Quay Park junction with the Britomart station. The North Auckland Line passes through Ellerslie and at Newmarket it turns west towards Henderson and Helensville. A third line, the Newmarket Branch, links Newmarket and Quay Park Junction.

#### **2.1.2 Stations**

There is one functioning railway station in Hamilton, namely the Hamilton Railway Station located off Fraser Street at the intersection of the ECMT and NIMT. There are platforms on both the NIMT (just south of the junction) and on the ECMT, although only the former is in active use. There is a well laid out parking area plus a bus stop in front of the station. The Hamilton Railway station is not ideally situated, being to one side of the CBD and with relatively poor road access, although could possibly be used if services started in advance of the construction of proposed new stations in Hamilton.



**Figure 2.1**  
**Existing Hamilton Station**

The Central Rail Station is located under the Warehouse building opposite the Hamilton Transport Centre. The station is closed as there are no passenger services using it. When the station was operating, it was regarded as unattractive and unsafe. Tranz Rail (now Toll NZ) found it difficult to provide adequate security due largely to the limited services using the station, lack of a staff presence, and the inability to close off the station to street kids etc. using the track to access the station.

The underground Central Station has a single track and a side platform. Depending on the type and frequency of service, reopening the underground station could require construction of a second track and second platform, which given the location of the site and the constraints that exist could be technically challenging. The HARTS study estimated that the cost of doing so could be approximately \$50 million, although it may be appropriate to review this figure if proposals for passenger services along the ECMT are developed.

Ngaruawahia Station is hidden behind a row of bushes and overlooks an industrial area. There is no shelter and the station is not currently used.



**Figure 2.2**  
**Site of Ngaruawahia Station**

Huntly Station is accessed via a long pedestrian bridge across State Highway 1, and also has road and pedestrian access from the east. It has a basic shelter. The station environment is industrial and unattractive, but the platform is easily visible from the nearby state highway. Although there is a metalled area east of the station, secure parking for park-and-ride may be better provided west of the station. The station is located on a loop track accessed from the Down (Hamilton direction) main line.

Te Kauwhata Station platform is edged with low plants and is surprisingly well looked after. There is no shelter and passenger trains do not serve the station.



**Figure 2.3**  
**Te Kauwhata Station**

Although not included in the brief for the study, the possibility of stopping trains at Tuakau has also been investigated. There is a site for the station close to the town centre, which could be accessed from a controlled road crossing, avoiding the need to provide a footbridge.



## **Figure 2.4**

### **Possible Site of Tuakau Station**

The stations in the Auckland region are being upgraded as part of the programme for upgrading the passenger rail system. The November 2005 10-year programme of the Auckland Regional Transport Authority (ARTA) has the station upgrading completed by mid-2009, although Auckland Regional Council (ARC) funding constraints may delay completion until 2011/12. On completion, all stations will have good quality shelters, seating, lighting, information, and pedestrian access plus CCTV surveillance and public address systems. Several stations have a park-and-ride facility. Some platforms will be 140m long, sufficient to accommodate 6-car trains. The Auckland system currently ends at Pukekohe.

Papakura and Manurewa stations have a bus/rail interchange.

Manukau Station completion will depend on construction of a spur line to Manukau City Centre. This current assessment is that the station will open in early 2010. The Manukau Station is not, however, relevant for a Hamilton service, as direct access to the station from the south appears unlikely to be provided.

The Newmarket Station is an important destination in its own right and is the location of transfers between southern and western passenger rail services. The Newmarket junction is to be reconfigured and the station upgraded by mid-2008. Work is expected to start around mid-2007.

Britomart is a major bus/rail/ferry interchange located at the Auckland Waterfront incorporating a modern, high quality, underground rail station.

## **2.2 Rail Passenger Services**

The only passenger services between Auckland and Hamilton are provided by the Overlander, the daily service between Auckland and Wellington. This leaves Auckland at 0725 and arrives in Hamilton at about 0945 and in the reverse direction leaves Hamilton at 1700 and arrives in Auckland at 1920. The service calls at the intermediate stations of Middlemore, Papakura and Pukekohe. The evening service into Auckland suffers from poor reliability with late running of up to an hour being reported as common. This service would not be suitable for commuting from Hamilton to Auckland and because of its timing and unreliability it would not be suitable for commuting from Auckland to Hamilton.

The standard fare on this service is \$48 for Auckland to Hamilton although a range of lower price fares is available.

## **2.3 Rail Network Ownership & Access**

Toll Holdings acquired Tranz Rail in 2003 and renamed the company Toll New Zealand. The Government repurchased the Auckland rail infrastructure in 2001 and the rest of the National Rail Network in 2004. The New Zealand Railways Corporation trading as ONTRACK has been responsible for managing and operating the rail network since 1 September 2004. ONTRACK is responsible for the structures, signalling, train control and track maintenance and is also the Access Provider.

The terms of the acquisition give Toll NZ exclusive access rights until 2070 for freight, and for inter-city passenger services operating at the date of the National Rail Access Agreement (NRAA), i.e. July 2004.

Toll NZ freight and passenger service exclusive rights are on a “use it or lose it” basis. Toll Rail loses its exclusivity over inter-city passenger services if it ceases to operate a regular passenger service (defined as operating at least three times per week in each direction) for the city pair concerned for a 12-month period or longer. New operators will be able to operate long-distance passenger services on routes not serviced by Toll NZ from July 2007. Toll NZ currently operates the Overlander passenger service between Wellington and Auckland via Hamilton.

ONTRACK may grant access rights to new operators on a non-exclusive basis. Toll NZ currently pays \$38 million per year as a single National Rail Network track access charge. Veolia Transport Auckland Ltd (VTAL), the Auckland passenger rail operator, and heritage rail operators also pay access fees. VTAL's access fees are currently around \$4 million per annum. Should another operator wish to use part of the National Rail Network (for freight or passenger services) it would also need to pay an access fee. ONTRACK is not currently in a position to state what that fee might be.

In accordance with the section 15 of the Railways Act 2005 which came into force in July 2005, a rail service operator requires a licence from the Director of Land Transport. The licence requires the applicant to have an approved safety case which must be derived from and be consistent with the applicant's safety system. The safety case would need to include the rolling stock proposed for the service and would need to demonstrate that it meets New Zealand's safety and interoperability requirements. The content of a safety case are stringent and are set out in section 30 of the Act. Transition arrangements apply for anyone holding a licence under the Transport Services Licensing Act 1989 immediately prior to commencement of the Railways Act 2005.

Anyone wishing to operate a passenger service must register the service under the Transport Services Licensing Act. A passenger services operator wishing to use the Auckland tracks in the Auckland region would need to reach agreement with the Auckland Regional Transport Authority (ARTA) - a body created in December 2004 to plan, fund and develop the Auckland regional land transport system. Access to the Britomart Station at the Auckland waterfront for a new train service would need to be approved by the owner of the station, currently Auckland Regional Transport Networks Ltd (ARTNL), and a charge may apply.

Auckland rail access issues are discussed further in later sections of the report.

## **2.4 Other Public Transport Services in the Corridor**

There are a range of other public transport services in the corridor between Hamilton and Auckland. Intercity coaches provide a service of about 10-12 services per day in each direction. In general, these services form parts of longer routes. The timing of these is not suitable for morning commuter trips.

There are shorter distance bus services between Huntly and Hamilton providing 17 buses in each direction on a weekday and also serving Ngaurawahia.

Further north there are two buses a day connecting Tuakau and Papakura, one in a morning and one in an evening. The timing of these means that they are not really

suitable for commuters to central Auckland , and would not allow it to be reached until after 9.00 a.m.

### 3 Outline of Proposed Services

#### 3.1 Introduction

The proposed services would provide a connection between Hamilton and Auckland, and would represent a reinstatement of the Waikato Connection services which were in operation from June 2000 to October 2001. The proposal is to provide a service leaving Hamilton early in the morning which would arrive in Auckland at a time which would be attractive to commuters into the city and to provide a return trip in the evening also timed to meet the needs of commuters. It is proposed that the service would also stop at a number of intermediate stations between Hamilton and Auckland and that two new stations would be provided in Hamilton to provide park and ride facilities to the north and south of the city centre.

The proposed stations along the route are set out in Figure 3.1

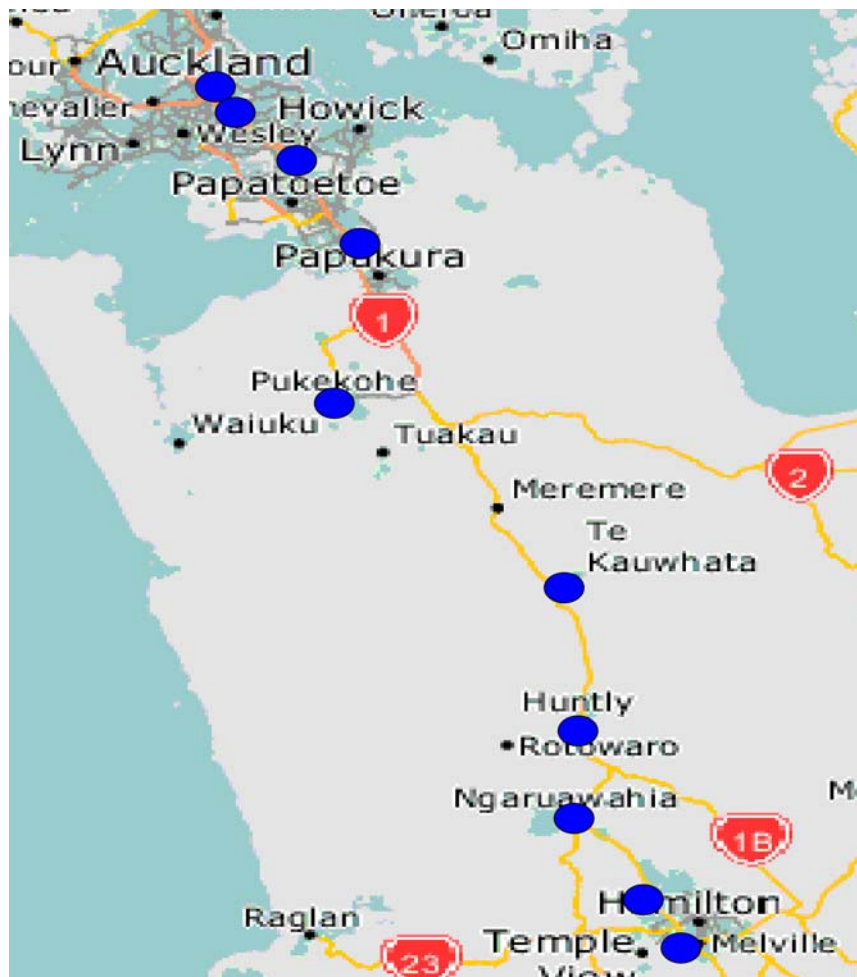


Figure 3.1  
Proposed Rail Stations

In order to be attractive to longer distance passengers, a high quality of service would need to be provided, and suitable rolling stock would need to be procured. It is anticipated that the rolling stock would need to include toilets, onboard refreshment facilities and outlet points for computer laptops.

Given the nature of the likely demand for such services, we do not consider that a service which stops short of central Auckland would be attractive to users. While in principle it would be possible to operate services to Pukekohe or to Papakura, the need to interchange to what may well be an all-stops train would not be attractive to users. Options which do not involve direct access into central Auckland station have not therefore been considered.

As an alternative to terminating in Britomart Station, the option of terminating the service at Newmarket and then relying on buses or other train services for any further part of the journey by public transport has been considered. There are however operational problems at least in the short term in providing an additional train to Newmarket and terminating this there and so this option has been discarded. The option of terminating services at the old Auckland station at The Strand was investigated. This station is now effectively unusable and would need considerable refurbishment to make it suitable for regular passenger services. It is also at some distance from the main destinations and onward transport services in central Auckland. This option has also not been considered further.

As part of this study, we have also investigated the options for providing additional services between the peak commuter services making use of the capacity which would otherwise not be in service. These would essentially provide capacity for trips into Hamilton and the surrounding area during the day, and could potentially complement the services currently offered by the Overlander. At this stage however there is insufficient information to reach any conclusions about the viability of these services.

## **3.2 Interaction with Other Service Proposals**

### **3.2.1 Rotorua Rail Services**

A business group based in Rotorua, Regional Rail (New Zealand) Ltd., has expressed interest in running a long distance passenger rail service out of Rotorua.

The passenger service would have a tourist focus and would travel between Rotorua, Hamilton and the Auckland region via the Rotorua Branch Line (currently closed), ECMT and NIMT lines. It is understood that the proposed service would operate twice daily. The indications are that it would depart from Rotorua at 6 am arriving in Manukau City Centre at 9.30 am, depart Manukau City at 10.00 am arriving in Rotorua at 1.30 pm, depart Rotorua at 2 pm arriving at Manukau City Centre at 5.30 pm, then depart Manukau at 6 pm arriving back in Rotorua at 9.30 pm. If Manukau City Centre rail station is not feasible as the Auckland terminus, as appears to be the case, the service may terminate at Papakura.

The company considers that many of the tourists would access the service from the Auckland International Airport and hence an Auckland terminus relatively close to the Auckland International Airport would be appropriate. Tourists/visitors from the Auckland Central Area could use the Auckland commuter rail service then transfer to the Rotorua Inter-City service at Manukau City Centre or Papakura.

It is understood that the passenger service may use a 3-car diesel multiple unit (DMU) manufactured by China South Rail. The DMU would be modern, high quality, air conditioned with toilets and seating for 176 passengers.

The target market and timetabling of this proposed service do not fit well with a Hamilton-Auckland service targeted primarily at commuters. There may, however, in principle be opportunities for integrating a Rotorua-Hamilton service with a Hamilton-Auckland service for other types of potential users, possibly in connection with the Overlander service. The same would apply to a Tauranga-Hamilton rail service.

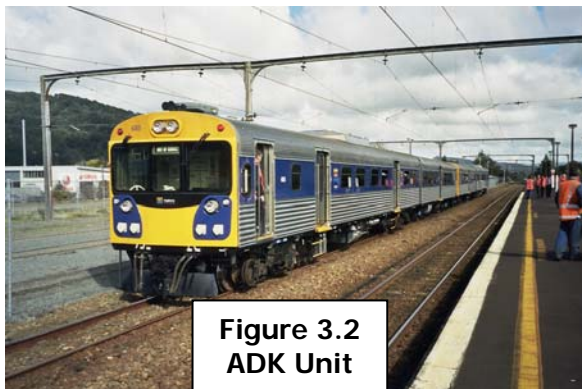
### 3.2.2 Auckland Commuter Services

As part of their task to improve public transport in the Auckland Region, ARTA are currently upgrading the Auckland rail passenger system's services, rolling stock and stations. ONTRACK are responsible for track and signalling upgrades and the station platforms. Passenger services are operated under contract to ARTA by Veolia (formerly Connex).

By early to mid 2007, the rolling stock in the ARTA fleet is to consist of the following:-

<b>Table 3.1</b> <b>Current ARTA Rolling Stock</b>				
Unit Type	DMU or Loco Hauled	Carriages/Cars	Passenger seats per train	Notes
ADL	DMU	10x2	136	Refurbished
ADK	DMU	4x4	256	Refurbished
SA	Loco hauled with driving cab (SD)	14x4 4x3	260 193	May be increased to 17x4 in total
Silver Fern	DMU	2x2 worked as a single train	192	Leased to 2009 1 Spare unit
SX	Loco Hauled		278	Leased to 2009

Photos of the different train sets are displayed in Figures 3.2-3.6



**Figure 3.2**  
**ADK Unit**



**Figure 3.3**  
**ADL Unit**



**Figure 3.4**  
**SX Train**



**Figure 3.5**  
**Silver Fern**



**Figure 3.6  
SA/SD Train**

The SA train sets use ex-BR Mark 2 carriages, which have been rebuilt with a seating and door configuration and design appropriate for commuter operation. The SA carriages run on new narrow gauge bogies.

The current (November 2005) programme assumes that the refurbished DMUs are to be phased out between 2010 and 2012 as they reach the end of their life. New trains are expected to be ordered towards the end of this year with delivery from mid-2009, subject to confirmation of funding. The specification of the new units (DMU or EMU) will depend on a decision on electrification.

In November this year the service to Papakura will be upgraded to provide 10-minute headways during the weekday peak periods and 15-minute headways off-peak. The ability to provide additional peak period services above this is limited at present by signalling constraints on the Westfield to Newmarket section of the system, and this acts as a possible constraint on the operation of services between Hamilton and Auckland in the peak periods. ONTRACK's programme for rectifying this has not been finalised.

There are currently three services departing from Pukekohe in the morning peak periods at 6.06, 6.42 and 7.14.

The 7.14 service was introduced to replace the Waikato Connection in October 2001. It is a VTAL service currently using Silver Fern 2-carriage train-sets leased from Toll NZ with a Toll NZ driver. As the Silver Ferns have only single end doors and are designed for long distance travel rather than commuting trips, they have relatively long boarding and alighting times. Consequently, the service is limited stop only. The current 7.14 am service stops at Papakura (at 7.30), Manurewa (at 7.39), Newmarket (at 8.00) and arrives at Britomart at 8.08 am. The equivalent evening peak service using the Silver Fern units departs Britomart at 5.28 pm and arrives at Pukekohe at 6.26 pm.

The 7.14 Silver Fern service generally operates at capacity of approximately 200 passengers for a two set (4 car) combination. One car is locked out at Pukekohe to provide capacity at the stations further north. About 100 passengers board at Pukekohe and the rest at Papakura. Although there are 3 Silver Fern 2-car units available, the service is only operated with two giving a spare available to allow for maintenance or unit failure.

The numbers using the other all-stops trains from Pukekohe in the morning peak are much lower with approximately 10 passengers boarding the 6.06 service and 20-30 boarding the 6.42 service at Pukekohe.

With present operating constraints, there is little track capacity available for new train services into central Auckland in the peak periods. In addition, there is little spare passenger capacity available on the existing express service from Pukekohe, and its simple extension to start at Hamilton would exacerbate the existing shortage of space on the train.

## 4 Experience with Similar Services

### 4.1 The Waikato Connection

The Waikato Connection was a commercial service between Hamilton and Auckland operated by Tranz Scenic which commenced in June 2000 and was terminated in October 2001. It was a daily service departing Hamilton at 6.15 am and arriving at Auckland at 8.11 am with stops at Huntly, Pukekohe, Papakura, Middlemore and Newmarket. The evening service departed Auckland at 5.19 pm arriving Hamilton at 7.13 pm. The service used Silver Fern diesel railcars.

There were also interpeak services. A service departed from Auckland at 8.20 am and arrived in Hamilton at 10.13 am, and a service departed from Hamilton at 3.06 pm and arrived in Auckland at 5.02 pm.

Some information on the ridership in the early stages of the services is available and is set out in Table 4.1. There is no information available on the split between peak and off-peak services, but it is assumed that most of the demand was for the peak service and off-peak flows were low.

<b>Table 4.1</b>	
<b>Observed Flows on the Waikato Connection July 2000 - June 2001</b>	
<b>Sector</b>	<b>Average one way trips per day</b>
Hamilton-Auckland	31
Huntly-Auckland	3
Pukekohe-Auckland	46
Papakura--Auckland	45
Papakura-Hamilton	1
Huntly-Hamilton	0
Papakura-Pukekohe	1
Pukekohe-Hamilton	2
Pukekohe-Huntly	1
Daily Totals	129

The passenger flows displayed considerable variation from month to month, with flows for Hamilton-Auckland reaching up to an average of about 50 one-way trips per day and Pukekohe-Auckland about 85 one-way trips per day.

With these flows, the service was not regarded as commercially viable and was withdrawn in October 2001.

The comparison of the flows recorded in 2001 for the movements between Auckland and Pukekohe with current flows indicates that for this sector there has been very substantial growth. This has been taken into account in the development of the forecasts for longer distance movements from Hamilton.

## 4.2 The Capital Connection

A more successful long-distance weekday only commuter rail service is operated between Palmerston North and Wellington by Toll NZ as a commercial service. This has been operating for a number of years

The timetable for the service is set out in Table 4.2

<b>Table 4.2</b>	
<b>Capital Connection Timetable Monday - Friday</b>	
Palmerston North depart	6.20 am
Shannon depart	6.42 am
Levin depart	6.55 am
Otaki depart	7.15 am
Waikanae depart	7.26 am
Paraparaumu depart	7.35 am
Wellington arrive	8.21 am
Wellington depart	5.17 pm
Paraparaumu depart	6.06 pm
Waikanae depart	6.14 pm
Otaki depart	6.29 pm
Levin depart	6.56 pm
Shannon depart	7.09 pm
Palmerston North arrive	7.29 pm

Counts taken by Greater Wellington Regional Council indicate that the total patronage of the service in 2005 amounted to about 800 one-way trips per day (400 in each direction). Recent information suggests that these flows have grown by about 10 per cent over the last year, reflecting at least in part the recent sharp increases in fuel prices, and this had led to shortages of capacity on the service.

Information also suggests that the great majority of passengers catch the service at Waikanae and Paraparaumu and that the ridership crossing the Regional Boundary is relatively small. Estimates by the GWRC suggest the numbers north of Waikanae amount to less than 20 per cent of the total, or a total of about 120-150 journeys per day. Earlier surveys indicated that a large proportion of these longer distance travellers from outside the Wellington Region are not commuters but are business and other users.

Fares for the journey between Palmerston North and Wellington, a distance of about 140 kms are \$22 for an adult single, with a ten-trip ticket costing \$176 and a monthly pass \$528. The fare for the Capital Connection is lower than that for the Overlander which has a basic fare of \$41. Coach fares on the route vary from \$26-\$33, and are higher than the fare for the Capital Connection.

## **5 Existing studies**

### **5.1 Hamilton Alternatives to Roving Transportation Study (HARTS)**

The Hamilton Alternatives to Roving Transportation Study (HARTS) was commissioned by Environment Waikato and Hamilton City Council, working in conjunction with Transit New Zealand. The study objective was to investigate and identify a system that offers a range of transportation modes and which manages travel demand in Hamilton City thereby reducing congestion.

The report on the findings of the study dated 2005 did not include any recommended actions relating to rail. One conclusion of the rail options component of the study, however, was that further investigation may be appropriate to determine the cost and feasibility (and potential route protection requirements) of the re-instatement of the Hamilton-Auckland (Waikato Connection) passenger rail service.

The rail investigation included discussions with ARTA to determine its position on the re-instatement of the service. ARTA subsequently stated its position, which was:

- 1) "ARTA is supportive of the concept of a train service if this does not undermine existing rail services
- 2) ARTA notes that a rail service will encourage the greater use of public transport in both regions.
- 3) ARTA notes that there are a number of agreements with third parties that will need to be considered in the establishment of such a service.

ARTA would expect to work in partnership with Environment Waikato in resolving issues of mutual interest. Funding is likely to be a key issue assuming that the service would require a subsidy."

### **5.2 Hamilton-Auckland Commuter Train : Feasibility Assessment**

An assessment was made in 1996 by Symonds Travers Morgan (STM) for Waikato Regional Council and TranzRail of the potential patronage and outline financial viability of a commuter train service between Hamilton and Auckland. This reviewed existing information on the numbers of work journeys between Hamilton and Auckland and undertook a survey of users of the Capital Connection, which was assumed to form a model for the operation of the services between Hamilton and Auckland. These were then used to produce estimates of potential patronage and revenues.

The key findings which emerged from the survey were:-

- A commuter rail service between Hamilton and Auckland would attract the majority of its traffic from the northern parts of the route particularly from Pukekohe and Papakura and the numbers of users from the Waikato would be only limited.
- Total patronage was estimated at about 129-165 per day in each direction, equivalent to between about 65,000 and 85,000 per year. Of this total about 11-14,000 or about 16-17 per cent would be from the Waikato, with the balance from Pukekohe and Papakura.

- Revenues based on a fares level similar to those for the Capital Connection and rail fares in Auckland would amount to about \$435,000 - \$562,000 per year. Of this travellers to and from the Waikato would contribute about a third of the total, Pukekohe about 40-45 per cent, with the balance from passengers to and from Papakura
- Although the costs of operating the service were confidential, it was estimated that on the basis of the higher revenue forecasts, the service would be capable of making a small profit and on the assumption of the lower forecasts, it would lose money.
- The possibility of operating more than one service per day in each direction was considered. However, the evidence from the Capital Connection was that this was unlikely to be viable. A trial service had been started on the Capital Connection route but had been discontinued.

A major component of the work was the survey of users of the Capital Connection, and it is therefore worthwhile recording some of the highlights from this.

- The Capital Connection provides a service of one train per day in each direction between Palmerston North and Wellington, on a timetable that is aimed at commuters, leaving Palmerston North at 6.20 in the morning and leaving Wellington at 17.17 in the evening.
- The majority of users of the Capital Connection were from the southern part of the route, particularly Waikanae and Paraparaumu which represented about 65 per cent of the total. Alternative services are available into Wellington from these locations, and users of the Capital Connection also used these services.
- The majority of users were commuters although the share of commuting traffic declined with increasing distance from Wellington. Commuting accounted for 79% of all trips surveyed followed by education trips (7%), personal business (5%) and employers business (2%). The balance was connecting with other long distance services and Other
- The majority of users (86%) walked from the railway station to their destination in Wellington, with most of the balance (12%) using bus.

## **6 Regional and Other Support**

### **6.1 Introduction**

In the course of the study discussion were held with representatives of the Territorial Local Authorities along the line of the route including Franklin District Council and the Auckland Regional Council. All of these expressed their support for the establishment of rail services between Hamilton and Auckland. Summaries of the discussions are set out below

### **6.2 Auckland Regional Council**

Very supportive of the principle of commuter services linking from Hamilton although there are issues as to how these would be integrated with the commuter rail services operated by ARTA.

Services would potentially benefit the Auckland Region by providing additional capacity from Pukekohe and Papakura, although these would need to be integrated with the existing rail services serving these areas.

### **6.3 Franklin District Council**

Franklin is supportive of measures to improve the rail connections between Pukekohe and Auckland as part of improving the integration of Franklin with the rest of the Region.

There is perceived to be a lack of capacity in the existing rail services, which provide one express service and two stopping services into Auckland over the peak period.

The Council is in the process of developing proposals for formal park and ride facilities at the Pukekohe station to replace the existing informal on-street parking for which the demand is expected to continue to increase. Growth areas have been identified south of Pukekohe at Tuakau and Pokeno for which rail stations might be desired, although it is understood that no provision has been made for these in current plans. In consultation exercises, the community has been generally supportive of rail and other public transport improvements.

### **6.4 Tuakau Community Board**

Tuakau is very supportive of measures to re-establish rail services to the town. There are a number of proposed developments in the area which would benefit from direct rail access into Auckland, and it was also considered that bringing rail passengers through the town would help increase tourism since the rail track runs close to the centre, and this is clearly visible from the proposed station site.

## **6.5 Waikato District Council**

Waikato District Council is also supportive of rail, although no provision has been made for rail stations in any formal Council planning.

The main growth areas which would be perceived to benefit would be the northern fringe of Hamilton, which would potentially served by a rail station at Te Rapa and Te Kauwhata which is also expanding fairly rapidly. There is little growth in Huntly and Ngaruawahia.

## **6.6 Hamilton City Council**

Hamilton City Council is very supportive of improved rail services.

An allocation has been made in the current LTCCP for the construction of two new stations north and south of the centre of the city with associated park and ride facilities. This reflects the perception that the existing railway station which lies to the west of the Hamilton CBD is poorly located for the type of service proposed, and is not convenient for travel to or from the rapidly growing northern parts of the city. There are also major issues with the current underground station.

The proposed locations of the new stations are at Kahikatea Drive and The Base. In principle these could link with the Orbiter bus service, although at present the Orbiter does not run at the times when the train would depart or arrive at these stations. There is an opportunity for setting aside land for a station as part of proposals for the Base at Te Rapa.

The Council sees Hamilton as the Events Centre and a rail facility to bring people from Auckland would support this.

It was pointed out that commuters travelling to Auckland by car tend to hit the peak (motorway) traffic when they reach Auckland.

It was asked whether it would be feasible to reduce the travel time to Auckland by rail. The issue was subsequently raised with ONTRACK as part of this investigation. The response was that increasing speeds on the line "could be difficult". Toll's National Passenger Manager advised that there are problems with delays to the Overlander due to temporary speed restrictions, but these are very largely south of Hamilton. Wellington's Capital Connection service also operates over a distance of approximately 140 km and also takes approximately 2 hours.

## **6.7 Ministry of Transport and Ministry of Economic Development**

Both agencies were supportive of efforts to re-establish inter-regional rail services in New Zealand

## **7 Possible Services and Interaction with the Auckland Passenger Rail System**

From discussions with ARTA, it is clear that it is not currently feasible to create a new peak period "pathway" or service from Pukekohe to Britomart via Newmarket. The situation may change in or around 2009, but this depends on a number of factors including the timing of improvements to signalling by ONTRACK.

In order to make the best use of existing paths, from the perspective of a Hamilton-Auckland commuter rail service, the most attractive option is the extension southwards of the 7.14 limited stop service from Pukekohe. This service was formed from the rump of the earlier Waikato connection service. It stops in Newmarket which is an important destination, whereas the other Pukekohe services operate via Glen Innes along the Waterfront route. It currently uses the Silver Fern railcars that were used for that service and has a Toll NZ driver but a Veolia train manager and passenger operators.

Starting this service in Hamilton, and extending the corresponding 5.28 service from Britomart to Hamilton would re-instate the Waikato Connection in a potentially cost-effective manner, and would make use of well-timed paths to and from Britomart station. However, because there is no spare capacity on the this service at present, its extension would need to be accompanied by the provision of additional passenger capacity on the train, both to meet the needs of Waikato commuters and to provide additional space for passengers from Pukekohe and points further north.

The service would most likely be operated under contract to EW and ARTA. Suitable arrangements would need to be made for the operation of the service north of Pukekohe if the operator was not the same as that operating the rest of the ARTA services. There are a number of institutional and contractual issues that would need to be resolved in terms of the ownership and operation of the services and the ways in which these might be procured in a way which addresses the requirements of Land Transport New Zealand.

Following discussions with ARTA officers, it is believed that subject to resolution of these contractual issues ARTA would have no objection in principal to this arrangement. ARTA would need to be assured that there would be no reduction in the capacity available for passengers to and from Pukekohe and Papakura, and that a reasonably reliable service could be provided. A key issue is the availability of suitable rolling stock and this is discussed in greater detail below.

## **8 Possible Operating Options and Constraints**

### **8.1 Introduction**

In developing options for services, it is important to understand the market which they are proposed to operate. Although because of operational or other constraints it may not be able to serve this market in the best way, it is delivering a service which is attractive to potential users that is likely to be the key to an effective operation.

### **8.2 Peak services**

The main function of the proposed peak period service is to provide a connection that is attractive to commuters into Auckland. This is therefore constrained by the time of arrival into Auckland in the morning and the time of departure in the evening.

The express service from Pukekohe, which is the remainder of the former Waikato Connection service arrives into Britomart at 0808 in the morning and departs in the evening at 1728. The Capital Connection arrives into Wellington at 0821 and departs at 1717.

Ideally for a new service, the arrival time in Auckland should be between 0800 and 0830 with a departure time of between 1730 and 1800. This would therefore give a departure time from Hamilton between 0600 and 0630 and an arrival time in the evening between 1930 and 2000. These times would of course be dependent on the availability of suitable train paths and access slots to Britomart.

For this initial appraisal, it has been assumed that the train would route via Newmarket and would call at:-

Hamilton South  
Hamilton North  
Huntly  
Ngaruawahia  
Te Kauwhata  
Pukekohe  
Papakura  
Manurewa  
Newmarket  
Britomart

With development at Pokeno and Tuakau, there may be scope for constructing a new station or stations here, especially if these can be integrated with new development. These stations were not included in the brief for the study and as a result, it has been assumed in our initial analysis that these would not be provided at the commencement of the service. There is however considerable enthusiasm for a station at Tuakau close to the town centre, and it may therefore be appropriate to consider providing a station here if the proposal is progressed further, possibly substituting this for one of the smaller stations further south.

In considering the possible form of the rail services and in particular the stations to be served, it should be noted that while the inclusion of a number of intermediate stations would attract passengers from the locations served, there are costs associated with

providing these stations and the need to stop increases journey times for through travellers, making these journeys less attractive. If the proposal is progressed, further it may therefore be appropriate to review the locations to be served by the new service.

The portion of the service to be provided north of Pukekohe would interact with the services provided by ARTA, and there would be some sharing of the market for journeys from these locations. Because of the nature of the service offered, with a high quality rolling stock and limited stops service, it is likely that these would be particularly attractive to users. It would be necessary to manage the traffic, particularly on journeys outbound from Auckland, to ensure that any longer distance flows were not crowded out by shorter distance movements. The provision of separate carriages for longer distance travellers for which the fare for a longer journey would be required would help to address this issue.

### **8.3 Potential for new services**

The rolling stock provided for the new service will probably not be used during the day, and there would therefore be the potential to operate a second service along the route. This would be primarily aimed at tourists and possibly business users, and could potentially integrate with the Overlander services to provide a range of options for travel between Auckland and Hamilton.

In principle, there would be the potential to extend this service beyond Hamilton. However, the need for the service to be back in Auckland in time for the evening commuter service to Hamilton would limit the area which this service could serve, and there are no major destinations which could be reached within the time window available. If a separate rail service was to be provided linking Rotorua with Hamilton, there may be some potential for integrating the timetabling of these services. This is an area which could be explored further if and when more detailed plans are developed for services to Rotorua.

### **8.4 Requirements for new infrastructure and rolling stock**

#### **8.4.1 Rolling stock availability and costs**

The Silver Fern units were built in 1972 and are reaching the end of their economic life. Toll NZ's position is that they are almost due for major refurbishment. An expenditure of approximately \$5.4 million is required on the six cars to give them a further 10 years life. A 2x2-car Silver Fern provides 192 seats. A 3x2-car Silver Fern unit would provide 288 seats, although experience to date has indicated that it may be difficult to keep all 3 train sets in service. The Silver Ferns will be ex-lease around mid-2009, possibly earlier if major refurbishment is due before that date.

There is no other spare passenger rolling stock currently available in New Zealand, and it is understood that there are no spare locomotives in acceptable condition.

Toll NZ is currently building suitable longer distance passenger rolling stock for the Wairarapa Connection service to replace the existing rolling stock using ex-British Rail Mark 2 carriage shells as a structural base. The first of these "SW" cars are to be delivered in March 2007. The SW train sets include a locomotive, one or more standard cars, one servery car and one generator car. A standard carriage has 64 seats, and both the servery and generator carriages have 37 seats. The servery carriage includes wheelchair access

and toilets. The seating configuration includes tables and lap top connections. The SW cars will have a passenger information display system advising of the next stop.

A 3-car SW train set will provide 138 seats, and a 6-car SW set will have a 330 seat capacity. With design modifications it should be possible to provide up to approximately 350 seats with a 6-car set, approximately 90 more than with a standard SA/SD train.

Advice from Toll Rail is that a SW 6-carriage consist would cost \$9 million. Toll have advised that it would be desirable for the train to have a locomotive at each end, for safety reasons and to facilitate a rapid turn-round at the terminal stations, especially of these are Britomart and Kahikatea Drive. A new locomotive suitable for passenger services and sourced from China appears likely to cost approximately \$1.8 million, bringing the total cost of a 6-car SW push-pull train set to \$12.6 million. This would have a projected life of 20 years.

Toll NZ have indicated that the probable earliest delivery from their Hillside workshop, Dunedin is early 2009.

China appears to be a good source of new rolling stock and other rail equipment. It is claimed that Chinese rolling stock costs are 30-40% below equivalent European rolling stock costs. There are two major rolling stock manufacturing groups in China, namely CNR and CSR. China Northern Locomotive & Rolling Stock Industry Corporation (CNR) and its subsidiaries are the larger of the two. Changchun Railway Vehicles Co. Ltd (CRC), a subsidiary of CNR, is the largest manufacturer of carriages in Asia. Another subsidiary, Dalian Locomotive & Rolling Stock Co. Ltd. manufactures diesel locomotives and DMUs. Pacific Power Development (NZ) Ltd acts on behalf of CNR, CSR, and Dalian in dealing with New Zealand rail projects and has been working with Toll NZ and ONTRACK.

CNR-CRC-Dalian has full designs of locomotive hauled carriages which were developed for tendering for the Wairarapa services and have been signed off by Toll NZ. Delivery of the first carriages and locomotives is 16 months after an order is placed. The carriages and locomotives would be brand new and hence would have a 30-year life. The carriages are 1.1m longer than the SW carriages providing a higher passenger carrying capacity, and are designed for a maximum speed of 120 km/h. The price is likely to be broadly competitive with the SW trains.

Regional Rail (New Zealand) Ltd has provided information on a 3-car diesel multiple unit manufactured by China South Locomotive and Rolling Stock Group Ltd (CSR). Two units could be coupled together to form a 6-car train set. The DMU would be modern, high quality, air conditioned with toilets and seating for 176 passengers, and 352 for a 6-car set. The maximum operating speed is 100 km/h. The preliminary cost of a 3-car unit is \$US 4-4.5 million or approximately \$NZ 7 million. This gives a total cost of approximately \$14 million for a 6-car set. Regional Rail (New Zealand) Ltd state that they are the sole New Zealand representatives of CSR Ltd.

#### 8.4.2 Rolling stock ownership and use

ARTA's current planning assumes that the Silver Fern railcars will be replaced in 2009 by a 4-carriage SA train set. This would increase the seating capacity from 192 seats to 260 seats.

A 6-car SW (Wairarapa-type) train would have a capacity of 330-350 seats.

Replacing a 4-car SA train with a 6-car SW train would allow up to 90 seats to be filled by passengers south of Pukekohe without reducing the available seat capacity at Pukekohe. While the SA trains can carry more standing passengers, few people would wish to stand for the 38-minute trip from Papakura to Britomart. Further, the SW trains offer a higher level of comfort and could be marketed and priced as a premium product. Our understanding is that by mid-2009 Papakura, Manurewa and Newmarket will be able to accommodate 6-car trains.

Such an arrangement would allow the rolling stock to be owned by ARTA. This would avoid potential ownership liability issues under the Railways Act 2005. Toll NZ does not wish to own additional rolling stock and it is unlikely to be advantageous for Environment Waikato to own rolling stock.

From ARTA's perspective, the downsides are likely to be the addition of another type of rolling stock to its fleet, the loss of the ability to later increase the capacity of the 7.14 and 17.28 services by running 6-car SA/SD trains, and the risk of service delays in the morning peak due to delays between Hamilton and Pukekohe.

Informal discussions with ARTA officers indicate that ARTA is certainly willing to look at such an arrangement. It appreciates the importance of linking the two regions with a good passenger rail service, and is willing to work with Environment Waikato to resolve the issues. The provision of a rail service between Auckland and Hamilton is included in its "Long Term Vision of the Rail Network".

It is, however, vital that EW and ARTA enter into an equitable cost sharing arrangement. ARTA could potentially contribute to the rolling stock cost in recognition that it would in any case be providing a 4-carriage SA train for the service, but this would be a matter for ARTA, ARC, who have been funding the ARTA rolling stock purchases, and EW to resolve between them.

An alternative to the SW-type trains (or modern DMUs) is to use refurbished Silver Ferns using all 6 Silver Fern cars. The resulting train set will have a capacity of only 288 seats, few of the features of the SW trains, and a 10-year life instead of a 20 or 30-year life, but could cost around \$5 million less. Crew costs, however, may be higher as each unit must be manned.

A risk with using all three 2-car Silver Fern units is that maintenance requirements may result in a unit being out of service reducing capacity by a third. There is a similar, but smaller risk with the SW cars, although most problems are likely to be caused by locomotive failures, rather than problems with train carriages.

#### 8.4.3 Stations

It is proposed that two new stations will be provided in Hamilton, one to the south near Kahikatea Drive and one to the north at or near the Base. A new park-and-ride facility is proposed at the southern station, although because this is relatively close to Hamilton (Frankton) station, it may be appropriate to start the service using the existing station, and develop a new station when demand has built up. At the northern station, it may be possible to arrange commuter parking associated with the Base.

No improvements are proposed to the Huntly station initially, other than the provision of improved shelter and lighting at the station and the possible provision of a suitable location for park and ride vehicles.

The Te Kauwhata station appears to have good potential, and a new, lit shelter plus a low cost parking facility is proposed at the station. As a station existed there previously, it is assumed that new signalling is not required (or that signalling can be re-instated at minimal cost).

The potential cost of using the Britomart Station needs to be kept in mind, as use of the Britomart station is a separate charge. Provided the service is an extension of an existing ARTA service, the cost of using the Britomart station should presumably not be an issue as it is already included in ARTA's costs. However, if the Waikato service is independent of/in addition to the Auckland commuter services, then a charge is likely to apply. This could potentially be high, but the current proposals assume that use is made of an existing train path and no increase in Britomart access costs is therefore anticipated

#### 8.4.4 Train stabling & maintenance

The location where the train would be stabled would have to be identified, particularly as the units would have to be protected from vandalism. There should be capacity at Te Rapa for train stabling, if required.

It may be necessary to find a location in Auckland to store the train between services, but there should be adequate space for this in the area of The Strand, Central Auckland.

Issues relating to train stabling and maintenance would need to be sorted out by the owner of the rolling stock. The issue of ownership is discussed later in the report.

## 9 Potential Ridership

### 9.1 Introduction and sources of data

The potential ridership for the new services has been estimated using a variety of sources. These include:-

- Journey to work data derived from the 2001 Census, including the detailed journey pattern for trips into Auckland and key summary statistics for movements into Wellington
- Information on the approximate flows on the Capital Connection
- Information on the volumes of traffic entering Auckland from the south. Although this is rather old having been collected in 1992 it represents the most recent source of information on road traffic flows entering Auckland from the south.
- The growth of traffic on SH1 which gives an indication of the growth of demand for movement into Auckland from the south.
- The results of the Hamilton-Auckland Commuter Train : Feasibility Study undertaken by Symonds Travers Morgan in 1996
- Information on the patronage of the Waikato Connection service when it operated in 2001

### 9.2 Current Movements between Hamilton and Auckland

Some information on current movements between Hamilton and Auckland is available from the 2001 Census. The key findings from this are set out in Table 9.1.

<b>Table 9.1</b>						
<b>Journey to Work Movements from the 2001 Census</b>						
Area of Usual Residence	Destination					
	Total Auckland	Total Manukau	Papakura District	Waitakere City	North Shore City	Total
Hamilton North	132	66	12	12	21	243
Hamilton South	180	63	9	9	30	291
Huntly	36	42	12	0	0	90
Ngaruawahia	12	9	3	0	0	24
Te Kauwhata	30	36	15	0	3	84
Waikato areas identified above	390	216	51	21	54	693
Pokeno/Tuakau	228	210	0	3	9	462
Pukekohe	507	378	12	6	30	933
<b>TOTAL</b>	<b>1125</b>	<b>804</b>	<b>63</b>	<b>30</b>	<b>93</b>	<b>2088</b>

In total in 2001 there were about 500 journeys to work from Hamilton into the Auckland Region (excluding Rodney and Franklin) and a further 200 from the areas along the rail line within the Waikato further north to the Auckland Region. There are also a further 1400 journeys from Pokeno and Pukekohe, giving a total of about 2,100 overall. Of these about 55 per cent are to Auckland City and 40 per cent to Manukau.

These figures can be compared with those reported for 1991 in the STM Report. These gave the total number of journeys to work between Hamilton and the locations identified

above in Table 6.1 as 174 compared with a total of 634, which would indicate an average annual growth rate of about 14 per cent. The numbers commuting from Huntly have grown by an even greater proportion from 9 to 93, an annual average growth rate in excess of 25 per cent.

Information from the Capital Connection suggests that a very high proportion of travellers walk from the destination station in the morning and therefore the area potentially served by the new rail services is more limited. Zones have been defined within reasonable distances of the stations and the numbers to these more restricted areas are set out in Table 9.2. It should be noted that the definitions of these catchment areas are fairly broad, and the numbers set out below represent an optimistic assessment of the likely totals.

<b>Table 9.2</b>					
<b>2001 Journey to Work Trips to Zones served by Rail</b>					
	Destination				
	Auckland	Newmarket	Manurewa	Papakura	Total
Hamilton North	33	21	9	12	75
Hamilton South	57	15	9	9	90
Te Kauwhata	3	3	3	15	24
Huntly	9	0	3	12	24
Ngaruawahia	3	3	3	3	12
<b>Total Waikato Catchment</b>	<b>105</b>	<b>42</b>	<b>27</b>	<b>51</b>	<b>225</b>
Pukekohe	114	66	30	12	222
Pokeno/Tuakau	51	30	21	0	102
<b>Total</b>	<b>270</b>	<b>138</b>	<b>78</b>	<b>63</b>	<b>549</b>

The number of trips from the Waikato to destinations in the potential rail catchment area amount to about 220-230, with about 160-170 from Hamilton. These are about twice as large as the totals for 1991 identified in the STM report, with an annual average growth rate of about 7.5-8 per cent, although the definitions of the catchment areas may be different. Increasing congestion in Auckland may be giving rise to an increased dispersion of employment particularly from those commuting longer distances to locations which are not well connected to the rail network.

Information is available from ARC Count data on the split of traffic into the Auckland Region from the south by trip purpose. Although the count data relates to 1992 and the data is therefore rather old and needs to be treated with some caution, it does give an indication of the breakdown of traffic by type and the extent to which the Census figures, which only record journeys to work need to be expanded to reflect the total demand for movement. This data suggests that for trips from the Waikato, commuting journeys only make up about 40 per cent of the total journeys recorded. Between Pukekohe and Auckland this proportion increases to about 85 per cent of longer distance movements.

Information has been collected for a number of sites on SH1 to give an indication of the growth of traffic movements between Hamilton and Auckland particularly in the period since the 2001 Census. Areas away from the major settlements have been selected to give an indication of the changes in longer distance movements along the road.

The information collected is summarised in Table 9.3

<b>Table 9.3</b> <b>Observed Flows on SH1 1991-2004</b> <b>Annual Growth rates</b>		
	Growth 1991-2001	Growth 2001-2004
Hopu Hopu Rail Bridge	2.0%	3.8%
Taupiri	3.0%	4.2%
Meremere		5.1%
Mercer	3.8%	4.2%

Source : Transit

Traffic growth along SH1 between Hamilton and Auckland has been fairly substantial especially in the north. While this covers a variety of movements, it does indicate an increasing degree of interaction between the Waikato and Auckland. The information also suggests that the rate of growth of traffic along the route has accelerated since 2001.

### 9.3 Patronage Forecasts for a New Rail Service

#### 9.3.1 General issues

For a new rail service to be successful, it will be necessary to provide a whole journey experience that is convenient and attractive to potential passengers. As well as having a train service which is attractive and reliable, this experience includes the parts of the journey to and from the rail stations as well as the portion travelled by rail itself. There is therefore the need to ensure that appropriate supporting facilities are provided. Because of the timing of the service and the volumes forecast to use it, it is likely that the majority of passengers from the stations south of Pukekohe will travel to the stations by car, either as drivers or passengers. There will therefore need to be appropriate facilities for passengers to park their cars in sites which are safe and secure and to wait if they are being picked up. There also needs to be the provision of passenger waiting areas which are well lit and attractive.

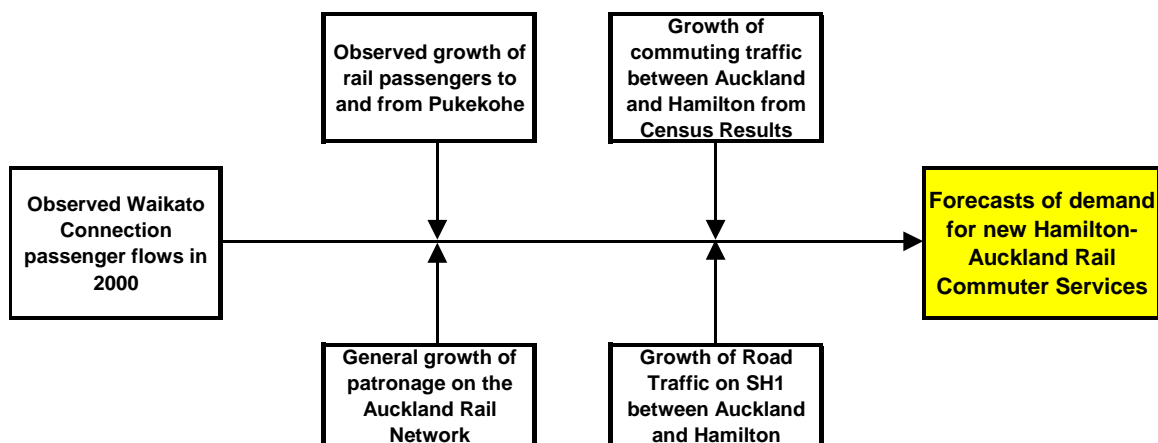
In developing our forecasts, we have assumed that suitable high quality waiting and parking facilities are provided. We would not however underestimate the challenges of achieving these. Parking facilities where vehicles are left for extended periods of time should be located in areas which are relatively busy or otherwise secured over the period for which vehicles are left. Station shelters and waiting areas should be protected from vandalism and must be perceived to be safe. Good lighting and good visibility are important requirements.

To the extent that it is not possible to provide facilities both on and off trains which are attractive to passengers, the volumes of passengers and revenues that the new service might attract would be less than we have forecast.

The forecasts have been prepared assuming an opening year of 2009.

#### 9.3.2 Commuter Services

The approach used to derive the patronage forecasts for the proposed new commuter rail services is set out in Figure 9.1 and described in more detail in the sections below.

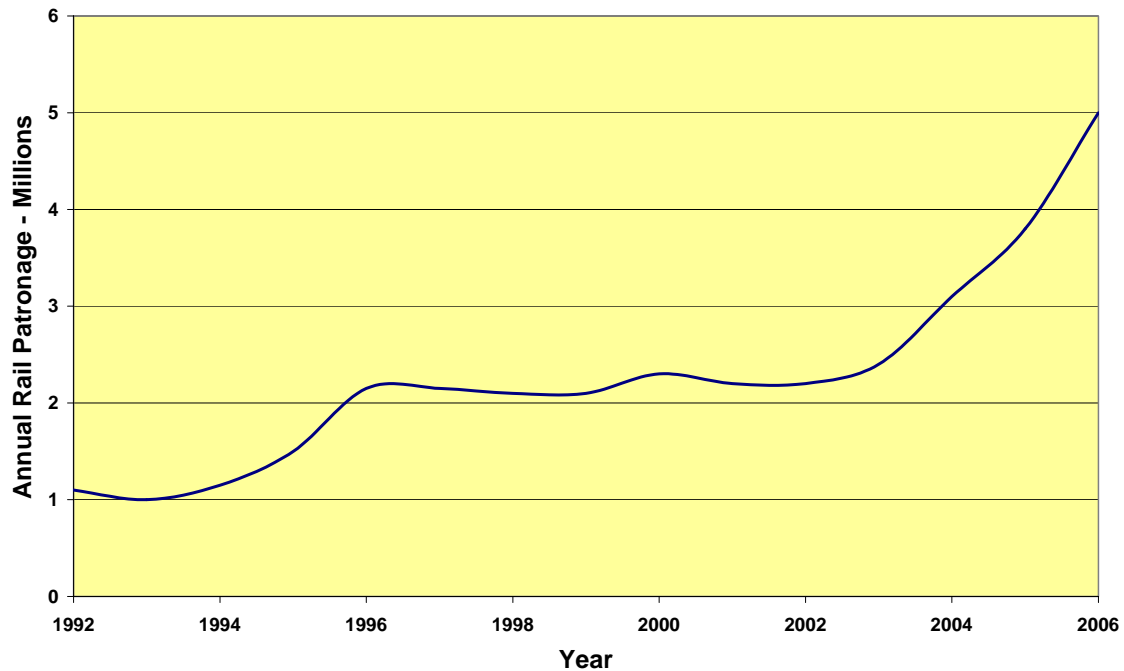


**Figure 9.1  
Approach to Patronage Forecasting**

The initial starting point is the observed flow on the Waikato Connection for 2001 which has been discussed above in Section 3. The average flows recorded for the year to June 2001 are as follows:-

<b>Table 9.4</b> <b>Observed Waikato Connection Flows</b> <b>Average total patronage per day (one-way journeys)</b>		
Movement	Annual average June 2000-June 2001	Maximum Daily Average per Month
Auckland-Hamilton	34	59
Auckland-Huntly	4	9
Auckland-Pukekohe	46	84
Auckland-Papakura	45	139

Following the demise of the Waikato Connection, the part of the service between Pukekohe and Auckland was retained and incorporated into the Auckland rail network. Patronage on this has grown strongly and currently the peak period services attract about 130 inbound in the morning peak (or 260 journeys per day), a figure that is in part constrained by the capacity of the rolling stock offered. This represents an almost sixfold growth in traffic over the period from 2001, and in part probably reflects the general increase in the demand for rail travel in the Auckland Region as a whole. This growth in rail passenger patronage traffic within Auckland as a whole is set out in Figure 9.2.



**Figure 9.2**  
**Growth of Rail Patronage in Auckland 1992-2006**

To give forecasts for 2009, the likely opening year for the service, the 2001 figures have been increased to reflect the growth in demand for rail travel to 2005 as experienced between Auckland and Pukekohe to give notional estimates for 2005 and then increased to allow for further growth. As indicated above, growth in rail patronage between Pukekohe and Auckland over the period 2001 to 2005 has been very substantial, increasing by an average of over 40 per cent per year, (admittedly from a small base). While there is likely to have been substantial growth in potential demand for the longer-distance movement between Hamilton and Auckland, this is unlikely to be as large as that experienced for the shorter movement between Pukekohe and Auckland and a growth rate of half that for this latter movement has been assumed. This would give a 2005 notional flow of about 50 passengers in each direction between Hamilton and Auckland. For the period between 2005 and 2009 the patronage forecasts have been increased in line with the observed growth of journey to work movements between Hamilton and Auckland over the period 1991 to 2001, which amounted to almost 8 per cent per year. The information from the roadside counts with higher growth for the period after 2001 suggests that this assumption of constant growth may be fairly conservative, although this may be offset by slowing growth in the Auckland CBD.

For the movements between Pukekohe and the central area, a rather faster growth rate in demand of about 10 per cent per year has been assumed. This reflects both the presence of currently unsatisfied demand and the more general rapid growth in patronage on the Auckland rail network as a whole.

Information is available on the flows using Huntly in 2000/2001 which typically amounted to about 10 per cent of the flows to and from Hamilton. This position has been assumed to continue in the future. There is no specific information on the potential flows from the intermediate stations such as Ngaruawahia and Te Kauwhata, but the flows using these have been estimated as a proportion of the total for Hamilton, based on the journey to work patterns identified in Table 6.2. It should be noted that the numbers travelling

between Ngaruawahia are very low, and given the need to provide new facilities, it may not be appropriate to locate a station here, at least in the early stages of the service.

Finally, an allowance has been made for the effects of a well-promoted high quality service with what is likely to be superior rolling stock. On the basis of information from overseas, we have assumed that this could increase ridership by up to 15 per cent.

The traffic forecasts for the commuter service in 2009 are set out in Table 9.4. The central forecasts exclude the effects of any quality improvements on the demand for travel whereas these are included in the high forecasts.

<b>Table 9.4</b>		
<b>Traffic Forecasts 2009 – Central and High Cases</b>		
	Scenario	
	Central	High
Hamilton	72	85
Ngaruawahia	3	4
Huntly	7	8
Te Kauwhata	7	8
Total Waikato	89	105
Pukekohe Total	190	220

The propensity to travel to Auckland from Hamilton can be compared to that for Palmerston North as a check on these figures. Palmerston North has a population of about 75,000 and a total one-way patronage on the Capital Connection of about 60. Hamilton has a population of about 130,000. Assuming the same propensity to travel by rail would give patronage of about 100, somewhat higher than we have forecast. The broad similarity between the two sets of figures suggests that the forecasts are reasonable with the differences reflecting a variety of factors including the greater concentration of activity within the Wellington CBD adjacent to the rail station.

To check the robustness of the forecast an alternative approach has been adopted. This applies a 10 per cent per year growth rate. This figure is based on the growth of commuting between Hamilton and the areas within Auckland with good access from the rail network between 1991 and 2001, estimated at about 8 per cent, with a further increase to allow for the acceleration of growth after 2001 as set out in Table 8.3. On this basis, the demand for rail travel between Hamilton and Auckland in 2008 would amount to about 35-40 trips per day or about two-thirds of the forecast in Table 8.4. Implicitly this forecast assumes a continuation of the modal split observed in 2001. It does not really take into account the potential growth in the rail share resulting from the shift of the central Auckland rail station from an off-centre location to the Britomart and the general improvement in the perception of rail, that has accompanied very substantial increases in rail patronage in Auckland and to a lesser extent in Wellington. These forecasts therefore represent a very conservative lower boundary to the likely patronage of the new services.

The full set of forecasts is set out in Table 9.5

<b>Table 9.5 Traffic Forecasts 2009</b>			
	Scenario		
	Low	Central	High
Hamilton	45	72	85
Ngaruawahia	3	3	4
Huntly	5	7	8
Te Kauwhata	5	7	8
Total Waikato	58	89	105

### 9.3.3 Interpeak Forecasts

The volume of traffic likely to use an interpeak service leaving Auckland for Hamilton at about 0900 and returning from Hamilton at about 1430 is more difficult to identify. This would primarily be aimed at visitors to Hamilton, although it could have some use for other purposes, especially if the opportunity was taken to combine use of this new service with that of the Overlander.

The main components of the interpeak service would probably be tourists, business trips and trips for education and personal business.

Some information on the potential size of the total tourist market between Auckland and Hamilton is available from the statistics published by Tourist Research Council. These indicate that in the year up to March 2005, the most recent data available, there were approximately 1.8 million day trips and 0.4 million overnight trips from Auckland to the Waikato Region. It is estimated that the number of trips to the Waikato RTO (the region excluding Coromandel and Taupo which have their own separate RTOs) amounted to about 1.3 million with 0.2 million overnight trips. On the assumption that half of these occur at weekends, when there are no trains in operation and two thirds are to areas which could be reached easily from rail stations in Hamilton and Huntly, the total market in which the rail services would operate amounts to about 0.5 million per year.

The extent to which rail would be able to capture some of this market is uncertain, and would depend on other tourist operations and organisations using rail travel as part of the service s they provide to clients. However, even if rail was about to capture only about 1-2 per cent of the total market, this would amount to about 40–80 per day. However this would depend on being able to offer and market a service which met the needs of tourists and of tour operators, and further work would be needed to establish this

The tourist market could potentially be supplemented by the market for business and educational trips. Examination of the journey to work statistics for journeys to Hamilton from Auckland indicates that there is a considerable degree of interaction between the two areas. While the services as proposed would not be suitable for commuting to work in Hamilton from Auckland, they could potentially be used for employers business trips and other personal business in Hamilton. It would for example be possible to take the Overlander from Auckland at 0730 and then return at 1430 or alternatively take the new service at 0900 or 0930 and then return on the Overlander at 1730.

Using the information from the ARC surveys and the 2001 Census Journey to work data, it is estimated that in 2001, there were probably about 1000 business trips per day between Auckland and the Waikato and the number of these is likely to be growing strongly. By 2008 these would probably amount to about 1,500-2,000 per day, or 0.4-0.5 million per year.

As with potential tourist movements as discussed above it is difficult to forecast potential usage since much would depend on the quality and reliability of the service and its marketing. It is likely that any demand would take time to establish. No specific forecasts have therefore been produced for the patronage of an interpeak service, but if the proposals for the service are progressed, this is an area which should be considered further.

It is probably worth noting that efforts have been made to establish a similar service for the Capital Connection and to date these have not been successful. However there is probably a greater degree of business and tourism interaction between Auckland and Hamilton and therefore the scope for such a service may be better.

## **10 Costs of Service Provision**

### **10.1 Operating Costs**

Based on information provided by ARTA, it is estimated that a service operating between Hamilton and Auckland providing one train each way in each weekday peak period over a distance of approximately 150 km would have a gross operating cost of \$2.0-2.5 million per year. This cost includes a number of fixed elements which would not be altered if the rolling stock was used to provide a second round trip service between the peaks. As a result, the costs for this service would be only about 50 per cent of those for the peak service at about \$1.3 million per year.

These figures exclude any costs associated the provision of the capital infrastructure.

### **10.2 Rolling Stock Costs**

Based on Section 8.4, the total cost of \$12.6 million for a fully refurbished train is assumed for purposes of this feasibility study. This assumes a locomotive hauled carriage train similar to the "SW" trains being built by Toll NZ for the Wairarapa service but with locomotives at both ends. These are high quality trains suitable for long distance travel with tables, toilets, and a servery car providing coffee and snacks etc. As an alternative, it may be possible to procure similar but new rolling stock from manufacturers in China, but given the likely small order size, the costs of this are likely to be higher than the fully refurbished trains.

### **10.3 Supporting infrastructure**

The following indicative construction costs are assumed for estimation purposes:

- A new 140m long platform (sufficient for a 6-car train), 5m wide and 750mm high: \$600,000.
- Signalling for a new station: \$500,000
- Pedestrian overbridge (over 2 tracks): \$750,000.
- A 6mx3mx4m shelter plus lighting, seats, rubbish bins, basic passenger information and access: \$200,000.
- A 20 space park-and-ride facility including lighting, fencing, swales etc: \$800,000
- Road widening to accommodate 10 parking spaces at Te Kauwhata: \$100,000

The resulting estimated total infrastructure cost is \$5.2 million

This assumes:

- Two new stations in Hamilton, each with a single side platform and shelter.
- One pedestrian overbridge
- One 20 space park-and-ride facility at the southern Hamilton station
- One new shelter and a 10-space parking facility at Te Kauwhata.
- Signalling changes for 3 stations
- Upgrading of the platform and facilities at Ngaruawahia

Land acquisition costs are not included.

The estimated cost assumes there is no need for changes to the track layout at the Hamilton stations. It also assumes that no track works are required at Te Kauwhata as a station was formerly in use there.

To allow for the risk of additional requirements increasing the costs, a Total Infrastructure Cost of \$6 million is assumed for the purposes of this feasibility study.

There would also be some operating costs associated with the management and maintenance of the stations. No estimate has been made of these potential costs which are likely to be fairly modest, but this would need to be investigated if the scheme is to be progressed further. In addition no allowance has been made for any costs associated with the promotion and marketing of the new services, although the contingency in the capital costs should cover the initial marketing effort.

Significant savings could be achieved through using the existing Hamilton station.

## **10.4 Possible Cost Split**

### **10.4.1 Capital Costs**

The share of the rolling stock and supporting infrastructure capital costs for the service would need to be negotiated among the parties concerned. For current purposes, a possible split of the supporting infrastructure responsibilities is based on the assumed ownership of the assets.

The resulting cost split share is as follows:

- ◆ ARTA would meet the equivalent cost of a locomotive hauled 4-car SA/SD unit: approximately \$8.2 M
- ◆ EW and its regional partners would meet the additional cost of a locomotive hauled 6-car SW set approximately \$4.4 M
- ◆ EW and its regional partners would meet the associated infrastructure costs of \$6 millions

### **10.4.2 Operating Costs**

It is assumed for this evaluation that the train operating costs for the service would be split between ARTA and EW on the basis of the service kms operated between Britomart and Pukekohe and Pukekohe and Hamilton. This would result in ARTA meeting approximately 40 per cent of the costs and regional sources meeting the balance of 60 per cent. Again this would need to be negotiated between the two parties, and alternative outcomes, based on the relative potential passenger use or revenues or some combination of these could result, with different financial implications for the regional partners.

## **10.5 Incremental Costs associated with a New Service**

The incremental costs associated with the proposed new service are set out in Table 10.1. These assume that in the absence of a new train service from Hamilton, ARTA would purchase a refurbished 4-car train for the Pukekohe service.

<b>Table 10.1 Incremental Costs (\$ millions)</b>						
	<b>Capital Costs</b>			<b>Operating Costs : Peak Service Only</b>		
	Expanded Service	New service to Pukekohe only	Increase	Expanded Service	New service to Pukekohe only	Increase
2008	18.6	8.2	10.4			
2009 onwards				2.3	0.9	1.4

As an alternative to considering the capital costs being incurred in 2008 before the start-up of the new services, we have also considered the impact of converting these to an annualised cost. Over a ten-year period, the annualised capital costs would amount to about \$1.5 – 1.6 million per year, giving a total annualised capital and operating cost of about \$3 million per year.

## 11 Financial Viability

### 11.1 Introduction

The financial viability and the potential funding gap has been assessed assuming that the base case is represented by ARTA operating a refurbished 4-car SA/SD train between Britomart and Pukekohe, and taking into account the incremental costs and revenues that would result.

### 11.2 Passenger Revenues

#### 11.2.1 Possible Fare Levels

In order to provide some degree of consistency with the Overlander fares, it has been assumed that the basic single fare between Hamilton and Auckland would be \$30 with the potential for concessions to reduce this to about \$24 for a single ticket in line with the existing Supersaver Fare. These are equivalent to about 20-24c per km. These fares are broadly in line with those for coach travel, which vary from \$29 for a full fare to about \$20-22 for a Saver Fare. This position is broadly similar to that for the Capital Connection where the standard fare for the journey between Palmerston North and Wellington is \$22 compared to the Overlander fare of \$41.

The fares can also be compared with the costs of motoring. On the basis of a full car operating cost of \$0.61 per km (the amount recognised by the IRD) the total costs for a return trip between Hamilton and Auckland a distance of about 260 kms would amount to about \$160 excluding parking costs. Even on the basis of fuel and parking costs alone, the typical journey cost would amount to about \$50-60 for a round trip.

The existing fares between Pukekohe and Britomart amount to \$7.90 for an adult single with a monthly fare of \$199 equivalent to about \$4.50-5.00 per journey (equivalent to about 10-16c per km. Rail fares for intermediate stations have been assumed to be as follows:-

<b>Table 11.1</b>		
<b>Assumed Fares (\$ per single journey)</b>		
	Standard	Multi-use Concession
Hamilton - Auckland	\$30.00	\$20
Ngaurawahia - Auckland	\$25.00	\$17
Huntly- Auckland	\$21.00	\$14.00
Te Kauwhata-Auckland	\$17.00	\$11.00
Pukekohe-Auckland	\$7.90	\$4.75

#### 11.2.2 Total Passenger Revenues

On the basis of the unit revenues set out in Table 11.1 and the passenger forecasts set out in Table 6.4, the total revenues from the service can be estimated. The average revenue has been assumed to be 70 per cent of the full price to allow for multi-use tickets and other concessions to particular groups of travellers such as children and the elderly. This is based on a one round-trip per day commuter service.

The total revenues which result are set out in Table 11.2. It should be noted that the revenues forecast for Pukekohe represent only the incremental revenues which would be earned with the new rail services.

<b>Table 11.2</b>			
<b>Total Annual Passenger Revenues (\$M)</b>			
	Total		
	Low	Central	High
Hamilton - Auckland	0.42	0.70	0.80
Ngaurawahia - Auckland	0.03	0.05	0.06
Huntly- Auckland	0.03	0.05	0.06
Te Kauwhata-Auckland	0.02	0.04	0.05
<b>TOTAL</b>	<b>0.50</b>	<b>0.84</b>	<b>0.97</b>

The main part of the evaluation discussed below is based on the Central case. The effects of the Low and High forecasts are set at the end of the section.

For the purposes of the evaluation it has been assumed that it would take three years to reach the patronage levels on which the revenue forecasts are based, with 50 per cent of the full patronage being reached in the first year and 75 per cent in the second year. It has been further assumed that the patronage and revenues would grow by 5 per cent per year up to about 2015, when the forecast demands would meet the capacity available.

### 11.3 Overall Financial Viability and the Funding Gap

#### 11.3.1 Total Costs

The total costs of the proposed operation have been discussed above in some detail, but are summarised below in Table 11.3

<b>Table 11.3</b>			
<b>Incremental Capital and Operating Costs with Hamilton Extension (\$ millions)</b>			
	Total	Base Case Costs met by ARTA	Incremental Cost to EW (1)
Rolling stock	12.6	8.2	4.4
Other supporting infrastructure	6.0	-	6.0
Total Capital Costs	18.6	8.2	10.4
Annual Operating Costs	2.3	0.9	1.4

Notes (1) Includes Territorial Authorities and ONTRACK

#### 11.3.2 Assessment of Financial Viability

Using the figures introduced above the assessment of the financial position of the operation as a whole is set out in Table 11.4.

<b>Table 11.4</b>					
<b>Assessment of Incremental Financial Viability : Project as a Whole</b>					
Year	Capital Costs	Operating costs	Total Costs	Total Revenues	Net revenues
2008	10.4	0.0	10.4	0.0	-10.4
2009		1.4	1.4	0.4	-0.9
2010		1.4	1.4	0.7	-0.7
2011		1.4	1.4	1.0	-0.4
2012		1.4	1.4	1.0	-0.3
2013		1.4	1.4	1.0	-0.3
2014		1.4	1.4	1.0	-0.3
2015		1.4	1.4	1.0	-0.3
2016		1.4	1.4	1.0	-0.3
2017		1.4	1.4	1.0	-0.3
2018		1.4	1.4	1.0	-0.3
2019		1.4	1.4	1.0	-0.3
2020		1.4	1.4	1.0	-0.3
2021		1.4	1.4	1.0	-0.3
2022		1.4	1.4	1.0	-0.3
2023		1.4	1.4	1.0	-0.3
2024		1.4	1.4	1.0	-0.3
2025		1.4	1.4	1.0	-0.3
2026		1.4	1.4	1.0	-0.3
2027		1.4	1.4	1.0	-0.3
2028		1.4	1.4	1.0	-0.3
<b>NPV</b>	<b>8.6</b>	<b>9.5</b>	<b>18.1</b>	6.4	-11.7
				Funding Gap	-11.7
				Financial BCR	0.4

For the project as a whole, the revenues from passengers cover about 40 per cent of the total costs, giving a financial BCR of about 0.4. The total funding gap would amount to about \$11-12 millions. Because of the limited capacity assumed available for longer distance passengers (to allow space for travellers from Pukekohe and points further north) the service does not reach a point where it breaks even on its operating costs and an operating subsidy would be required indefinitely. It is possible that over the longer term, ARTA would provide additional capacity on other services from Pukekohe. This would then increase the capacity available to the longer distance Waikato users, and hence allow higher usage and revenues. This may however be accompanied by revisions to the cost sharing arrangements for the train, and the increase in net revenues may therefore be reduced. This has been explored in outline in the sensitivity testing.

## 11.4 Sensitivity Tests

In addition to the central forecasts of financial viability set out above, forecasts have also been made of the financial viability for the low and high patronage estimates. These are set out in Table 11.5.

<b>Table 11.5</b> <b>Financial Evaluation : Sensitivity Testing to Alternative Patronage Forecasts</b> <b>(\$millions NPV)</b>				
	Total Costs	Total Revenues	Funding Gap	Financial BCR
Central	18.1	6.4	11.7	0.4
High	18.1	7.4	10.7	0.4
Low	18.1	6.0	12.1	0.3

The results are not very sensitive to the assumptions made in developing the patronage forecasts, with the EW/HCC funding gap varying from almost \$11 million with the High patronage forecast to just over \$12 million with the Low patronage forecast.

As discussed above the effects of allowing growth in patronage throughout the life of the services has been examined. To match the increase in capacity taken up by longer distance travellers it has been assumed that the operating costs which EW/HCC would have to bear would increase by 2 per cent per year. On this basis, the service would reach a position of operational break-even after about 10-12 years of operation.

## **12 Funding**

### **12.1 Introduction and Background**

Urban passenger rail (in Auckland and Wellington at present) is funded by regional councils from rates, from Land Transport NZ funds (from the NLTF), and from the Crown for contributions for capital improvements for rolling stock and infrastructure. Land Transport NZ may contribute to funding passenger rail service subsidies, rolling stock and trackwork.

The National Rail Strategy, May 2005 refers to the potential use of Land Transport NZ funds to regional councils for park and ride facilities and passenger transport interchanges.

The strategy states that "There is interest in the development of urban rail networks in other regions (for example, Hamilton and Christchurch). Land Transport New Zealand could consider such services for funding where they are supported by a sound case and local commitment."

Long distance passenger rail services presently receive no central or local government subsidy. However, "regional councils could contract and subsidise non-viable new or additional long-distance passenger services where such services are seen as essential to improving access in a regional area". In discussions with the Ministry of Transport and the Ministry of Economic Development, there was general support for the development of inter-regional rail services of which the one proposed for Hamilton could be a useful test case.

### **12.2 Issues Relevant to this Study**

As part of this feasibility study, Land Transport New Zealand was asked to state its policy on funding of a Hamilton-Auckland commuter service. The following are extracts from the responses to questions asked:

- ◆ Initially the viability of the service would need to be established.
- ◆ Land Transport NZ would assess a funding application and review the associated information in order to make a decision, in line with the evaluation procedures at the time. The availability of financial assistance from the National Land Transport Programme would depend on the outcome of this evaluation and the availability of funding.
- ◆ If Land Transport NZ agreed to provide financial assistance then a procurement procedure would need to be designed by the purchaser and approved by Land Transport NZ under section 25 of the Land Transport Management Act (LTMA). There is no 'standard' procurement procedure to cover this situation. The procurement procedure must first be designed to deliver 'best value for money'. The role that competition will play in the procurement procedure is a secondary consideration. Furthermore, whether the process of identifying the service operator will include a competition depends upon who has rights to operate rail services and where.

- ◆ If Toll Rail has exclusive rights to operate passenger rail services between Hamilton and Auckland, then Toll would have first refusal with respect to the service, within the parameters of the offer made to them, and there would be no competition.
- ◆ Assuming Toll has exclusive rights, then the terms (including the price) of the contract with Toll would have to be negotiated in accordance with the procurement procedure approved by Land Transport NZ. An example of this type of negotiation is evident in Wellington, where an open book process will be used, to verify that claimed costs are correct.
- ◆ If Toll does not wish to operate the service then a procurement procedure will need to be designed to handle that circumstance. That may well require some form of competition to select the operator. An example of this would include the process undertaken in Auckland for the commuter rail services. The procurement procedure would be a bespoke procedure as there would probably be unique issues to accommodate, the need for this would become apparent as the process progressed.
- ◆ In addition to the procurement procedure issues, we have identified certain other requirements that would need to be evident. Land Transport NZ would only fund this through relevant approved organisations, in this case; Environment Waikato and Auckland Regional Transport Authority (ARTA), and they would need to be able to raise the required local share. The service would also have to be detailed in each region's Regional Passenger Transport Plan and then incorporated into the relevant Land Transport Programmes (LTP's).

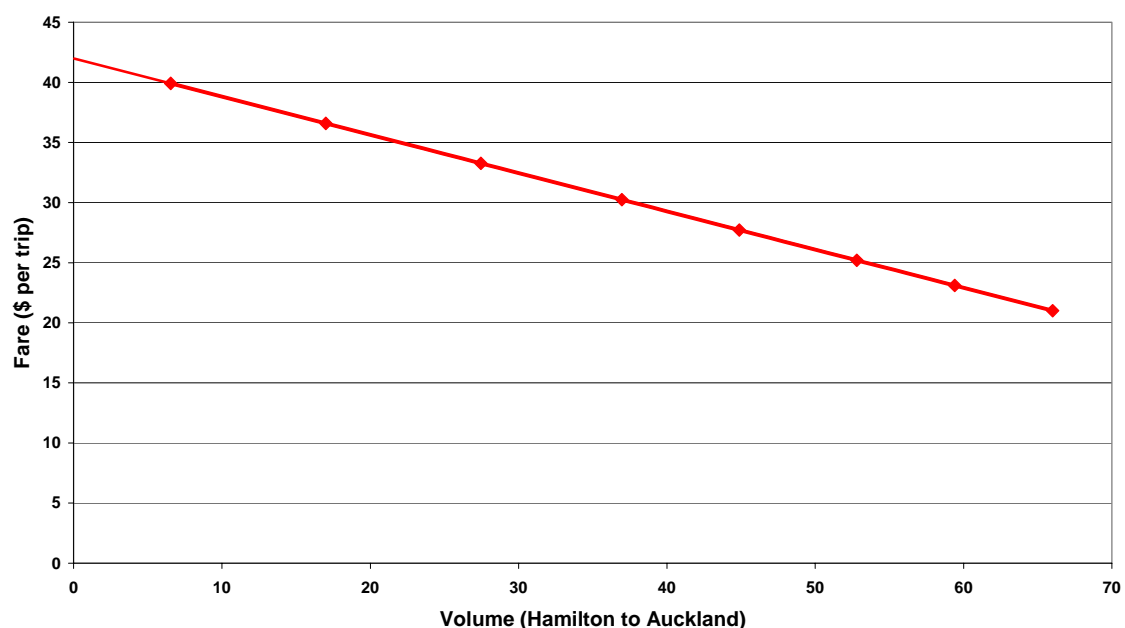
## 13 Economic Assessment

### 13.1 Introduction

The economic assessment aims to take into account a broader range of impacts instead of just the financial implications of the introduction of the new service. While there are a number of components which could be included in the appraisal, at this preliminary stage, attention will be concentrated on two main elements, the benefits to rail passengers, and the effects of their diversion from the road network on other road users. The omission of the other benefit components is unlikely to alter to the broad conclusions from the evaluation.

### 13.2 Benefits to Passengers

In line with the procedures set out in the LTNZ Economic Evaluation Manual Volume 2 (EEM2) the potential benefits to rail passengers have been measured taking into account their willingness to pay and the user charges to be levied. An assessment has been made of this taking the predicted position and then applying a conservative fares elasticity of 1.0 to identify the fare at which flows would be zero. For the Auckland Hamilton movements the demand curve that results is set out in Table 13.1



**Table 13.1**  
**Forecast Demand Curve – Hamilton to Auckland**

Using this approach the user benefits as measured by the difference between the total willingness to pay and the fare charged are approximately 45 per cent of the total revenues. This factor has been applied to all the other movements which receive a new service. For movements which are currently served by rail, the economic benefits have been assumed to be the same as the net revenues. This would give some underestimation of the total benefits.

### 13.3 Benefits to Car Users

Benefits from the reduction of congestion arise when users divert from congested roads to public transport services. The total increase in public transport flows using the new rail services is estimated at 90 in the forecast year of 2009. Using the relationships set out in EEM2 it has been assumed that private car journeys would be reduced by 71.2 per cent of this total. On the assumption that the typical length of journey in congested conditions amounts to about 25 kms, equivalent to the distance from Papakura to Green Lane, and broadly representative of the length of range of journeys diverted to rail, the total reduction in annual vehicle kms would amount to about 0.8 million per year. Applying the standard value of \$1.26 gives a total reduction in congestion costs of about \$1.0 million per year in 2009. This is assumed to grow at 5 per cent per year in line with forecast rail patronage to 2012 by which time the service is assumed to be at capacity and no further growth is possible.

### 13.4 Overall Economic Assessment

The overall economic assessment presented in the form set out in EEM2 is summarised in Table 13.1 and is set out in more detail in Appendix A

<b>Table 13.1</b> <b>Hamilton-Auckland Rail Commuter Services</b> <b>Central Case Benefit Cost Analysis</b> <b>(NPV \$millions)</b>	
Benefits	
PT Users Benefits	2.4
Road user benefits	9.3
<b>Total benefits</b>	<b>11.7</b>
Funding Gap	
Total Costs	18.1
Total Revenues	6.4
<b>Funding Gap</b>	<b>11.7</b>
<b>BCR</b>	<b>1.0</b>

Although the proposed service has a substantial funding gap, the user benefits are of a similar magnitude and the proposal as a whole has a BCR of about 1. This mainly reflects the impacts of the reduction in road user costs resulting from the switch of passengers to rail, which reflects the considerable distance which those diverting would travel on the congested Auckland road network. In line with the advice in the EEM2, no allowance has been made for any reduction in congestion in Hamilton, although the timing of the parts of any journeys within Hamilton, either early in the morning or late in the evening means that this impact would be negligible. It should be noted, that while the effects of the reduction in congestion do represent a benefit to the community as a whole, their impact would be mainly experienced by Auckland residents.

### 13.5 Sensitivity Testing

The impacts of the different patronage forecasts on the Economic BCR have been assessed and the results are set out in Table 13.2.

<b>Table 13.2</b> <b>Sensitivity Testing of Economic BCRs</b>				
	Central	Low	High	Central with Continued Growth
Economic BCR	1.0	0.6	1.2	1.2

The benefit cost ratios derived from the analysis span the range from 0.6 to 1.2, which appears to indicate that the scheme is broadly marginal in conventional transport economic terms..

## **14 Other Impacts of the New Services and Overall Assessment**

### **14.1 Regional development**

The provision of a rail service is seen as an important factor in the development of the communities along the route, and as discussed above there is strong support for the proposal from all the territorial authorities and Regional Councils affected. With the continuing expansion needs of Auckland, the new rail service could help encourage development with public transport focus in Pukekohe, Tuakau, Pokeno and Te Kauwhata and over the longer term in the towns further south.

Improvements in rail services would also help to integrate the economies of the Waikato and Auckland Regions. The northern parts of Hamilton are experiencing substantial growth in economic activity, in part reflecting the relative proximity to Auckland. While the majority of business movements between Hamilton and Auckland are likely to be undertaken by road, especially given the measures to improve the road connections between the two cities, the provision of improved rail services would provide options for those who cannot or do not wish to drive and would allow the travel time to be used productively.

The provision of a commuter rail service would itself have possibly only limited impacts on development over the short term. Its importance however is its potential role to act as the precursor of the more general upgrading of the inter-regional rail linkages to provide regular services between Hamilton and Auckland, two of New Zealand's major cities. This would help integrate the two economies with consequent benefits from increased productivity and output and would provide an increased range of choices for those living and working in the two cities. This could have a greater regional development impact, and in turn could possibly pave the way for improvements of the rail connections to Tauranga.

A regular train service would also aid integration within the Waikato economy, strengthening the role of Hamilton as the key city and encouraging sustainable development at the towns served by the rail line.

### **14.2 Tourism**

As discussed above there are considerable movements of tourists between Auckland and Hamilton, and Hamilton is establishing itself as a major "events" centre. New rail services could play a part in supporting tourist activities, although these would need to be integrated with other transport modes and facilities if they were to take substantial volumes of tourist traffic.

## 15 Overall Assessment against LTMA Criteria

### 15.1 Introduction

The LTMA and the NZTS set out a number of principals and objectives for the transport sector to which new schemes should attempt to contribute. These cover:-

- Economic Development
- Safety and Personal Security
- Accessibility and Mobility
- Public Health
- Sustainability
- Integration
- Responsiveness

Each of these is now considered briefly in turn

### 15.2 Economic Development

By providing additional options for travel between Auckland and Hamilton this will assist in the integration of their economies and in particular will allow employers in the areas of Auckland served by the rail network to draw on a wider labour force, and hence will encourage economic development. It will also provide more reliable journey times and facilitate business trips between the two centres and will support a more energy-efficient transport system.

By providing improved means of commuting to Auckland, the provision of a rail service is also expected to encourage development around the railway stations along the route. Given the current patterns of development, the effects are most likely to be felt in Pukekohe and the areas immediately to the south including Tuakau, Pokeno and Te Kauwhata, although there could be some impacts further south, especially after the service has become established.

The overall effects of the service as proposed are therefore likely to be **moderately beneficial**. However, as discussed in the previous section over the longer term, if the proposed service leads to a general upgrading of rail services between the two cities, the effect could be more substantial. In this case, the rating would be **beneficial**

### 15.3 Safety and Personal Security

The diversion of some travel away from the road network would make a contribution to road safety. There are however issues with the provision of station and car parking facilities which are regarded as secure, which may tend to offset the road safety benefits.

Overall, on balance the impacts of the service are likely to be **broadly neutral**.

### 15.4 Accessibility and Mobility

The provision of the new service will provide an option for commuting to Auckland for those who wish not to drive or are unable to drive, and therefore will contribute to improved mobility and accessibility.

Some of the areas served also suffer from very substantial social deprivation. However, in practice, rail travel is likely to be fairly expensive and this may limit the benefits to disadvantaged groups of the population, unless some form of concession scheme is introduced to support this travel.

Overall, the impacts are likely to be **moderately beneficial**.

## 15.5 Public Health

Although the proposed services are likely to be mainly served by car-borne modes at the origins of the journeys through either park and ride or kiss and ride, there is likely to be some increase in walking at the Auckland end of the journey with the consequent benefits on public health. Other minor benefits will arise from the reduction of emissions following the diversion of some traffic away from private cars. In both cases, however the net impacts are likely to be only very small, and the overall impact is likely to be **broadly neutral**.

## 15.6 Sustainability

Sustainability as defined in EEM2 has two major components:-

- Environmental sustainability
- Sustainability of the performance of the proposal

The overall environmental impacts of the project are likely to be slightly beneficial with the shift of some traffic away from the road network. There will be some adverse impacts particularly where the rail service passes through developed areas and where noise and vibration may be an issue. The overall effects are therefore likely to be small.

The sustainability of the benefits of the scheme is however likely to be more positive, particularly if viewed against the rapid development of the rail network within the Auckland Region as a whole.. If passenger flows grow, there would, over the longer term, be options for improving the capacity of the services by introducing additional trains, either over the route as a whole or over the northern sections freeing up capacity for longer – distance travellers. These would need to be provided with paths to reach the centre of Auckland in the peak periods, but with the longer-term development of the rail network, it should be possible to achieve these.

Overall therefore the impacts are likely to be **beneficial**.

## 15.7 Integration

The proposals for the new rail service would provide a focal point in the communities served and in the case of a number of the stations could be integrated with the town centres or in the case of the proposed Hamilton stations with local development areas. However, at this stage of the planning process there are no firm plans for integration. The impact can therefore be regarded as **neutral-moderately beneficial**

## 15.8 Responsiveness

As discussed above there is very considerable support for the development of rail services from the communities which would be served. In terms of this criteria the proposal can be regarded as **beneficial**

## 15.9 Overall Assessment against LTMA and NZTS Criteria and Objectives

The overall assessment of the proposed rail service against NZTS and LTMA requirements is set out in Table 15.1.

<b>Table 15.1</b>	
<b>Summary of Assessment against LTMA and NZTS Criteria</b>	
<b>Criteria/Objective</b>	<b>Assessment</b>
Economic Development	Moderately beneficial - beneficial
Safety and Personal Security	Neutral
Accessibility and Mobility	Moderately beneficial
Public Health	Neutral
Sustainability	Beneficial
Integration	Neutral-moderately beneficial
Responsiveness	Beneficial

Overall, out of seven criteria the proposal has beneficial or moderately beneficial ratings for 4 criteria, neutral ratings for 2 and an intermediate rating for the other one. No ratings are adverse and the overall assessment of the project can be regarded as moderately beneficial. In general, the effects are relatively small, reflecting the nature of the scheme, but there are no major adverse factors or ratings.

## **16 Conclusions and the Way Forward**

### **16.1 Introduction**

The purpose of this study is to answer a number of questions about the proposed commuter rail service between Hamilton and Auckland. These include:-

- Is a service operationally feasible
- How many people might use the service
- What would it cost to set up and operate and would the service be financially self-supporting
- Is there an economic case for the provision of the service
- When might it be put in place
- What agencies would be involved with the establishment of the new services
- What are the next steps for EW/HCC

Each of these is now considered in turn

### **16.2 Is a service operationally feasible?**

By combining the proposed commuter rail service from Hamilton to Auckland with the existing ARTA service between Pukekohe and Auckland it should be possible to provide a service which has access to central Auckland at times likely to be attractive to commuters. While there is probably no rolling stock currently available for the new service, it would be possible to procure this over a reasonable time scale. ARTA may be prepared to procure and be the owner of the rolling stock and then make it available to EW/HCC for the service to Hamilton on the basis of some cost sharing arrangement. While there are a number of operational and contractual issues that would have to be resolved, in principal it is likely that a new service would be feasible.

### **16.3 How many people might use the service?**

The numbers forecast to use the train from the Waikato range from about 50-100 per day in each direction with a central estimate of about 90. This is based on stations in Hamilton, Ngaruawahia, Huntly and Te Kauwhata. It is conservatively forecast that this traffic would grow by about 5 per cent per year, up until about 2012 when the capacity of the train would be reached.

### **16.4 What would it cost to set up and operate and would the service be financially self-supporting?**

The costs of setting up the service would include the provision of a newly refurbished train and the provision of supporting infrastructure at the stations, including platforms, shelters, park and ride facilities and revisions to signalling. It is assumed that there would be some form of cost-sharing with ARTA, although the details of this would need to be established in negotiations between ARTA and EW.

The incremental costs of the newly refurbished rolling stock over and above the costs that would be faced by ARTA are estimated at about \$4.4 million. The cost of the supporting infrastructure is indicatively estimated at about \$6 million, giving a total cost to be met by regional sources of about \$10 million. This would represent a considerable increment on expenditure on passenger transport in the Region.

The annual operating costs of the train are assumed to be split by ARTA and EW/HCC broadly on the basis of the train-kms in the Auckland Region and in the Waikato Region. On this basis, 60 per cent of the operating costs would need to be met by regional sources, a cost of about \$1.4 millions per year.

The costs are summarised in Table 16.1

<b>Table 16.1</b> <b>Incremental Capital and Operating Costs of Proposed Hamilton-Auckland</b> <b>Commuter Rail Services</b> <b>(\$ millions)</b>			
	<b>Total Costs</b>	<b>Costs assumed met by ARTA</b>	<b>Incremental Cost to be met by Regional Sources</b>
Rolling stock	12.6	8.2	<b>4.4</b>
Other supporting infrastructure	6.0	-	<b>6.0</b>
Total Capital Costs	18.6	8.2	<b>10.4</b>
Annual Operating Costs	2.3	0.9	<b>1.4</b>

If the capital costs were converted to an annualised basis these would amount to about \$1.5-1.6 million per year over a 10-year period. On this basis, the total annual costs of the provision and operation of the service would amount to about \$3 millions per year.

The revenues from the service would fall short of the costs of its provision and an operating subsidy would be required throughout the period of service. The total capital and operating costs of the service to be met by regional sources would amount to about \$18 million NPV with total revenues about \$7 million. The funding gap would therefore amount to about \$11 millions NPV.

In strict financial terms, the services would not be viable and would need to be supported by a substantial subsidy or other means of funding.

## **16.5 Is there an economic case for the provision of the service?**

The provision of the rail services will generate benefits to the users that are greater than the fares for the service and by diverting traffic away from the road network will generate benefits to other road users, particularly within the Auckland urban area. The overall economic position is summarized in Table 16.2.

<b>Table 16.2</b> <b>Hamilton-Auckland Rail Commuter Services</b> <b>Base Case Benefit Cost Analysis</b> <b>(NPV \$millions)</b>	
PT Users Benefits	2.4
Road User Benefits	9.3
<b>Total Benefits</b>	<b>11.7</b>
Total Costs	18.1
Total Revenues	6.4
<b>Funding Gap</b>	<b>11.7</b>
<b>BCR</b>	<b>1.0</b>

The user benefits from the proposed service just offset the funding gap and the scheme has a benefit cost ratio of about 1. In a range of sensitivity tests the BCR ranged from 0.6 to 1.2, suggesting that in conventional economic terms the scheme is broadly marginal.

In addition, a review has been undertaken of the extent to which the proposed service would be in line with NZTS/LTMA criteria and objectives. The results of this are summarized in Table 16.3 and indicate that the proposal is generally supportive of these criteria.

<b>Table 16.3</b> <b>Summary of Assessment against LTMA and NZTS Criteria</b>	
Criteria/Objective	Assessment
Economic Development	Moderately beneficial - beneficial
Safety and Personal Security	Neutral
Accessibility and Mobility	Moderately beneficial
Public Health	Neutral
Sustainability	Beneficial
Integration	Neutral-Moderately beneficial
Responsiveness	Beneficial

A key element of the scheme is its potential importance as the precursor of a more general improvement in rail services between Auckland and Hamilton resulting in a more effective integration of the two economies with consequent increases in economic output and choices for those living and working in the two cities.

Given these factors, there therefore appears to be a case for at least taking the proposal forward for further investigation.

## **16.6 What agencies would be involved with the establishment of the new services?**

There are a number of agencies who would be concerned with the implementation of the proposed new service. The most important of these and their potential roles are set out in Table 16.4:-

<b>Table 16.4 Key Agencies Involved in the Establishment of New Services</b>	
EW/HCC	Project Sponsors and funders
ARTA	Potential owners of the rolling stock and co-partners in the new rail service
Land Transport New Zealand	Potential providers of funding to supplement local contributions
Train operators	Operators of the trains and potential suppliers of new or refurbished rolling stock
Ontrack	Owners and operators of the rail track and station platforms. Access provider
Other territorial authorities	Providers of supporting infrastructure at locations outside Hamilton and the Auckland region
Other Government agencies such as MoT and MED	Possible providers of political support

## **16.7 When might it be put in place?**

While there is pressure to start the service as soon as possible, the need to provide new or refurbished rolling stock and develop the stations to be used by the service precludes an early start. In reality, it is likely that services would not be able to commence until 2009.

## **16.8 What are the next steps?**

Because of the number of parties involved with the proposal and the possible complexity of the operational and institutional arrangements there are a number of steps which are required to progress the new service. This service should be assessed in the wider context of the Regional Passenger Transport Plan and Network Review.

A possible action programme up to the submission for funding for LTNZ is set out below:-

- Review the business case set out in the report findings to determine whether it is appropriate to progress the scheme given the likely costs of the proposal and if so identify the form of the project to be taken forward.
- Discussions with ARTA and ARC to obtain formal support for the concept and to agree an in-principle allocation of the costs
- Establish project team.
- Discussions with LTNZ to get their approval in principle for the project and to seek funding for further stages of the work. In this regard, Land Transport NZ has pointed out that the service would have to be detailed in each region's Regional Passenger Transport Plan and then incorporated into the relevant Land Transport Programmes (LTP's).
- Start discussions with rail operators to get a better idea of the costs of the service and to identify the way in which the services should be managed and operated. The discussions would also need to cover the issues relating to the operation of the services:-
  - Responsibility for marketing the service

- Branding (ARTA likely to own the rolling stock).
  - Responsibility for setting the fares. Includes availability of concession fares.
  - Gross or net contract
  - Operator incentives and penalties in the contract.
  - Capital funding
- Talk to ONTRACK to get approval for works on the rail track
  - Talk to District Councils to get a coordinated response to the provision of stations and identify issues with their construction
  - Review and refine patronage and revenue forecasts
  - Update business case
  - Further negotiations with ARTA to define the operational and funding arrangements required to progress the introduction of the new service
  - Undertake work required to support a submission to LTNZ for the funding for the local government components of the new service

A possible action programme is set out in Figure 16.1

Action	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07
Review Business case and identify scheme to be progressed								
Discussions with ARTA and ARC to discuss principle of approach and identify form of project governance								
Establish project team								
Discussions with LTNZ to seek approval for project in general and identify ways in which a service might be procured and requirements for any submission for funding								
Discussions with Toll to define in greater detail the possible costs of the rolling stock and its operation								
Talk to ONTRACK to identify ways in which changes in tracks and signalling can be progressed and refine the associated costs.								
Identify the full costs and timescale for the infrastructure works and rolling stock procurement								
Review and refine the patronage forecasts through local surveys, particularly identifying the demand at the smaller towns along the route etc								
Review business case and identify appropriate way forward								
Further detailed negotiations with ARTA on operations and funding								
Submission to LTNZ for funding for the service								

**Figure 16.1**  
**Proposed Initial Action Programme**

## **17 Subsequent Developments**

### **17.1 Introduction**

Since the production of the Draft Final Report, there have been two significant developments which potentially would have a bearing on the conclusions reached in this report. These are:-

- The possible termination of the Overlander service which was announced on 26 July 2006
- The option of only using the existing stations on the line at least in the initial stages of development of the service.

Each of these is considered in turn.

### **17.2 Cessation of the Overlander service**

The cessation of the Overlander service would potentially have some implications for the proposed re-establishment of a commuter rail services between Hamilton and Auckland. The main ones include:-

- The termination of services would probably release some rolling stock. However we understand that Toll intend that some of the rolling stock may be transferred to support their South Island operations and that the remainder is generally in poor condition, and would probably not be suitable for a new high quality service of the type proposed for the new commuter service.
- The termination of the Overlander service may lead to an abandonment of the station facilities in Hamilton and elsewhere outside the Auckland region. There may therefore be additional costs refurbishing these if they are to be used by the proposed commuter services. This may be particularly an issue for the existing Hamilton Frankton station.
- The termination of Toll passenger services would mean that after 12 months their sole rights to operate inter-regional passenger services would lapse and other operators would be able provide passenger services. This may increase the options for a new service, but the limitations on the availability of rolling stock would probably still apply and new or refurbished locomotives and carriages may still need to be procured. In the case of the permanent cessation of the services, it would therefore be appropriate for hold discussions with other potential operators including Veolia about the possible provision of the commuter services.
- In our earlier analysis we indicated that if additional services were to be provided between Hamilton and Auckland during the day, the Overlander could form part of the overall services between Hamilton and Auckland and offer additional journey options. If the Overlander services ceased this option would no longer exist.

The cessation of the Overlander services could in theory open another peak period passenger train path into central Auckland. Currently Toll has two peak hour train paths on the NIMT which it can use for passenger or freight services. Should the Overlander cease, the use of the Overlander path including its availability for another service or

operator would in the first instance be a commercial decision for Toll to make. It should be noted that the Overlander path is via the NIMT and thus does not include the Newmarket Station. In addition, the use of the Britomart Station would be subject to a separate charge which would have to be negotiated with the station owners.

Overall, the termination of the Overlander services would have a number of implications for the proposed Hamilton-Auckland commuter services, but the effects of these are likely to be limited and would not alter the main conclusions reached in this report.

### **17.3 Possible Alternative Station Configurations**

Following the circulation of the Draft Final Report, the suggestion has been made that the services should be started using the existing station in Hamilton Frankton, so as to avoid the costs of constructing or refurbishing the proposed other stations.

The main implications of this are that the costs of station provision would be considerably reduced, although some work would probably be required to upgrade the station particularly the car parking facilities, and that there would be some reduction in passenger revenues from those who would no longer be able to board at intermediate stations. The net effect of these changes is estimated to reduce the overall funding gap from about \$11-12 million to about \$7-8 millions and increase the BCR from about 1.0 to 1.3.

With the reduction in funding gap and increase in BCR, there would appear to be merit in investigating this option further if the overall proposal for commuter services is to be progressed.