KiwiRail Commercial Review

COMMERCIAL IN CONFIDENCE

December 2014

KiwiRail

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Important Notice to the Reader

The report has been prepared by the KiwiRail Board for the exclusive use of KiwiRail's Shareholding Ministers and their advisors. It has been compiled to assist Shareholding Ministers in making their own evaluation of the future KiwiRail strategy and the Board believes it contains the information that Shareholding Ministers require. The information is supplied on the basis that it is private and confidential.

Please note that

1) KiwiRail has relied on information and data obtained from various third parties and has assumed the honesty and accuracy of this information
2) Subsequent to the date of this report, such information and data may change and KiwiRail will not necessarily correct or update any data or matter referred to in this report
3) All references to dollar amounts are in New Zealand Dollars (NZD) unless otherwise stated
4) All figures are real as at December 2015 and do not include GST
5) All FY15 figures are as per the FY15 budget submitted
6) All references to Present Values are calculated as at 1 July 2015 and using a real discount rate of [redacted]

Section 1: Executive Summary

1. Introduction, Overview and Next Steps

1.1. Introduction

This paper sets out a commercial review of KiwiRail and outlines four broad options for the long-term future of the business.

1.2. Board Objective

The Board and Management of KiwiRail welcome this opportunity to present options for KiwiRail and engage with Shareholding Ministers and the Government.

The Board is hopeful that discussion of these options will assist the company and its shareholders to reach an agreed set of commercial objectives for the company in the medium to long-term, alongside agreement on what these objectives mean for KiwiRail's role in the transport sector. This agreement would also cover performance measurement (financial and operational) and establish key milestones for execution over an extended period. The Board envisages an agreement along these lines to assist the company and transport policy makers to plan for the future and, most importantly, increase the probability of the agreed objectives being realised.

The material in this report reflects a substantial business planning exercise and economic analysis of options. The process has been led by the Board. The Treasury assisted with the specification of the analysis and has been fully involved as the analysis has progressed.

The Board's documents are structured as follows:

- Executive Summary (this paper)
- Main Report
- Appendices

1.3. Background

During discussions on KiwiRail funding for the 2014/15 financial year, the KiwiRail Board advised Shareholding Ministers that KiwiRail would develop a refreshed, comprehensive long-term review of the business. The Board further advised that they considered determining investment in KiwiRail on a year by year basis inappropriate, given the long investment cycles in the business and the need to provide certainty to users of rail. The Board also believes that an approach based on medium to long-term planning is more consistent with the Crown's approach to managing its commercial portfolio as outlined in the March 2014 Investment Statement.

Shareholding Ministers were supportive of this exercise and requested that a range of options be assessed as part of this process to allow them to make informed decisions on the future of rail in New Zealand.

Shareholding Ministers indicated that if the Government remained committed to rail, their objective was that KiwiRail should strive for financial sustainability and increasingly finance its operating and capital requirements from internal cashflows. In this regard, they set out their expectations that new plans would show a reduction in the level of Crown investment being sought over time. They also indicated that they expected KiwiRail to continue to behave commercially at all times and that they were supportive of the Board exploring a range of options for the future of KiwiRail.

1.4. Review Process

This report has been developed following a comprehensive assessment of the economics of both the current business and alternative configurations for the business. It builds on, but is much more detailed and comprehensive than, the work underpinning the 2010 Turnaround Plan. Most of the current work has been done by KiwiRail Management with the assistance of external advisors and consultants in certain areas.

The process has been as follows:

- Ground-up review of business as usual on a line segment and corridor basis reviewing forecast costs and revenues
- National Freight Demand Study (NFDS) used to develop forecast demand data and analyse the competitive position by traffic and corridor
- Break down contribution margin by corridor, allocating capex and opex where possible
- Analysis of the effect on the cost and revenue cashflows from changing the service and network structure
- From this base information, incorporate cost and revenue improvements to business as usual, while retaining a broadly similar network and set of services, but eliminating the worst performing services and pieces of network
- Develop further options involving a significant reduction in external funding requirements, in line with the Government's objective to achieve financial sustainability

The analysis of KiwiRail's forward looking economics requires the preparation of forecasts with respect to the future revenues and costs. The Board and Management of KiwiRail have sought to test the forecasts such that they are neither overly optimistic nor pessimistic. Where possible, KiwiRail has used independent data developed by third parties as the base for its forecasts and has consulted with key customers in developing revenue projections. On the cost side, the forecasts are based on the spending necessary to improve and then maintain the operating network in a safe and serviceable condition, aligned to the performance standard required to meet customer needs.

Across all options, the Board has been conscious of setting targets that are a balance between demanding targets for Management and realistic in terms of the undertakings made to the Shareholder.

The Board recognises that the Government may make decisions on the future of KiwiRail taking into account wider public policy considerations. However, the Board has taken a purely commercial view of the options and has not sought to address any social or public benefit issues.

1.5. Description of Options

The major options that have been developed are as follows:

- **Trimmed Network** - Broadly, the existing business overlaid with a set of network and service rationalisation decisions and demanding but credible business improvement targets
- **Separate Island Networks** - A North Island rail business from Wellington north. South Island rail business from Christchurch south, including the West Coast. No dedicated inter-island rail services
- **Upper North Island** - Rationalise back to an Upper North Island rail business only. Largely the Auckland / Hamilton / Tauranga triangle, [redacted]
- **Exit** - Close the entire rail business except those parts the private sector is willing to operate without subsidy

For clarity, note that none of these options assume any change to metro rail services in Auckland and Wellington. These services are separately specified and funded by Crown arrangements with Auckland Transport and Greater Wellington Regional Council. However, assumptions have been made in KiwiRail's forecasts regarding contributions that will be made to shared network costs. If freight were to cease operating on those networks, the metro services may bear a higher cost.

Interislander is assumed to remain in all scenarios, primarily to assist comparability. [redacted]

Also, none of the options include any material contingency as presented. Inclusion of contingencies for upside/downside events will need to be considered as part of a final business plan.

1.6. Forecast outcomes

Trimmed Network: Rationalisation of Existing Network

- Feasible maximum rail network
- [redacted]
- [redacted]
- Steady market share over time
- No new Bulk or Forestry
- High but reducing levels of Crown investment over time

[redacted]

Separate Island Networks: Moderate Network Reduction

- All Trimmed Network actions
- Exit all inter-island freight services
- IMEX, Bulk and Forestry focus
- Significant reduction in rail traffic
- Limited growth options
- Crown investment similar to Trimmed Network

[redacted]

Upper North Island: Retreat to Small, Dense Traffic Network

- Pull back to services where rail is more competitive, much reduced network
- Centre on Ports of Auckland and Tauranga, IMEX and Forestry
- Exit lower North Island, South Island
- High near term funding to finance exit/rationalisation
- Lower Crown investment after high initial rationalisation spend

Exit: Private Sector Only

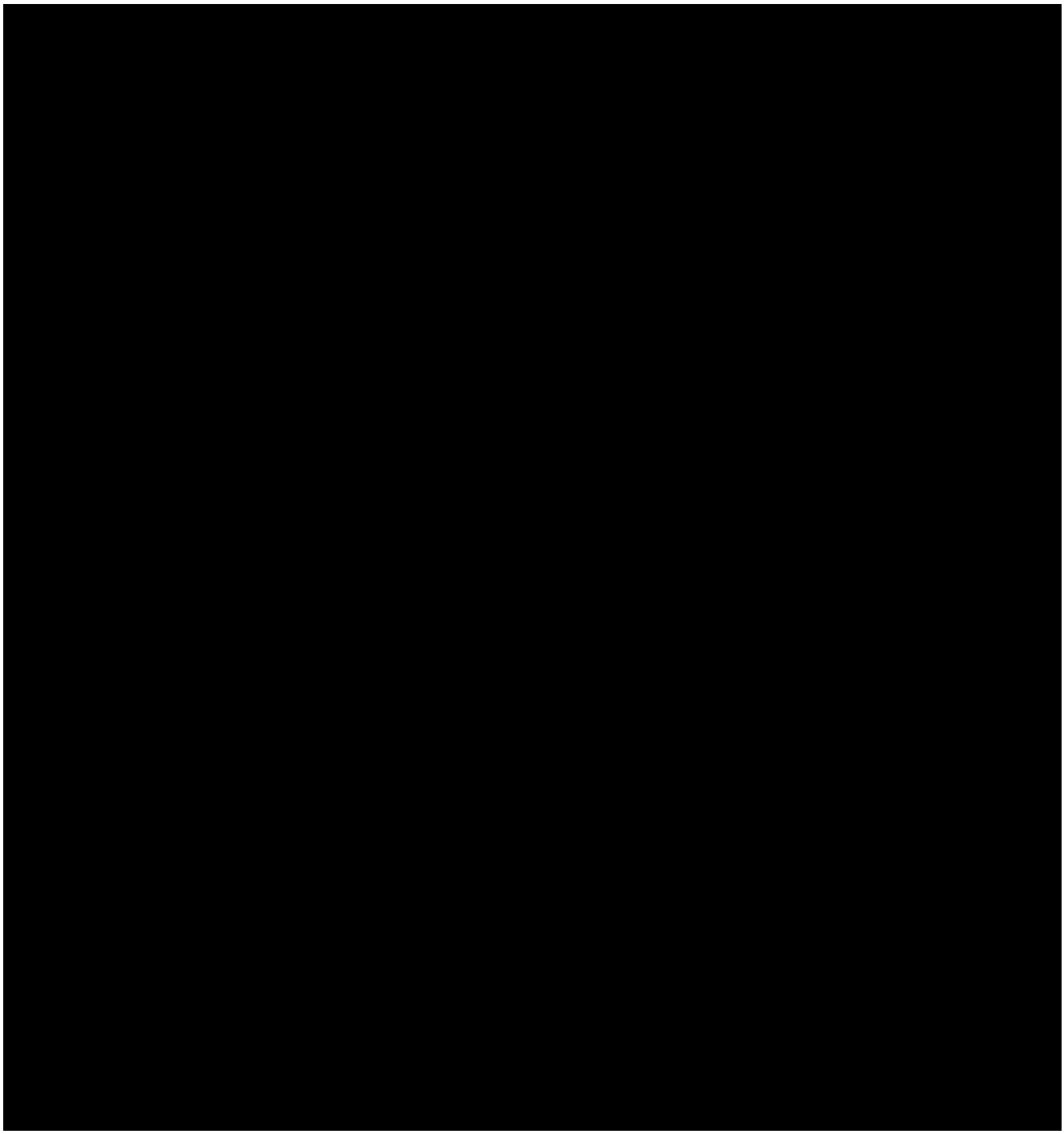
- Sell/transfer some assets to private sector but no material rail traffic assumed
- High near term funding to finance rail exit/rationalisation
- Remove Crown investment post exit process.
- Longer-term funding potentially not required

Key Observations

There is no operating network configuration that becomes financially sustainable in the forecast period:

- On a commercial basis, Exit is the highest value option
- Outside Exit, rail economics tend to favour a larger network targeting growth or a major downsizing to a smaller, denser network
- The outputs in terms of rail traffic vary significantly in different options

The charts below show the scale of KiwiRail, measured by Net Tonne-Kilometres (NTKs), against the value of Crown investment for different time periods. They show that the forecast rail volumes broadly follow forecast Crown investment.



The data above shows that the Separate Island Networks option continues to require a relatively high level of Crown investment, but will result in a significant decrease in NTKs transported by rail. The table below compares all four options against a number of qualitative and quantitative criteria. It shows that the Separate Island Networks option has lower upside / growth opportunities when compared with the Trimmed Network option, and requires more Crown investment than the Upper North Island option. The Board believes that Separate Island Networks represents an unsatisfactory outcome relative to the alternatives.

[redacted]

Criteria	Trimmed Network	Separate Island Networks	Upper North Island	Exit
PV cost to Shareholder (FY16-FY45)	High	Highest	Moderate	Lowest
Crown investment required (FY16-FY20)	High	Highest	Moderate	Moderate
Level of change from business as usual	Moderate	Moderate	High	Highest
Net Tonne-Kilometres	High	Moderate	Low	None
Level of Crown investment required by 2045	Low	Low	Lowest	None
Upside / growth opportunities	High	Low	Low	None
Downside risks	Moderate	Moderate	Low	None
Value of saleable assets	Low / None	Low / None	High	Highest

1.7. Next Steps

The report assesses four scenarios. The Board is confident that three of the four scenarios presented provide a realistic base for the Government's policy considerations relative to network scale and services and Crown investment requirements. Note that each of the scenarios can be adjusted at the margin depending on Shareholder preferences.

The discussion of the options in this document focuses on the economics of the alternatives as a basis for making choices about the future. Implementation of a preferred option will require consideration of a number of issues including the financial and organisational arrangements that will maximise the probability of the agreed objectives being realised.

The Board does not wish to pre-judge Shareholder preferences in terms of commercial and wider policy choices but believes it would be preferable to address these wider choices in the following sequence:

- An initial focus on which of the three realistic alternatives (Trimmed Network, Upper North Island, Exit) is most likely to be aligned with the Government's policy preferences
- Further development and refinement of the detailed business plan associated with the preferred choice
- Development of the best organisational and financial arrangements for the implementation of the chosen business plan

During this sequence of analysis, the Board envisages the Government will retain flexibility on all options until a final business plan is agreed.

KiwiRail looks forward to further engaging with Shareholding Ministers to finalise and agree a business plan and implementation structure based on the Government's preferred option. The Board's view is that both parties should then commit to this plan, at least into the medium term, to ensure that it has the maximum chance of successful execution.

2. KiwiRail's Business

2.1. Overview

The current operating rail network covers 3,510 km of track, with a further 430 km mothballed, as set out in the map below.

Role of Rail in NZ Transport Landscape

The NZ transport landscape consists primarily of:

- Commercial freight
- Passenger services (including tourism)

Within the commercial freight landscape the market can be segmented by:

- Time sensitive vs. Non-time sensitive freight
- Containerised goods vs. specialist bulk movement (i.e. forestry, milk and coal)

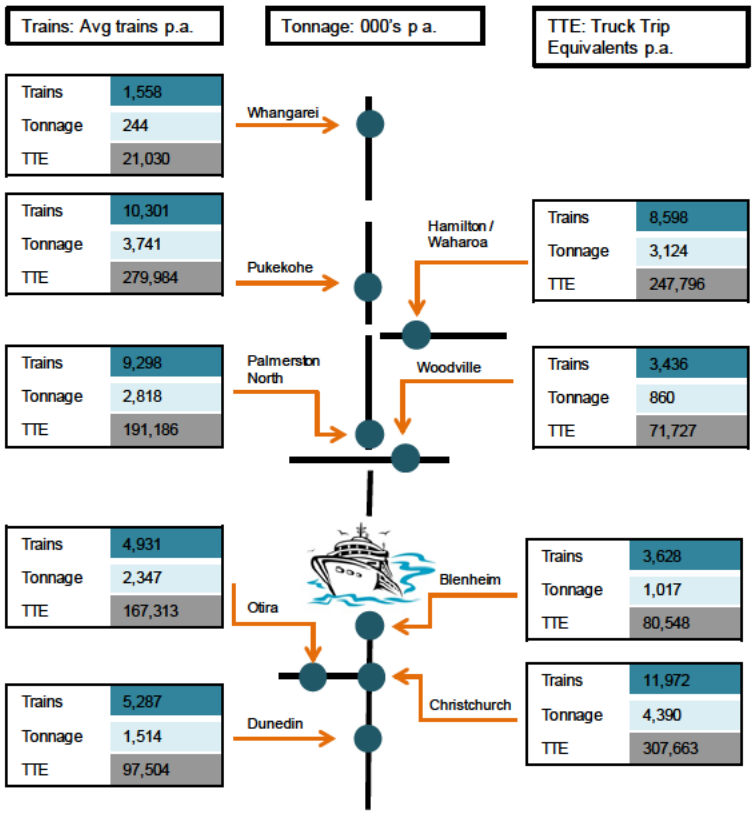
KiwiRail's competitive advantage is more suited to bulk/heavier goods requiring transport over longer distances in a non-time sensitive manner. The core offering is freight focused on IMEX, Domestic freight, Bulk Commodities and Forestry. Each segment has different characteristics and value drivers.

Competitors are road freight and coastal shipping operators.

KiwiRail plays a key role for several major freight and logistics entities by enabling large scale aggregation of goods close to ports.

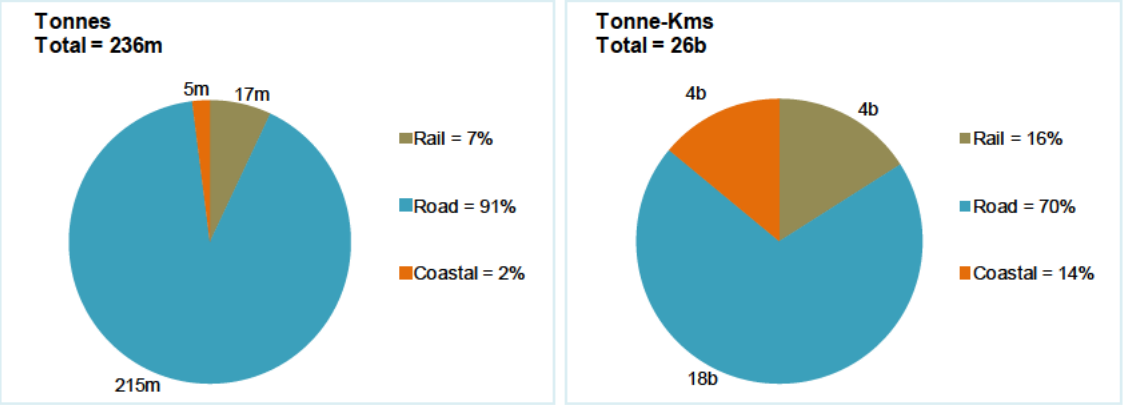
KiwiRail also ensures that significant traffic (i.e. in excess of 15 million tonnes of freight or around 1.2 million truck journeys per annum) is not transported on the roading network therefore providing safety, environmental and congestion advantages to New Zealand.

Highest Volume Points on Rail Network (FY13)



Summary	
Total Annual Train Trips	47,370
Total Annual Tonnage (000)	17,200
Total Annual TTE	1,224,857

Total freight movements by modal share within NZ in FY12 were as follows:



Source: National Freight Demand Study 2014 (Ministry of Transport)

2.2. Revenue and Costs

Revenue

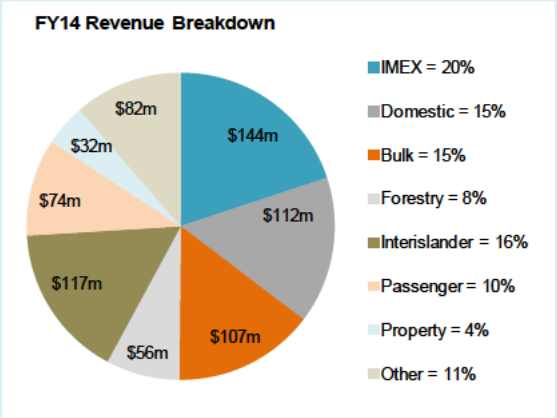
In FY14 KiwiRail had total external revenue of $724m, of which 58% or $419m was revenue from the core freight segments: IMEX, Domestic freight, Bulk and Forestry.

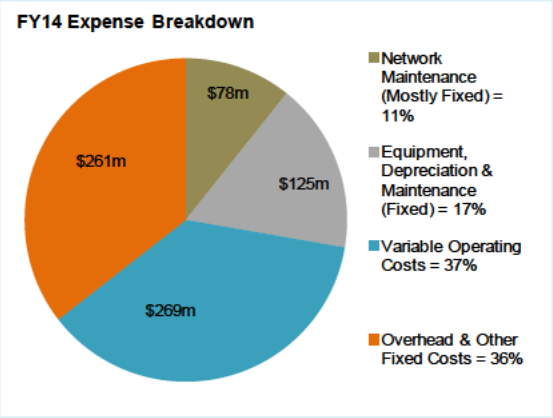
Freight revenues came from:

IMEX	Primarily focused on delivering export products to ports with [redacted] and the [redacted] being the major customers. IMEX delivered $144m, being 20% of KiwiRail's total revenue in FY14
Domestic freight	Primarily in the domestic distribution market transporting full container loads of both locally manufactured and imported products. Auckland/Christchurch services dominate the revenue in this segment, accounting for around [redacted] of Domestic freight revenue. Revenue was $112m being 15% of the total revenue in FY14. This revenue segment is the highest cost to serve, with a high level of modal competition and service expectation
Bulk	Comprises specific traffics on point to point services. For example, steel from Glenbrook to Tauranga, fresh milk across the lower North Island and coal from the West Coast to Lyttelton. These are single customer dedicated services and contributed $107m being 15% of total revenue in FY14
Forestry	Dedicated forestry services in the Bay of Plenty, Northland and lower North Island generated revenue of $56m in FY14, being 8% of the total revenue in FY14

Non-freight revenue came from:

Interislander	Interislander's prime purpose is to provide a link for inter-island rail freight services, primarily Domestic freight. However, it generates significant third party income from passengers/cars and commercial vehicles. FY14 external revenue was $117m, being 16% of the total revenue in FY14
Passenger	Passenger provides public transport services in Wellington under the Tranz Metro brand (FY14 revenue of $53m) and tourism experiences through the Scenic Journeys long distance passenger services (FY14 revenues of $21m). Wellington Metro services are being re-contracted in FY16 and it is unclear whether KiwiRail will be the operator going forward
Property	Property income was $32m, being 4% of the total revenue in FY14
Other	Provision of track access and other sundry services contr buted $82m, being 11% of total revenue in FY14. This included [redacted] from locomotive and driver hire and maintenance services to Transdev (the current Auckland Metro operator). This revenue will cease in FY15 as Auckland Transport introduces new electric trains





Source: KiwiRail

Costs

KiwiRail's costs fall into four broad categories:

- The costs of maintaining the network in serviceable condition – primarily the costs of maintaining the rail and associated infrastructure (bridges, tunnels etc) in a safe and operable condition. These costs are largely fixed in the sense that they are relatively insensitive to the volume of traffic carried on a year by year basis
- The costs of owning mobile plant compromising locomotives, rolling stock and maintenance equipment. These ownership costs are also relatively insensitive to the volume of freight carried on a year by year basis although locomotive and wagon fleet costs do increase as freight volumes increase
- Operating costs which vary with volumes moved – primarily fuel, labour, mechanical maintenance
- Corporate and Business Unit overhead costs and other fixed costs

2.3. Competition

KiwiRail competes primarily with road transport and coastal shipping.

Generally, road transport can provide a faster solution because it operates directly between origin and destination as a single handling service with freight loaded on and off a truck once.

Rail freight often requires multiple handling where it is first trucked from customer premises to a railhead, the rail leg of the journey is completed and it is then trucked from railhead to customer premises.

Coastal shipping offers port to port services between domestic ports. These services are generally low-cost but are slower than road or rail services and often require multiple handling.

The net effect of these underlying factors is that the market plays out broadly as follows:

- Shorter distances with multiple origins and destinations strongly favour truck economics because the costs of railhead consolidation and double handling is high relative to journey length
- Rail can be competitive over varying distances if there are high volumes of freight between two specific points e.g. logs from Murupara to Tauranga, dairy exports from Hawera to Tauranga
- Longer distances generally favour rail more because the cost of the double handling is spread over a larger number of kilometres and rail's per tonne kilometre operating costs are lower

- Rail's schedules and multiple handling mitigate against rail being competitive in the more time sensitive freight markets
- Coastal shipping is most competitive where time sensitivity is not high and low costs are important

These economics are consistent with KiwiRail's current position in the market: Strong performance in IMEX and Bulk where there is dense point to point traffic; a mid-market position in Domestic freight where trucks dominate the time sensitive and shorter distance markets; and effective competition from coastal shipping centred around high bulk freight between port cities, where the supply chain can handle slower fulfilment.

2.4. Key Customers

The rail freight customer base is weighted to a small number of high revenue customers. [redacted] KiwiRail has engaged with most of these customers through the review process. Many of these customers have invested alongside rail over recent years in a variety of ways including siding contributions, shed development, capital contributions to rolling stock and 'take or pay' agreements.

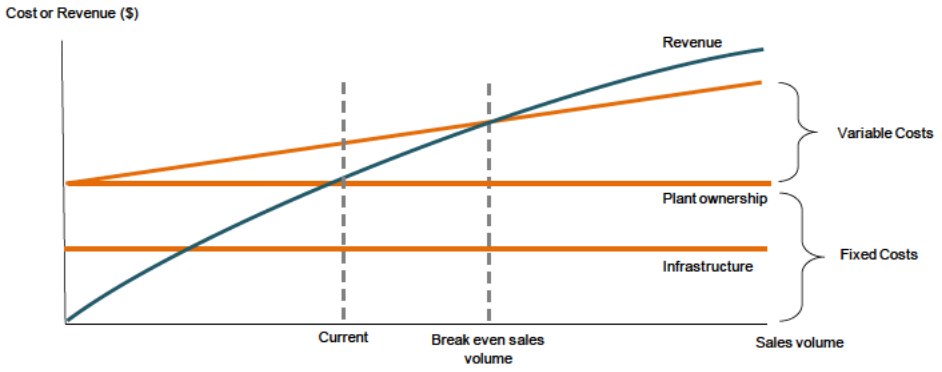
For KiwiRail to be successful going forward it must continue to get much closer to these (and future) customers so that it is actively involved in their decision making and ensures it captures as much growth as possible.

This is particularly true in the Domestic freight market where modal options, capacity utilisation, price management and operational performance are critical opportunities (and risks). [redacted]

2.5. Overview of Rail Network Economics

Rail freight revenues are generally contracted on a per movement basis. The combination of this revenue structure alongside the cost structure outlined above produces a business with high operating leverage.

- Fixed costs are high meaning that the break-even point is relatively high
- Revenues vary almost entirely with freight movements but movement related costs are a relatively low proportion of total costs. The marginal costs of additional movements are low although there are step functions for additional movements when additional rolling stock is required and another step function when additional track capacity is required
- The structure is summarised in the diagram below. Note that any sale that more than covers movement related costs improves the economic performance of the business, because it makes a contribution to fixed costs



The indicative curves on the chart above represent infrastructure costs on the basis that the network will be maintained in a steady state serviceable and safe condition. One characteristic that has been observed in many rail operations in recent years [redacted] is 'harvesting' or the effective consumption of sunk capital. Sometimes this is the right economic decision but it is always possible to improve near term cashflows and reduce the apparent (rather than real) breakeven point by deferring or reducing the near term maintenance and capex spend. Much recent capital expenditure in KiwiRail has been to reverse [redacted] harvesting that was done in the years prior to 2008.

Another feature of the cost structure is that fixed costs are relatively evenly spread across the network and the assets that generate the fixed costs are used by multiple revenue earning services. Because the costs are 'shared' it is practically difficult to measure the absolute profitability of individual services or line segments without some degree of arbitrary cost allocation. The marginal value of particular services is therefore often best measured by their contribution to fixed costs, i.e. the margin above variable costs that a particular service generates.

With high levels of fixed and common costs, KiwiRail is like many other network businesses and shares the characteristic that it is often extremely challenging to cut costs faster than revenues. For example, closure of a marginal branch line will eliminate the fixed costs associated with that line but will also most probably reduce the contribution to fixed costs on the remaining network. This occurs because a high proportion of revenues that originate and terminate on the branch line will be lost, along with their contribution to the core network.

These effects are readily apparent when rationalisation options are considered in detail. However, it is useful at this stage to note that improving rail economics in a business as usual scenario requires a combination of:

- Lowering or 'variabilising' fixed costs which lowers the break-even point of the business
- Making the revenue curve steeper, by increasing revenues per movement
- Moving further to the right on the revenue curve, by capturing all traffic that can make a contribution to fixed costs

When the network is loss making and reconfiguration is being considered the economics tend to drive solutions that favour:

- Revenue growth to fill the existing network and increase the contribution to fixed costs; or
- Significant retrenchment to find a dense traffic network where the ratio of fixed costs to available revenue is lower

3. The Last Five Years

3.1. Turnaround Plan

Following the reacquisition of the rail business from Toll in 2008 KiwiRail has been committed to a Turnaround Plan to enhance the performance of the business. Significant achievements over this period include:

- Increases in revenue and freight volume, particularly in the competitive Domestic freight market
- Significant improvement in infrastructure quality and reliability
- Significant renewal and standardisation of the locomotive and wagon fleet
- Improvements in safety and Mean Distance Between Failures (MDBF)
- Increasing engagement and commitment to rail by key customers including Fonterra, Ports of Auckland, Port of Tauranga and other logistics providers

[redacted]

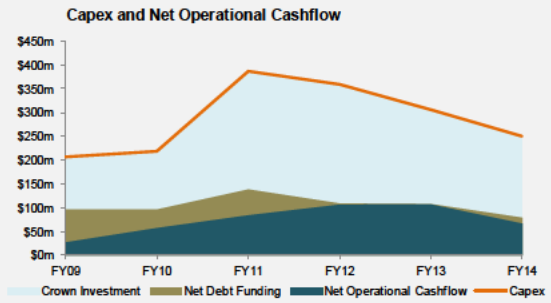
However, several aspects of the Turnaround Plan were not achieved for various reasons:

- Incorrect assumptions: KiwiRail was overly optimistic on freight revenue growth and modal share gain forecasts. [redacted]
- Unforeseen events: the Global Financial Crisis, Aratere propeller, Christchurch earthquakes, Solid Energy commodity price reduction, Pike River tragedy and consequential loss of volume
- [redacted]
- Customer events: Solid Energy downturn, Fonterra food safety issues
- Metro assets transferred to Greater Wellington Regional Council that were not budgeted
- Interest payments were retained by KiwiRail ($84m over the first three years of the plan)

3.2. Metrics

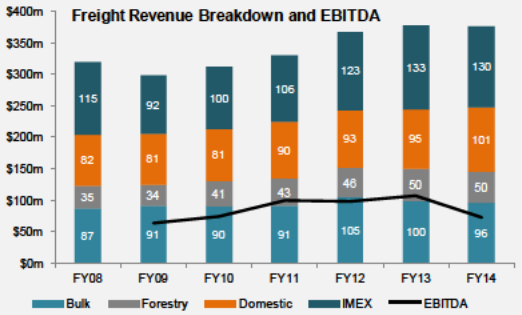
The following charts illustrate the movement in some key operating and asset metrics over recent years:

1.Capex and Net Operational Cashflow



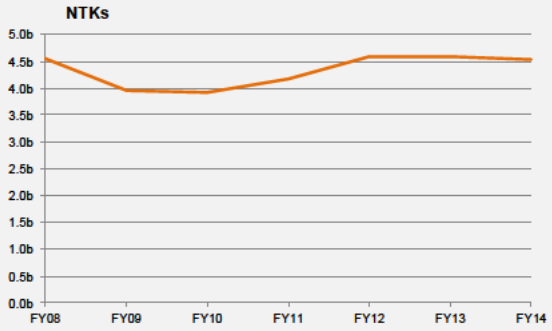
Note Excludes Capex and associated Crown Investment for Metro renewals and major upgrade projects

2. Freight Revenue & EBITDA

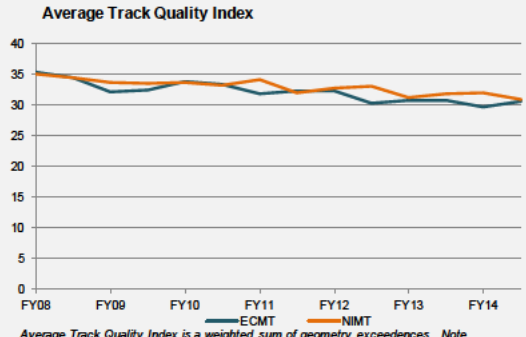


Note Freight Revenue excludes Fuel Adjustment Factor (FAF)

3. Total Net Tonne-Kilometres

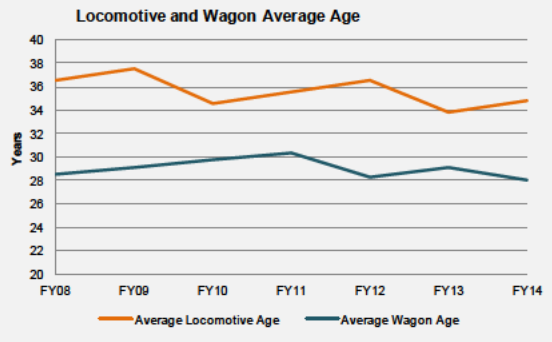


4. Track Quality

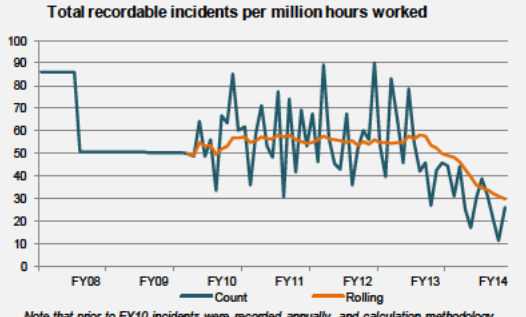


Average Track Quality Index is a weighted sum of geometry exceedences. Note that a lower index level indicates a higher track quality

5. Loco / Wagon Fleet Age



6. Safety Improvements



Note that prior to FY10 incidents were recorded annually, and calculation methodology changed in 2011, resulting in slightly higher values

4. Commercial Review Assumptions

4.1. Assumptions

KiwiRail has developed a detailed set of assumptions underlying its forecasts for each future option. Note that all forecasts are in real terms.

The Board and Management have sought to ensure that the assumptions used are appropriate. Where possible, internal views on assumptions and forecasts have been augmented by external third party analysis.

The broad approach to assumptions in the modelling can be summarised as follows:

- Economic growth is assumed at an average of 2.1% over the forecast period
- Customer demand is assumed in line with this growth and the National Freight Demand Study, augmented by KiwiRail specific analysis where appropriate. [redacted]
- [redacted]
- Infrastructure and Engineering costs have been forecast on a line segment basis. They are derived from the Asset Management Plan and focus on removing known vulnerabilities over a 20 year period, followed by broadly steady state management
- Provision is made to keep assets in safe working order, consistent with service requirements. Appropriate training and monitoring programmes are assumed
- Capex forecast includes allowance for addressing some of the congestion constraints in Auckland, [redacted]

The Board notes that the forecasts still assume significant catch up capex on the network and to a lesser extent plant. Much of this is driven by the need to provide sustainable assets capable of meeting customer requirements within a safe working environment.

The following sections summarise the four options developed. Detailed assumptions are included in the main report and appendices.

5. Trimmed Network

5.1. The Trimmed Network Case is built around a core freight strategy

[redacted]

- Largest feasible rail network
- IMEX – build on recent gains and align strongly with key customers and ports
- Domestic freight – recent gains continue and seek to grow market share. Unlock potential volume and yield opportunities with key freight forwarding customers
- Forestry – continue business as usual. No significant new traffic
- Bulk [redacted] Cessation of a portion of Lower North Island bulk milk as Fonterra's Pahiatua processing plant reaches full capability

5.2. Key Enhancement Initiatives

Revenue / Growth Initiatives

- Further enhance the strategic partnering arrangements with key customers to ensure KiwiRail's role as part of their linehaul solution is optimised
- [redacted]
- Develop a more sophisticated pricing offer for the Domestic freight market which seeks to optimise the contribution achievable on each service, including improvements to peak pricing and capacity utilisation

Productivity / Cost Reduction Initiatives

- Increase the amount of time available for undertaking maintenance and renewal activity on the track (Green time) [redacted] and engaging with key customers to manage downtime of the network
- Use technology in front line asset management to improve efficiency, contractor management and overall project management
- Superior asset management disciplines across the group through the new organisational structure which brings the asset management disciplines under one group
- Rationalise the rolling stock maintenance activities and footprint across New Zealand as the rolling stock standardisation process reaches the next phase of evolution
- Pursue a road bridging solution for the transhipment of rail product across Cook Strait, thereby increasing the flexibility of ship configurations
- Fully integrate the key business streams into an end-to-end business model with the delayering of the business and the realignment of key functions under specialist categories, plus the implementation of a shared services model
- Engage the frontline workforce and the unions in how we continually enhance and improve the way we work to enable safer more productive work practices
- [redacted]
- Continue the programme of standardising the rolling stock fleet, e.g. nine mainline locomotive classes rationalised to two or three
- Implement 'Fit for Business' programmes which target cost saving initiatives across the business

[redacted]

5.4. Interislander

The strategy for Interislander is to minimise the whole of life costs of the fleet, reduce port costs, increase flexibility around fleet capacity and target growth in third party revenue:

- [redacted]
- Exit rail capable ferries as they retire and eliminate specific and expensive port infrastructure
- Variabilise costs by moving to leased ships and road-bridging, allowing more flexibility in matching capacity to demand over time
- Continue to provide the bridge for State Highway 1 across Cook Strait for passenger services and commercial vehicles

5.5. Property

KiwiRail's property business generates significant income and has potential for further growth. A number of opportunities have been identified:

- Leasing vacant land (68ha excluding the rail corridor)
- Market testing of all current leases
- New development of key land parcels such as Auckland waterfront and Newmarket (included in forecasts)
- Rationalisation and disposal of surplus land (some cashflow is included in revenue forecasts)

5.6. Metro / Other

Tranz Metro is assumed to make no material contribution post FY16 with the end of the current Greater Wellington Regional Council contract. KiwiRail will make a joint venture bid for the operations contract going forward with Keolis / Downer. This is not included in the Trimmed Network option, but is included in the upside sensitivity analysis. Auckland rail services are challenging with competing demands from commuter, port and national freight services creating timetable and service quality risk. Discussions with Auckland Transport are underway but no new revenue is assumed.

[redacted]

[redacted]

5.8. Commentary

Total capital spend over the next five years averages [redacted] per annum, of which approximately [redacted] is primarily related to ensuring safe operation of the rail network. Capex relating to Infrastructure and Engineering (I&E) accounts for over half of total capex. [redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

[redacted]

During the same period, the contribution required by the Crown reduces (both in relative and absolute terms) but is not eliminated.

[redacted]

The contribution required from the Crown solely relates to track and infrastructure capex (i.e. below rail). As is shown in the graph below, KiwiRail's free cashflow (FCF) pays for all other capex (i.e. above rail), and its contribution to below rail capex is forecast to increase while the investment required by the Crown reduces.

The Board believes that the Trimmed Network option in this model is realistic and offers a reasonable prospect of a better financial outcome.

In particular, KiwiRail believes the forecasts presented are both achievable and realistic. In particular:

- All likely traffic losses are assumed to terminate, e.g. Bulk coal
- No new Bulk traffics have been assumed
- Domestic freight assumes modest volume and yield growth. Much of the upside potential in Domestic freight is not in the forecast
- Productivity/cost savings assumed have upside opportunity if well executed

[redacted]

[redacted]

6. Separate Island Networks

[redacted]

6.1. Rationale

Separate Island Networks was considered as an option because:

- It eliminates inter-island Domestic freight traffic where competition from road is strongest
- It eliminates business complexity (operating consistently to a fixed, time sensitive timetable) by allowing a focus on a small number of IMEX, Bulk and Forestry customers

Where applicable, all initiatives proposed for Trimmed Network are assumed to be pursued.

6.2. Key Rationalisations

- All Trimmed Network actions
- [redacted]
- There would be no commercial requirement to retain KiwiRail ownership of Interislander in this scenario. However, it remains in the forecasts to allow consistent comparisons

6.3. Forecasts

[redacted]

[redacted]

[redacted]

6.4. Commentary

The Separate Island Networks scenario shows outcomes in line with the discussion on rail economics. The reduction in costs is significant because the network is more significantly reduced [redacted]. However, the reduction in revenues is also significant. Consequently, the outcome is a small increase in the forecast Crown investment alongside a significant reduction in the NTKs forecast to be carried by KiwiRail.

This scenario illustrates the inherent difficulties with the structure of rail economics and reducing the scale of the network or services. It is extremely challenging to reduce costs faster than revenues without a significant retrenchment to a smaller, higher density network.

The Board ceased detailed consideration of this option at a relatively early stage. The Board considers it unattractive for the following reasons:

- Higher Crown investment requirements relative to traffic moved
- Limited growth options as significant growth potential lies in the Auckland – Christchurch corridor
- Insufficient downsizing to offer a large enough step-change in fixed and corporate costs relative to revenue loss

6.5. Risks

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

7. Upper North Island

7.1. Rationale

The Upper North Island offers high rail traffic density, and has the potential to generate significant NTKs relative to forecast Crown investment.

This option has a network with its southernmost point at Te Kuiti and centres on the Auckland / Hamilton / Tauranga triangle. It would maintain Forestry, Bulk and IMEX operations in this region. All other rail services across the balance of the network would be exited.

7.2. Forecasts

7.3. Commentary

The transition costs to an Upper North Island network are high. These arise from the removal of 3,200 km of track, securing structures, remediation [redacted] and the redundancy of approximately [redacted] of the workforce.

- Beyond the transition costs, the annual Crown investment requirement is substantially below the Trimmed Network scenario
- The business becomes highly concentrated on a small number of customers. [redacted]
- Business scope and complexity is substantially reduced allowing a significant reduction in corporate overheads and scale
- Rolling stock and other infrastructure surpluses would be substantial with all redundant assets being sold
- Should Ministers wish to explore this scenario further, a more detailed assessment and implementation plan would be required to fully scope a number of issues, including the impact on existing customer contracts

7.4. Risks

- [redacted]
- [redacted]
- [redacted]
- [redacted]

8. Exit

8.1. Rationale

The Board has not been able to put forward a business plan where the business becomes self sustaining in the next ten years. Consequently, it has considered Exit in the event the Crown is unwilling to continue investment.

8.2. Forecasts

[redacted]

[redacted]

[redacted]

8.3. Commentary

- Exit does not necessarily mean complete network closure. There may be elements of the network that private interests are willing to take on without subsidy. [redacted]
- [redacted]

- Interislander operations are assumed to continue, servicing both the commercial vehicle and passenger markets
- [redacted]
- Metro rail systems in Auckland and Wellington continue to operate with local government taking a lead role
- A high level calculation of closure costs has been estimated. These are based on complete closure rather than mothballing. To the extent that closure does not occur across the entire network, the costs indicated above may reduce. Note that these costs require further development and refinement should this option be pursued
- Key components included in the one-off closure costs are:
  - Redundancies in excess of [redacted] employees
  - Secure all structures (including demolition where necessary)
  - Removal of track (including ballast)
  - Remediation [redacted]
  - Recoveries from disposal of rolling stock and specialised track maintenance vehicles
  - Ongoing closure cost relates to keeping the corridor safe and the clearance of pests, plants etc
- Should Ministers wish to explore this scenario further, a more detailed assessment and implementation plan is required to fully model the impacts

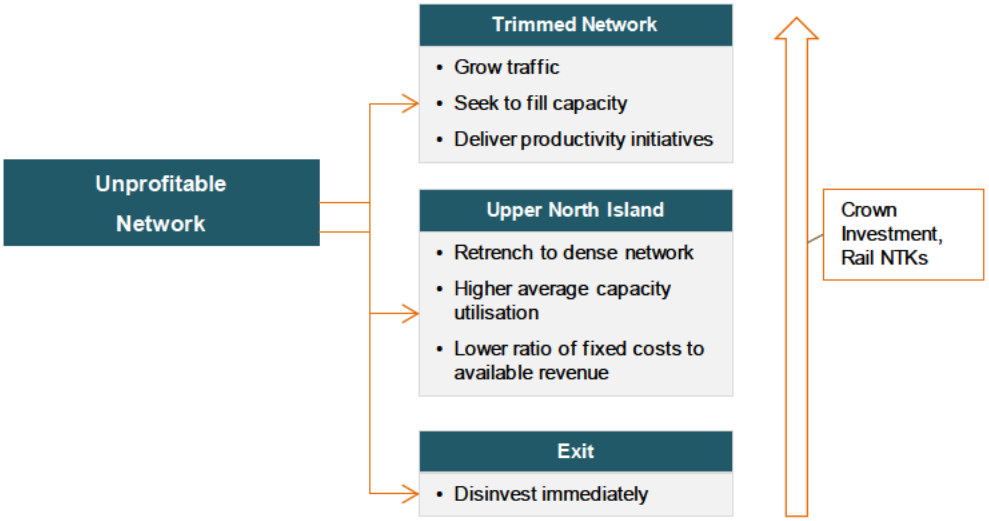
8.4. Risks

- [redacted]
- [redacted]
- [redacted]
- [redacted]

9. Summary Comments / Next Steps

9.1. Overview

The diagram below shows the commercial choices that are driven by the underlying economics.



- On a purely commercial basis (i.e. ranking by the present value of Crown investment required), Exit appears the highest value option for the Shareholder
- The Separate Island Networks option is unattractive. It requires the highest present value of Crown investment without offering any compensating advantages
- The Trimmed Network maximises rail traffic but requires relatively high levels of ongoing Crown investment and does not become financially sustainable in the near to medium term
- The Upper North Island option gets closer to financial sustainability in the later years of the forecast. Rail traffic volumes (measured in NTKs) are much lower than in Trimmed Network

9.2. Results

Overall, the Board has not been able to develop an option that reaches financial sustainability in the near to medium term.

[redacted]

The charts below show the scale of KiwiRail (measured by NTKs) against the value of Crown investment for different periods. They show that the forecast rail volumes broadly follow the forecast Crown investment.

9.3. Implementation

- All the options outlined can be adjusted at the margin.
- Consideration will also need to be given to the impact of the different options on customers, employees, communities and other infrastructure.
- All the options present significant execution challenges. The Board believes that a clear statement of objectives and a stated commitment to a particular plan will be critical to KiwiRail being able to attract and retain the right talent to execute the chosen plan
- In addition, different options will benefit from customised organisational and financial arrangements for implementation and monitoring.
- As with organisational arrangements, further detailed work will be required on the financial arrangements for implementation of a preferred option.

- [redacted]
- [redacted]
- [redacted]

9.4. Next Steps

The report assesses four scenarios. The Board is confident that three of the four scenarios presented provide a realistic base for the Government's policy considerations relative to network scale and services and Crown investment requirements. Note that each of the scenarios can be adjusted at the margin depending on Shareholder preferences.

The discussion of the options in this document focuses on the economics of the alternatives as a basis for making choices about the future. Implementation of a preferred option will require consideration of a number of issues including the financial and organisational arrangements that will maximise the probability of the agreed objectives being realised.

The Board does not wish to pre-judge Shareholder preferences in terms of commercial and wider policy choices but believes it would be preferable to address these wider choices in the following sequence:

- An initial focus on which of the three realistic alternatives (Trimmed Network, Upper North Island, Exit) is most likely to be aligned with the Government's policy preferences
- Further development and refinement of the detailed business plan associated with the preferred choice
- Development of the best organisational and financial arrangements for the implementation of the chosen business plan

During this sequence of analysis, the Board envisages the Government will retain flexibility on all options until a final business plan is agreed.

KiwiRail looks forward to further engaging with Shareholding Ministers to finalise and agree a business plan and implementation structure based on the Government's preferred option. The Board's view is that both parties should then commit to this plan, at least into the medium term, to ensure that it has the maximum chance of successful execution.

Section 2: Introduction

2. Introduction

2.1. Background

During discussions on KiwiRail funding for the 2014/15 financial year, the KiwiRail Board advised Shareholding Ministers that KiwiRail would develop a refreshed, comprehensive long-term review of the business. The Board further advised that they considered determining investment in KiwiRail on a year by year basis inappropriate, given the long investment cycles in the business and the need to provide certainty to users of rail. The Board also believes that an approach based on medium to long-term planning is more consistent with the Crown's approach to managing its commercial portfolio as outlined in the March 2014 Investment Statement.

Shareholding Ministers were supportive of this exercise and requested that a range of options be assessed as part of this process to allow them to make informed decisions on the future of rail in New Zealand.

The Board and Management of KiwiRail welcome this opportunity to present options for KiwiRail and engage with Shareholding Ministers and the Government.

The purpose of this report is to lay out the commercial scenarios and options that have been developed as part of that planning exercise.

2.2. Government Objectives

Shareholding Ministers indicated that if the Government remained committed to rail, their objective was that KiwiRail should strive for financial sustainability and increasingly finance its operating and capital requirements from internal cashflows. In this regard, they set out their expectations that new plans would show a reduction in the level of Crown investment being sought over time. They also indicated that they expected KiwiRail to continue to behave commercially at all times and that they were supportive of the Board exploring a range of options for the future of KiwiRail.

In preparing this report, the Board has been very conscious of Government objectives and the requests made by Shareholding Ministers. The specific instructions were set out in a letter from Shareholding Ministers dated 24 April 2014 and are as follows:

> *"With regards to the new plan being developed by KiwiRail over the next six months, we expect the following factors to be addressed by the Board when developing the new plan:*
>
> - *It remains this Government's objective that, over time, KiwiRail becomes financially sustainable (i.e. is able to fund its operating and capital requirements from its own cashflows). At the same time, however, we expect the Board to produce a robust plan that is realistic and achievable.*
> - *Further to the objective above, it is our expectation that the new plan will show a reduction in the level of Crown funding being sought over time.*
> - *KiwiRail should continue to act commercially in all aspects of its operations, including addressing the underperforming areas of its business.*
> - *Maintaining safety is this Government's key priority with respect to KiwiRail.*
> - *Shareholding Ministers request that a 'no-growth in volumes' scenario be presented in the plan, designed to avoid large infrastructure upgrades / enhancements that would otherwise be needed to cater for growth.*

- *We expect the plan will clearly illustrate the condition of KiwiRail's assets and infrastructure, and the likely timing and quantum of required replacements and upgrades over both the short and long-term. In particular, we are looking for clarity with respect to potential significant investment projects, and drivers that are likely to trigger the required investment.*
- *We understand that KiwiRail is looking to develop a model that breaks down costs and revenue for each part of the rail network. We welcome this information to better understand the forecast cashflows and associated Crown funding for each part of the network.*
- *You indicated you wanted to present a range of options, including some bold options, and we are supportive of this approach.*
- *We expect KiwiRail to present its preferred option, with scenario analysis to illustrate the effects on Crown funding of potential positive and negative events, including changing competitive dynamics."*

Shareholding Ministers further stressed in their letter of 26 August 2014 that they wished the scenarios presented by KiwiRail to be realistic and achievable.

The Board believes it has addressed the issues above in this report with the exception of nominating a preferred option.

In working through this planning exercise, the Board has sought to focus solely on the commercial issues facing KiwiRail. Analysis of these commercial issues has driven the range of future options set out in this report.

However, the Board believes the selection of the preferred option is a choice that should be made in conjunction with the Government after full consideration of the commercial analysis presented in this report, alongside the public policy issues that are likely to be part of the Government's decision making criteria.

2.3. The Board's Process

The Board's process has centred on developing a better understanding of the economics of KiwiRail both as a whole and across its different business units.

This work has been used to develop valuation analysis with the key measurement criterion being the present value of Crown investment required to support alternative business plans over a 30 year forecast period.

The Board has actively participated in the planning exercise including a number of full day strategy sessions.

The Treasury has been fully involved in the specification of the analysis and has been kept fully informed as the analysis has developed, including attending all the Board sessions on strategy and option development.

Because the valuation analysis is forward looking, it relies heavily on the quality of forecasting. Given the nature of KiwiRail's business and the long investment cycles, it is necessary for the explicit forecast period to be long in order to adequately capture sometimes lumpy capital investment and the operating cashflows from that investment. Hence, a 30 year forecast period has been chosen. In forecasting over this period, the Board has sought to forecast the next five years in some detail but beyond that, the focus has been very much on identifying larger events that might cause the forecasts to deviate from trend, e.g. the future of Solid Energy's coal transport requirements. Outside this, the Board has not sought to forecast the impact of any business cycle or major change in the structure of New Zealand economic activity. No policy change is assumed.

In preparing the forecasts the Board has been conscious of the Government's request that the forecasts be realistic and achievable. In particular, the Board has sought to strike the right balance between setting demanding targets for Management and presenting reasonable and achievable undertakings to Shareholding Ministers. The Board accepts that it needs to increase the Government's confidence in the business' ability to perform to forecasts.

The details of the forecasts and the assumptions that drive them are set out in the discussion of the options and the detailed material in the appendices.

Broadly, the options presented start with a scenario that is very close to the current operating environment and incorporates relatively small changes to the network and range of services offered.

Further options are developed from there based on seeking a lower Crown investment requirement over the forecast period.

Four scenarios for the future of KiwiRail are addressed in this report. Three of the four outlined in this report are, in the Board's view, the likely basis of the scenarios that are preferable on the combination of commercial and public policy grounds chosen by Shareholding Ministers.

For clarity, none of these options assume any change to metro rail services in Auckland and Wellington. These services are separately specified and funded by Crown arrangements with Auckland Transport and Greater Wellington Regional Council (GWRC). However, assumptions have been made in KiwiRail's forecasts regarding contributions that will be made to shared network costs. If freight were to cease operating on those networks, the metro services may bear a higher cost.

2.4. The Board's Objectives

The Board envisages a process whereby Shareholding Ministers indicate which option or options are most likely to appeal to the Government on the basis of the commercial and public policy considerations. The Board will then work with the Government to refine a final business plan and implementation strategy based on the preferred option.

The Board is hopeful that discussion of these options will assist KiwiRail and its Shareholder to reach an agreed set of commercial objectives for the company in the medium to long-term, alongside agreement on what these objectives mean for KiwiRail's role in the transport sector. This agreement would also cover performance measurement (financial and operational) and establish key milestones for execution over an extended period. The Board envisages an agreement along these lines to assist the company and transport policy makers to plan for the future and, most importantly, increase the probability of the agreed objectives being realised.

All of the commercial options presented can be refined after discussion with the Shareholder. The current planning exercise has produced significant data and a better understanding of the business, making it relatively straightforward to consider the impact of marginal changes to the scenarios presented.

Section 3: KiwiRail's Business

3. KiwiRail's Business

3.1. Business Overview

Rail freight is the key driver of KiwiRail's economics.

The current operating rail network covers 3,510 km of track, with a further 430 km mothballed, as set out in the map below.

Role of Rail in NZ Transport Landscape

The NZ transport landscape consists primarily of:

- Commercial freight
- Passenger services (including tourism)

Within the commercial freight landscape the market can further be segmented by:

- Time sensitive and non-time sensitive freight
- Containerised goods and specialist bulk movement (i.e. forestry, milk and coal)

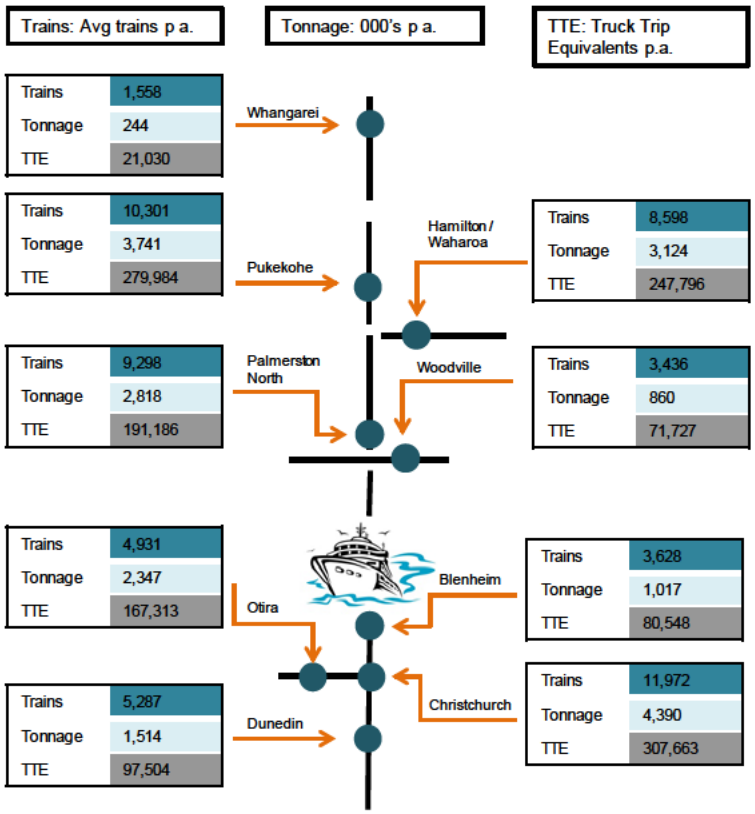
KiwiRail's competitive advantage is more suited to bulk/heavier goods requiring transport over longer distances in a non-time sensitive manner. The core offering is freight focused on IMEX, Domestic freight, Bulk Commodities and Forestry. Each segment has different characteristics and value drivers.

Competitors are road freight and coastal shipping operators.

KiwiRail plays a key role for several major freight and logistics entities by enabling large scale aggregation of goods close to ports.

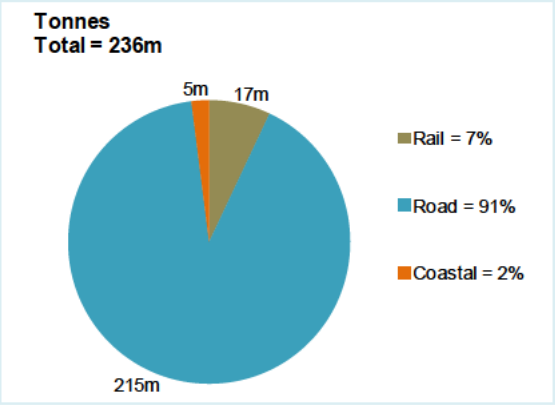
KiwiRail also ensures that significant traffic (i.e. in excess of 15 million tonnes of freight or around 1.2 million truck journeys per annum) is not transported on the roading network therefore providing safety, environmental and congestion advantages to New Zealand.

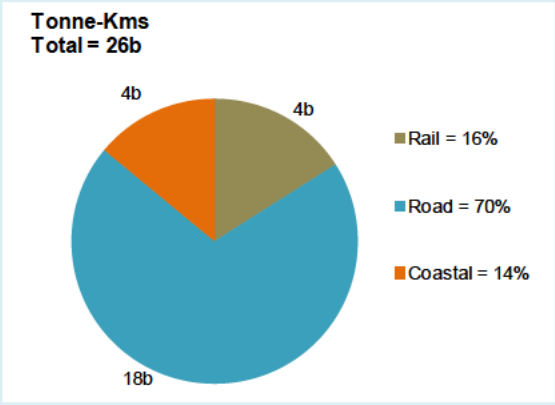
Highest Volume Points on Rail Network (FY13)



Summary	
Total Annual Train Trips	47,370
Total Annual Tonnage (000)	17,200
Total Annual TTE	1,224,857

Total freight movements by modal share within NZ in FY12 were as follows:





Source: National Freight Demand Study 2014 (Ministry of Transport)

3.2. Revenue and Costs

Revenue

In FY14 KiwiRail had total external revenue of $724m,[2] of which 58% or $419m was revenue from the core freight segments: IMEX, Domestic freight, Bulk and Forestry.

Freight revenues came from:

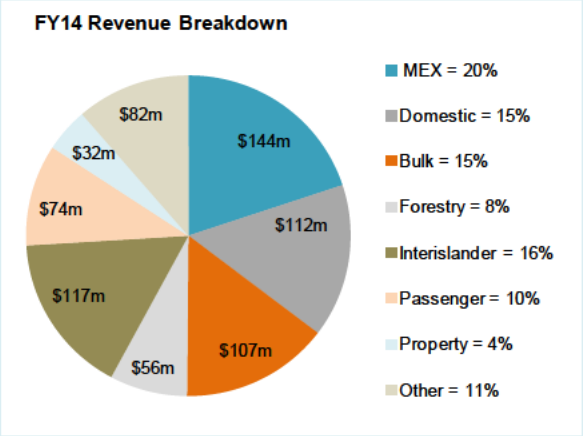
IMEX	Primarily focused on delivering export products to ports with [redacted] and the [redacted] being the major customers. IMEX delivered $144m, being 20% of KiwiRail's total revenue in FY14
Domestic freight	Primarily in the domestic distribution market transporting full container loads of both locally manufactured and imported products. Auckland/Christchurch services dominate the revenue in this segment, accounting for around [redacted] of Domestic freight revenue. Revenue was $112m, being 15% of the total revenue in FY14. This revenue segment is the highest cost to serve, with a high level of modal competition and service expectation
Bulk	Comprises specific traffics on point to point services. For example, steel from Glenbrook to Tauranga, fresh milk across the lower North Island and coal from the West Coast to Lyttelton. These are single customer dedicated services and contributed $107m, being 15% of total revenue in FY14
Forestry	Dedicated forestry services in the Bay of Plenty, Northland and lower North Island generated revenue of $56m in FY14, being 8% of the total revenue in FY14

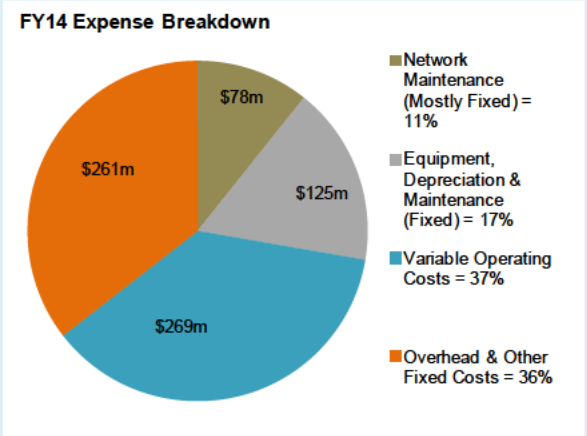
Non-freight revenue came from:

Interislander	Interislander's prime purpose is to provide a link for inter-island rail freight services, primarily Domestic freight. However, it generates significant third party income from passengers/cars and commercial vehicles (CV). FY14 external revenue was $117m, being 16% of the total revenue in FY14
Passenger	Passenger provides public transport services in Wellington under the Tranz Metro brand (FY14 revenue of $53m) and tourism experiences through the Scenic Journeys' long distance passenger services (FY14 revenues of $21m). Wellington Metro services are being re-contracted in FY16 and it is unclear whether KiwiRail will be the operator going forward
Property	Property income was $32m, being 4% of the total revenue in FY14

[2] Note that total revenue of $724m excludes major one-off items

Other	Provision of track access and other sundry services contr buted $82m, being 11% of total revenue in FY14. This included [redacted] from locomotive and driver hire and maintenance services to Transdev (the current Auckland Metro operator). This revenue will cease in FY15 as Auckland Transport introduces new electric trains. Other revenue also includes $35m from Infrastructure and Engineering (I&E) metro access and other third party charges. Note that the FY16-45 financial projections net I&E revenue from related operating costs





Source: KiwiRail

Costs

KiwiRail's costs fall into four broad categories:

- The costs of maintaining the network in a serviceable condition – primarily the costs of maintaining the rail and associated infrastructure (bridges, tunnels etc) in a safe and operable condition. These costs are largely fixed in the sense that they are relatively insensitive to the volume of traffic carried on a year by year basis
- The costs of owning mobile plant compromising locomotives, rolling stock and maintenance equipment. These ownership costs are also relatively insensitive to the volume of freight carried on a year by year basis although locomotive and wagon fleet costs do increase as freight volumes increase
- Operating costs which vary with volumes moved – primarily fuel, labour and mechanical maintenance
- Corporate and business unit overheads and other fixed costs

3.3. Competition

KiwiRail competes primarily with road transport and coastal shipping.

Generally, road transport can provide a faster solution because it operates directly between origin and destination as a single handling service with freight loaded on and off a truck once.

Rail freight often requires multiple handling where it is first trucked from customer premises to a railhead, the rail leg of the journey is completed and it is then trucked from railhead to destination premises.

Coastal shipping offers port to port services between domestic ports. These services are generally low-cost but are slower than road or rail services and often require multiple handling.

The net effect of these underlying factors is that the market plays out broadly as follows:

- Shorter distances with multiple origins and destinations strongly favouring truck economics because the costs of railhead consolidation and double handling are high relative to journey length

- Rail can be competitive over varying distances if there are high volumes of freight between two specific points, e.g. logs from Murupara to Tauranga, dairy exports from Hawera to Tauranga
- Longer distances generally favour rail more because the cost of the double handling is spread over a larger number of kilometres and rail's per tonne kilometre operating costs are lower
- Rail's schedules and multiple handling mitigate against rail being competitive in the more time sensitive freight markets
- Coastal shipping is most competitive where time sensitivity is not high and low costs are important

These characteristics are consistent with KiwiRail's current position in the market: Strong performance in IMEX and Bulk where there is dense point to point traffic; a mid-market position in Domestic freight where trucks dominate the time sensitive and shorter distance markets; and effective competition from coastal shipping centred around high volumes of containerised bulk freight between port cities, where the supply chain can handle slower fulfilment.

3.4. Key Customers

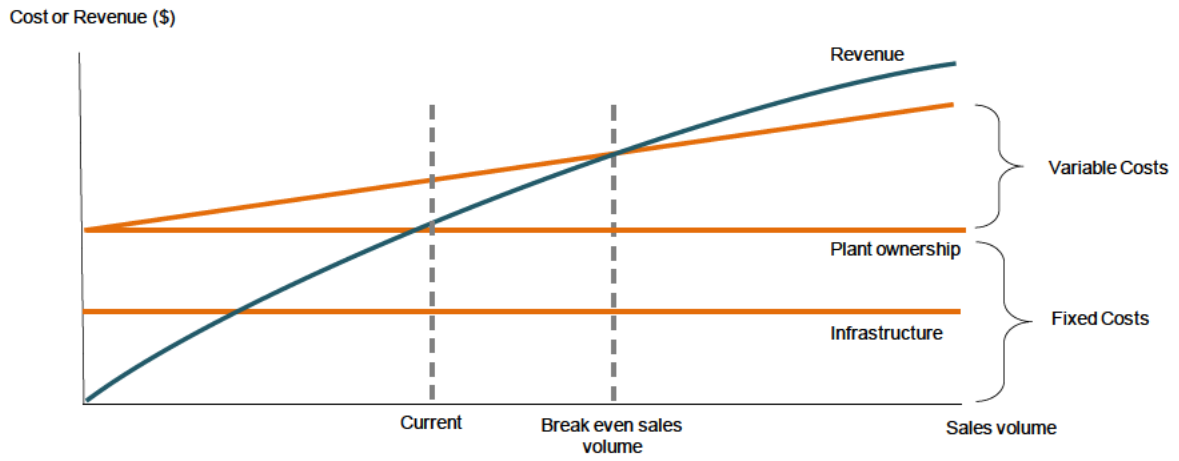
The rail freight customer base is weighted toward a small number of high revenue customers. [redacted] KiwiRail has engaged with most of these customers throughout the review process. Many of these customers have invested alongside rail over recent years in a variety of ways including siding contributions, shed development, capital contributions to rolling stock and 'take or pay' agreements.

This is particularly true in the Domestic freight market where modal options, capacity utilisation, price management and operational performance are critical opportunities (and risks). [redacted]

3.5. Overview of Rail Network Economics

Rail freight revenues are generally contracted on a per movement basis. The combination of this revenue structure alongside the cost structure outlined above produces a business with high operating leverage.

- Fixed costs are high meaning that the breakeven point is relatively high
- Revenues vary almost entirely with freight movements but movement related costs are a relatively low proportion of total costs. The marginal costs of additional movements are low although there are step functions for additional movements when additional rolling stock is required and another step function when additional track capacity is required
- The structure is summarised in the diagram below. Note that any sale that more than covers movement related costs improves the economic performance of the business, because it makes a contribution to fixed costs



The indicative curves on the chart above represent infrastructure costs on the basis that the network will be maintained in a steady state serviceable and safe condition. One characteristic that has been observed in many rail operations in recent years [redacted] is 'harvesting' or the effective consumption of sunk capital. Sometimes this is the right economic decision but it is always possible to improve near-term cashflows and reduce the apparent (rather than real) breakeven point by deferring or reducing the near-term maintenance and capex spend. Much of the recent capital expenditure in KiwiRail has been to reverse [redacted] harvesting that was done in the years prior to 2008.

Another feature of the cost structure is that fixed costs are relatively evenly spread across the network and the assets that generate the fixed costs are used by multiple revenue earning services. Because the costs are 'shared' it is practically difficult to measure the absolute profitability of individual services or line segments without some degree of arbitrary cost allocation. The marginal value of particular services is therefore often best measured by their contribution to fixed costs, i.e. the margin above variable costs that a particular service generates.

The non-rail businesses have much less scope to vary KiwiRail's economic performance. Interislander is being restructured such that it employs less capital and has greater flexibility to adjust to market conditions as they change over time. Property cashflows are largely independent of the rail business and unlikely to be volatile.

With high levels of fixed and common costs, KiwiRail is like many other network businesses and shares the characteristic that it is often extremely challenging to cut costs faster than revenues. For example, closure of a marginal branch line will eliminate the fixed costs associated with that line but will also most probably reduce the contribution to fixed costs on the remaining network. This occurs because a high proportion of revenues that originate and terminate on the branch line will be lost, along with their contribution to the core network.

These effects are readily apparent when rationalisation options are considered in detail. However, it is useful at this stage to note that improving rail economics in a business as usual scenario requires a combination of:

- Lowering or 'variabilising' fixed costs which lowers the breakeven point of the business
- Making the revenue curve steeper, by increasing revenues per movement
- Moving further to the right on the revenue curve, by capturing all traffic that can make a contribution to fixed costs

When the network is loss making and reconfiguration is being considered the economics tend to drive solutions that favour:

- Revenue growth to fill the existing network and increase the contribution to fixed costs; or
- Significant retrenchment to find a dense traffic network where the ratio of fixed costs to available revenue is lower

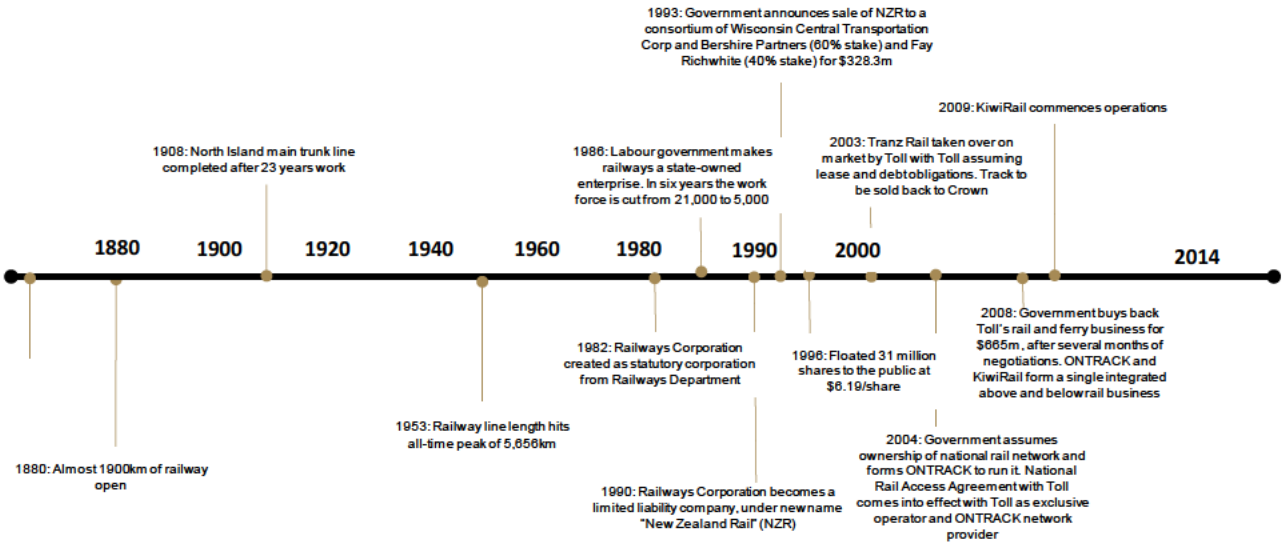
3.6. Recent History

3.6.1. Pre 2008

Railways in New Zealand started in the nineteenth century and have been in public ownership for nearly all of that time. For most of that time they effectively operated as a trading government department. Recent major restructurings commenced in the late 1980s when non-rail activities (property, coach services, etc) were divested and the rail business became a state owned enterprise (SOE). This business was subsequently privatised in 1993 and renamed Tranz Rail. The periods after corporatisation and privatisation were characterised by significant productivity improvements and a narrowing focus of the business to freight services. The period under Tranz Rail ownership was marked by a business model based on providing end-to-end transport solutions to customers across a combined road and rail network and suite of services. The period under Tranz Rail ownership was also marked by under investment in the core rail infrastructure resulting in a deterioration of the quality of that infrastructure and a requirement for 'catch up' capital and maintenance expenditure. In this respect, the Tranz Rail experience was very similar to the experience of many other railways privatised around the same time in different jurisdictions.

Tranz Rail became financially distressed and was acquired by the Australian transport operator Toll Holdings in 2003. Shortly after this transaction, the Government acquired the rail track infrastructure from Toll under the trading name ONTRACK. Toll and ONTRACK entered into an agreement whereby Toll would pay a Track Access Charge (TAC) which was designed to meet the costs of maintaining the track network.

In retrospect, it is clear that the costs of maintaining and renewing the track network were underestimated by both parties. Toll and ONTRACK were involved in an ongoing dispute about the appropriate level of the TAC, with the argument on the maintenance component spread across approximately [redacted] per annum – substantiality below the assessed figure today. This dispute was resolved when the Government agreed to purchase the rail business from Toll in 2008. The business was subsequently reintegrated under the name KiwiRail.



The period under Toll ownership was characterised by a significant shift in the business model. As a transport and logistics operator, Toll offered end-to-end customer services and the rail business became much more of a wholesale linehaul operator offering point to point services from railhead to railhead rather than from customer premises to destination. This was a distinct change from the Tranz Rail model.

3.7. Post 2008 – Turnaround Plan (TAP) and Review

KiwiRail commenced operations in 2008/2009. At this time its position could be summarised as follows:

- A rail network of variable performance and quality as a result of an extended period of under investment and maintenance
- Unreliable and poor quality freight and passenger services
- A fleet of rolling stock which was weighted towards the end of its economic life and prone to unreliability
- A locomotive fleet where the average age was 45 years resulting in poor reliability and costly and time consuming maintenance requirements
- A number of minor lines that were performing very poorly
- A freight business that had declining market share and competitiveness and relatively limited access to end customers [redacted]
- Poor financial performance such that cashflow from operations could not sustain current and future operating and capital expenditure requirements
- An ongoing need for Crown investment

The KiwiRail Board and Management changed substantially in the 2008/2009 period. The following year the new Management and Board produced the Turnaround Plan (TAP) with the express objective of bringing KiwiRail to a position of financial self-sustainability by 2020.

In May 2010 the Government conditionally agreed to support KiwiRail's TAP subject to preparation of a more detailed turnaround business case in November 2010.

This business case was developed along with external assistance from:

- AECOM NZ Limited (engineering consultants) who:
  - Tested the engineering and operational assumptions
  - Tested the proposed prioritisation of capital investment in network relative to rolling stock
  - Reviewed planned investments to ensure that they were consistent with achieving the TAP objectives
- PwC (financial advisor) who:
  - Reviewed financial models and forecasts
  - Made suggestions on capex timing and scale, etc

Key assumptions underlying the TAP were:

- A national network was value maximising
- Significant investment was required upfront to address past underinvestment and allow KiwiRail to address its markets in a competitive way
- Growth in the Domestic freight business and reductions in Auckland / Christchurch delivery times were achievable
- Productivity gains were achievable

The key TAP objectives were to:

- Revitalise rail transport in New Zealand
- Address historical underperformance by investing to accommodate growth
- Raise the competitiveness of KiwiRail's offering to key customers
- Make KiwiRail financially self-sustainable by 2020

Areas where there are substantial achievements under the TAP include:

- Increases in revenue and freight volume, particularly in the competitive Domestic freight market
- Market share gain, particularly in IMEX and Domestic freight
- Increasing engagement and commitment to rail by key customers including Fonterra, Port of Auckland, Port of Tauranga and other logistics providers
- Major improvements in KiwiRail's systems and capability. Achievements in this area included the roll out of a single SAP system across the company and a significant improvement in asset management plans and systems
- Major improvement in quality and standardisation of the wagon and locomotive fleets
- Improvements in service delivery
- Resolution of the operating model for suburban services for Auckland and Wellington Metro
- Significant progress on rationalisation including closure of Hillside, closure of the Napier / Gisborne line and reduced headcount in I&E

[redacted]

However, several aspects of the TAP were not achieved for various reasons:

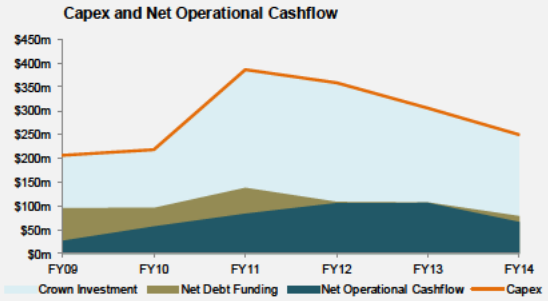
- Incorrect assumptions: KiwiRail was overly optimistic on freight revenue growth and modal share gain forecasts. [redacted]
- Unforeseen events: the Global Financial Crisis, Aratere outage, Christchurch earthquakes, coking coal commodity price reduction, Pike River tragedy and consequential loss of volume
- [redacted]
- Customer events: Solid Energy downturn, Fonterra food safety issues
- Metro assets transferred to GWRC that were not budgeted
- Interest payments being retained by KiwiRail ($84m over the first three years of the plan)

In 2013 The Treasury commissioned an independent review of the progress that had been made in the TAP and the reasons for divergence from some of the targets. The broad conclusions of this review were that KiwiRail had made substantial progress relative to the starting position in 2010 but that some elements of the TAP were characterised by overly optimistic assumptions, inadequate progress in some areas and the impact of unexpected 'one-off' factors in other areas.

The review also recommended that it would be useful to engage with key stakeholders to develop a multi-year funding programme and reduce the continuing review of the business implied by year to year funding which tended to encourage planning fatigue.

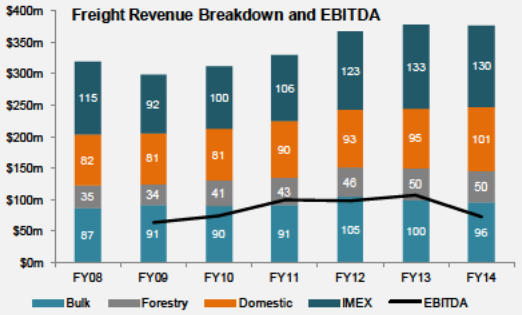
The charts below show selected post TAP metrics:

1.Capex and Net Operational Cashflow



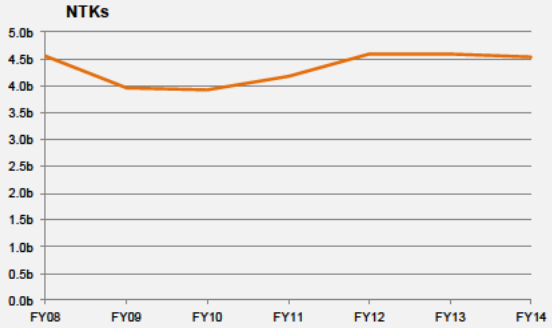
Note Excludes Capex and associated Crown Investment for Metro renewals and major upgrade projects

2. Freight Revenue & EBITDA

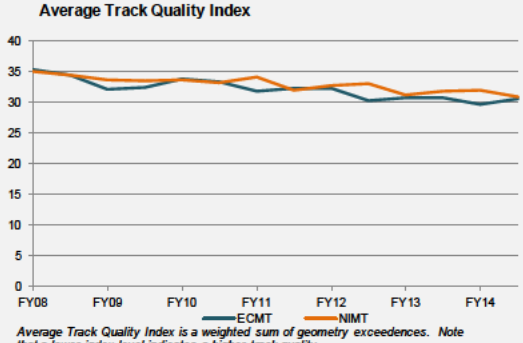


Note Freight Revenue excludes Fuel Adjustment Factor (FAF)

3. Total Net Tonne-Kilometres

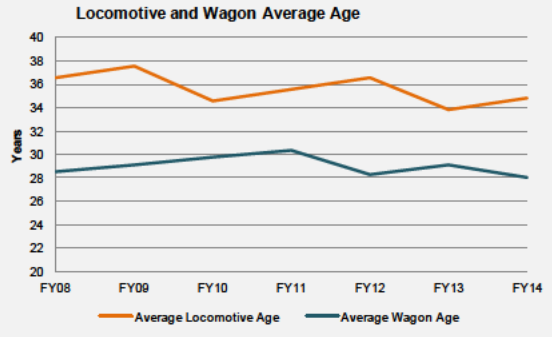


4. Track Quality

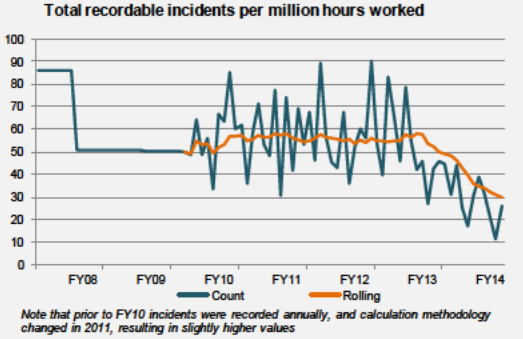


Average Track Quality Index is a weighted sum of geometry exceedences. Note that a lower index level indicates a higher track quality

5. Loco / Wagon Fleet Age



6. Safety Improvements



Note that prior to FY10 incidents were recorded annually, and calculation methodology changed in 2011, resulting in slightly higher values

3.8. FY15 Trading Results and Full Year Forecast

The following table shows KiwiRail's Group trading results for the first four months of FY15, with revenue [redacted] and EBITDA [redacted] under budget primarily due to lower Domestic freight and IMEX volumes.

The full year EBITDA forecast for the Group is currently in the range of [redacted]. A number of cost saving initiatives including the benefits of the organisational restructure, is expected to offset the forecast revenue shortfall by year end.

KiwiRail Management remains committed to delivering EBITDA at the budgeted level of $110m for the year ending June 2015.

[redacted]

Section 4: Current Initiatives

4. Current Initiatives

4.1. Overview

There are a number of major initiatives underway in the business at the current time. These initiatives generally target step changes in the performance of various aspects of the business. The impact of these initiatives is generally included in the forecasts although in some areas full gains are only captured in the upside sensitivities.

4.2. Organisational Structure

In October 2014 a new organisational structure was implemented with the business moving away from a business unit structure towards a functional structure under the principle of 'One KiwiRail'. The structure is designed to simplify the way the business works, reducing the cost of operations and forming a connected end-to-end business that delivers the consistent level of service that KiwiRail's customers expect.

The new leadership structure creates one integrated business with three operational groups, supported by four functional teams providing standardised shared services. The new structure builds the foundation for a closely connected business that is customer focused and provides end-to-end service delivery. It will allow more cohesive asset management and shared services that will reduce costs without impacting on frontline services. It will also enable better collaboration, and more opportunity for ideas and improvements to the business from those who are closest to the issues. The groups are set out below:

- Group Sales and Commercial – manages all customer relationships and identifies opportunities for growth across all business units
- Group Operations – manages all freight, ferry and Scenic passenger operations
- Group Infrastructure and Asset Management – combines all asset management and planning functions for operating assets (including rolling stock, ferries, rail network, yards and the Project Management Office)
- Strategy and Transformation Office – leads the strategic change initiatives across KiwiRail
- Chief Financial Officer – leads the shared financial services team and is accountable for all financial management and performance reporting across the group
- Human Resources and Training Shared Services – leads the Human Resources shared services team
- Zero Harm – leads the Zero Harm team of specialists providing professional advice and guidance to the business on Zero Harm matters

4.3. Sustaining a Zero Harm Environment

KiwiRail's care and protection of its people, the public and environment are central to creating a sustainable business. Rail and ferry operations have a number of hazards that create significant risks for people and the environment if not properly managed and controlled.

To address this, KiwiRail has implemented a Zero Harm programme across the business. The Zero Harm strategy is as follows:

- Identify and reduce critical risk – implement compliant, robust management systems
- Build capabilities throughout the business
- Be environmentally accountable and improve leader visibility across the organisation

This strategy will be driven by good leadership practices including workforce engagement and operating discipline, with particular focus on building a high performance engagement culture with KiwiRail's frontline staff and their representative unions.

Through good leadership practices, KiwiRail envisages making a material improvement in its safety, health and environmental performance. To date, KiwiRail has a solid plan and a strong commitment from its people and contractors and safety metrics are moving in the right direction.

Current key Zero Harm initiatives are:

- Establishment of 'critical risk' networks
- Establishment of a just and fair culture
- Improved investigation capability
- Employee health monitoring
- Revised medical standards
- Maintaining public safety

4.4. Customer Engagement and Implementation Issues

A critical component of the business strategy going forward is closer engagement with key customers in the core markets:

- IMEX – further strategic partnering with high value customers, [redacted]
- Domestic freight – KiwiRail acts as a wholesaler of linehaul services in the Domestic freight market. KiwiRail's customers are the freight forwarding businesses (rather than end customers). The level of engagement with freight forwarders needs to be improved
- Forestry – ongoing partnering with key industry players who use rail
- Bulk – seek to improve the quality of long-term contracting with key users, [redacted]

KiwiRail has worked hard over the last five years to position itself as a strategic partner with its largest key customers and much has been achieved. This is best demonstrated in its partnership with New Zealand's largest exporter Fonterra, who has chosen rail as a key component of its logistics supply chain for the future. Fonterra has actively promoted rail as a preferred transport mode, with the establishment of the Kotahi arrangements between Fonterra, KiwiRail, Maersk and Port of Tauranga demonstrating the success of that strategy.

KiwiRail has also sought to demonstrate the benefits of rail to the key ports and has benefited from building a strong relationship with Port of Tauranga. More recently, this strategy has also led to expanded offerings to the Port of Auckland with an increased use of rail to service its Wiri hub, as well as the establishment of a new railhead facility in Longburn (outside of Palmerston North) for the consolidation of lower North Island freight destined for Auckland.

In the Domestic freight market work remains to reposition rail's offering and change how rail is used by the major freight forwarders. Discussions with these key players indicate that they see the benefits of using rail and continue to assume that rail will play a significant role in their linehaul supply chain. For KiwiRail to be successful going forward it must continue to get much closer to these (and future) customers so that it is actively involved in their decision making and captures as much growth as possible.

KiwiRail will enter discussions with the key players in order to achieve the following objectives:

- Further enhance the strategic partnering arrangements with key customers to ensure KiwiRail's role as part of their linehaul solution is optimised
- [redacted]
- Develop a more sophisticated pricing offer for the Domestic freight market which seeks to optimise the contribution achievable on each service, including improvements to peak pricing and capacity utilisation through 'take or pay' arrangements
- [redacted]

[redacted]

Productivity / Cost Reduction Initiatives

Outside the key customer engagement strategies there are a number of other initiatives underway:

- Increasing the amount of time available for undertaking maintenance and renewal activity on the track by [redacted] and engaging with key customers to manage downtime of the network
- Enhanced technology in frontline asset management to improve efficiency, contractor management and overall project management
- Implementing asset management disciplines through the new organisational structure which brings these activities under one group
- Rationalised rolling stock maintenance activities and footprint across New Zealand as the rolling stock standardisation process reaches the next phase of evolution
- A road bridging solution for rail freight across the Cook Strait, thereby increasing the flexibility of ship configurations
- Integration of the key business streams creating an end-to-end business model with delayering of the business and realignment of key functions under specialist categories, plus the implementation of a shared services model
- Engage the frontline workforce and unions to continually enhance and improve processes to enable safer more productive work practices
- Continue the programme of standardising the rolling stock fleet, e.g. nine mainline locomotive classes rationalised to two or three
- Implement 'Fit for Business' programmes which target cost saving initiatives across the business
- [redacted]

Section 5: Overview of Financial Modelling

5. Overview of Financial Modelling

Financial modelling has been used to project the financial performance of the business over a 30 year time horizon. The model developed reflects the economics of the business and provides sufficient detail to enable different network and demand scenarios to be modelled.

The Board and Management of KiwiRail have sought to test the forecasts such that they are neither overly optimistic nor pessimistic. Getting this balance correct is critical to building confidence that what is being projected is realistic and achievable under normal operating conditions. KiwiRail has been rightly criticised for being overly optimistic in its forecasts in the past and not allowing for unexpected events.

5.1. Assumptions

KiwiRail has developed a detailed set of assumptions underlying its forecasts for each future option. Note that all forecasts are in real terms.

The Board and Management have sought to ensure that the assumptions used are appropriate. Where possible, internal views on assumptions and forecasts have been augmented by external third party analysis.

The broad approach to assumptions in the modelling can be summarised as follows:

- Economic growth is assumed at an average of 2.1% over the forecast period
- Customer demand is assumed in line with this growth and the National Freight Demand Study (NFDS), augmented by KiwiRail specific analysis where appropriate. [redacted]
- [redacted]
- I&E costs have been forecast on a line segment basis. They are derived from the Asset Management Plan and focus on removing known vulnerabilities over a 20 year period, followed by broadly steady state management
- Provision is made to keep assets in safe working order, consistent with service requirements. Appropriate training and monitoring programmes are assumed
- Capex forecast includes allowance for addressing some of the congestion constraints in Auckland, [redacted]

The Board notes that the forecasts still assume significant catch up capex on the network and to a lesser extent plant. Much of this is driven by the need to provide sustainable assets capable of meeting customer requirements within a safe working environment.

5.2. Revenue and Cost Build-Up

Revenue in the model has been constructed from activity forecasts in the key freight segments.

To build the revenue forecasts, KiwiRail has separately modelled key customer business activities from origin to destination. Where possible, KiwiRail has used volume information provided or verified by customers to underpin forecasts. The majority of this activity is contracted with customers and has expected volume growth and revenue profiles. The forecasts are adjusted where customer activity is planned to change or cease.

Where no specific customer data is available, growth rates from the National Freight Demand Study (NFDS) were used over the 30 year modelling period. Management applied their own judgement to moderate the growth rates where appropriate. For example, Forestry growth rates in the NFDS reflect the much publicised 'wall of wood' but KiwiRail has moderated this as much of the growth occurs in areas where rail does not currently link to the forests, e.g. Northland and Gisborne. KiwiRail believes it has a more accurate forecast than if it had simply adopted the NFDS growth forecasts unadjusted.

Further detailed revenue assumptions as they relate to each line of business are discussed below.

To forecast costs, the rail network was split into 75 line segments, with the end points of each segment being a key origin or destination for rail traffic. Volumes and activity driven costs have been specifically modelled where they are material. There are a number of costs that have not been directly allocated to line segments as they are not specific or unique to that segment or activity (for example, customer call centres service many trains over multiple routes and track machines used across multiple line segments). These unallocated costs are significant but reflect the common cost nature of the business.

Non-allocated costs (both capital and operational) plus corporate costs have been separately forecast. Key cost drivers were identified and built into the model.

Infrastructure costs reflect the spending required to deliver the necessary performance standard for customer service on that part of the network and to maintain the network in a safe and serviceable operating condition.

5.3. Freight Revenues

The Freight business is segmented into four lines of business:

- Domestic freight
- IMEX
- Bulk
- Forestry

5.3.1. Domestic freight

- Overview:
  - The Domestic freight market is KiwiRail's most competitive sector and introduces a degree of complexity to operations that is not present in the other segments. However, it also represents the segment where growth can make the biggest contribution to improving network economics
  - The main services provided are an intra-island overnight service between main centres, and premium (two to three day) and standard (three to five day) inter-island services, primarily Auckland to Christchurch
  - [redacted]
  - [redacted]
  - Freight forwarders primarily use rail to transport less time sensitive and north – south peak traffic to complement their own truck-based offerings. [redacted]
  - The last five years have seen an average of 5% annual growth in Domestic freight volumes. This is higher than GDP growth which implies a modal share shift from road to rail. KiwiRail believes this

move is a direct result of the investment it has made in rolling stock and improvements to the level of service KiwiRail provides

- Growth assumptions:
  - In FY14 rail generated $112m of Domestic freight revenue, [redacted] of which was moved on the Interislander
  - KiwiRail has an estimated [redacted] share of the addressable (i.e. where rail is best placed to compete) Domestic freight market
  - The NFDS provides a base from which to forecast changes in Domestic freight activity
  - [redacted]
  - KiwiRail's forecasts for growth are lower than achieved over the last five years but slightly above NFDS estimates
  - [redacted]
  - [redacted]

[redacted]

5.3.2. IMEX

- Overview:
  - Key customers in the IMEX market include Fonterra, meat companies and the major ports
  - Product is containerised and moved from factory to port or vice versa, usually with an empty and a full move
  - KiwiRail is directly impacted by the decisions taken by key customers if product is redirected between key production and warehousing sites and ports
  - The market has seen significant change over recent years with moves by key customers, especially Fonterra, to consolidate freight to secure more attractive shipping linehaul rates. The recent announcement of the Kotahi arrangement between Fonterra, KiwiRail, Port of Tauranga and Maersk is an example of the changing landscape. KiwiRail continues to work closely with all market participants to ensure it is well placed to both influence these decisions where possible and take advantage of any increase in volume moved

- Growth assumptions:
  - Fonterra accounts for 40% of all New Zealand exports. It is KiwiRail's largest customer and has a stated philosophy of moving as much processed product by rail as it can. KiwiRail works closely with Fonterra and both parties have shared their long-term forecasts. The model includes expected movements from Fonterra's key processing plants to either ports or storage facilities
  - [redacted] thereby increasing Port of Tauranga's projected rail volumes between Auckland and Tauranga
  - From FY18, it is assumed that a larger ship will start to call in Tauranga, causing greater movement of containers in and out of the upper North Island region via Port of Tauranga
  - The movement of goods in the South Island is still uncertain with a number of competitive plays between the ports and shipping lines yet to fully play out in the market. It has been assumed that a hub will be created in Rolleston and that feeder ships will call in via Timaru
  - Meat volumes are assumed to grow modestly over the period with a 0.3% forecast volume increase. Growth is softened by dairy conversions but bolstered by the increase in irrigation
  - Revenue decrease in FY15 ($7.5m) from loss of Lyttelton Port's Fonterra traffic between Temuka and Christchurch (expected to be roaded to Timaru)

[redacted]

5.3.3. Bulk

- Overview:
  - The Bulk market for rail is dominated by the movement of milk, coal and steel
  - Fonterra has two substantial processing plants in Whareroa and Pahiatua in the lower North Island. While the processing plant in Pahiatua is being enlarged, bulk milk is moved from the Oringi catchment across to the Whareroa plant. This movement is forecast to cease in FY16. Bulk movements from the Manawatu catchment to Whareroa are forecast to continue over the planning period
  - [redacted]
  - Coal movements are dominated by Solid Energy's operations on the West Coast of the South Island with tonnage moved by rail to Lyttelton Port. Solid Energy has reduced tonnage to 1.5 million tonnes for FY15, down from 2.1 million tonnes in the previous year
  - Imported coal between Tauranga and Rotowaro (Genesis coal) ceased in FY15
  - New Zealand Steel plant at Glenbrook has fixed capacity and no change is forecast

- Growth assumptions:
  - Bulk milk ex Oringi to Whareroa is scheduled to cease in FY16 as the Pahiatua plant increases its processing capacity
  - [redacted]
  - New Zealand Steel production levels remain static
  - Oceania Gold movement of product from the West Coast to Christchurch south (Palmerston) is assumed to cease when the contract expires in FY15 [redacted]
  - Ravensdown fertiliser product ceased in FY15 and it is assumed it will not return to rail
  - No new traffics are assumed
  - Solid Energy's West Coast coal production profile is between 1.5 million to 2 million tonnes [redacted]. The NFDS assumes coal volumes reach in excess of 3 million tonnes and are maintained over the forecast period. This key difference largely explains the gap between KiwiRail's forecasts and those of the NFDS as depicted in the graph below

[redacted]

5.3.4. Forestry

- Overview:
  - Timberlands has a sustainable forest production profile of approximately 2.1 million tonnes of logs per annum for export via Port of Tauranga
  - Smart Logistics services the mill at Kawerau and exports product via Tauranga
  - Carter Holt Harvey operates the plant in Kinleith and exports product via Tauranga
  - Marusumi moves logs out of Otiria and Dargaville to Portland (just south of Whangarei). [redacted]
  - Winstone Pulp International moves product from its plant in Karioi (Central North Island) to Port of Napier (previously this was via Wellington). The plant has fixed capacity so no growth is planned
  - A new opportunity has arisen to move export logs from Whanganui through to Port of Napier. This is a growth opportunity over the next three years peaking in FY18 and then operating at a flat, sustainable level

- Growth assumptions:
  - Growth in Forestry is low
  - The growth that does occur comes from the new opportunity ex Whanganui. [redacted]

- The 'wall of wood' opportunity is not assumed to be captured on rail as the majority of this production is centred on Northland and Gisborne where rail is not currently an option. [redacted]

[redacted]

5.4. Costs

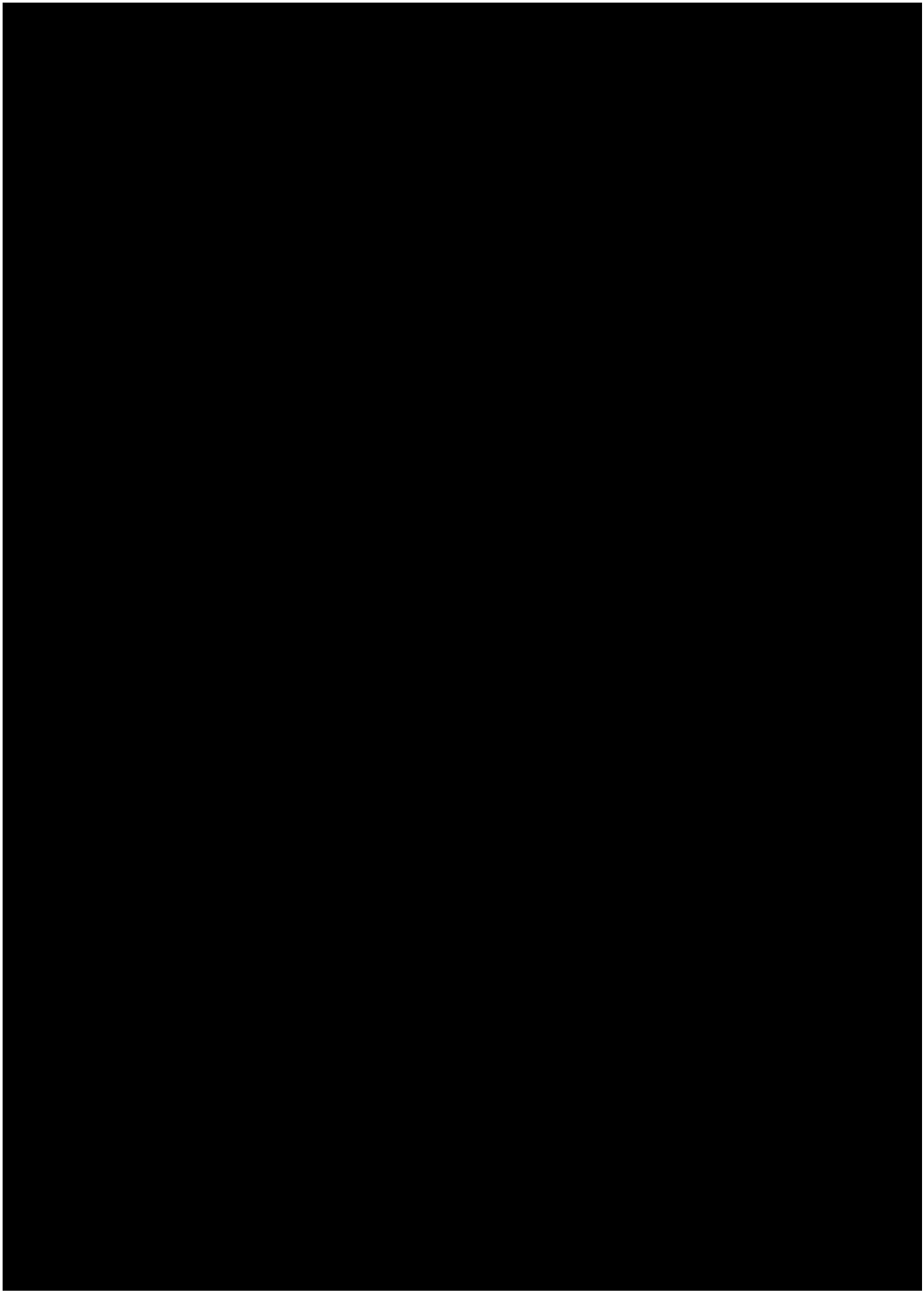
5.4.1. Infrastructure and Engineering

Infrastructure and Engineering (I&E) costs have been forecast on a line segment basis. The entire rail corridor has been split into unique track sections which typically depict a key customer origin or destination point. (Refer to the appendices for a schematic of the track sections).

The investment profile of each track segment is directly limited to the assumed future freight task. [redacted]

[redacted]

[redacted]



The overall approach to the infrastructure spend profile is to maintain the current infrastructure investment grouping and Track Quality Index for the planning period. As can be seen in each of the corridor spend profiles, a number of higher spend years occur in the next five to ten years as major track renewal investments are undertaken. This includes the rectification of a number of new risks that have emerged in recent years regarding the long tunnels on the network and the remediation work that is required to bring them to a safe operating standard.

In the formulation of the infrastructure spend profile, the Management of I&E and freight have worked to ensure that future customer requirements are a key driver of the planned works. [redacted]

The strategies employed in the network design are as follows:

- The default speed for all non-time critical routes should be 80 km/h – the network is not designed for running freight trains beyond this speed
- Axle loadings for all rolling stock should not be greater than 20 tonnes for locomotives and 22.5 tonnes for wagons
- Ensure all routes (other than Northland and West Coast) are capable of moving hi cube containers on an 18 metre long Container Flat Top (CFT) wagon

5.4.2. Rolling Stock

The plan is to continue to reduce the number of classes of rolling stock in the fleet and move to a more standardised equipment model. To date, 40 new DL locomotives have been added to the fleet which currently comprises 170 mainline locomotives with further additions in the pipeline. In addition, 835 new CFT wagons have been added to the fleet of approximately 2,500, increasing payload capability from 43 to 56 tonnes.

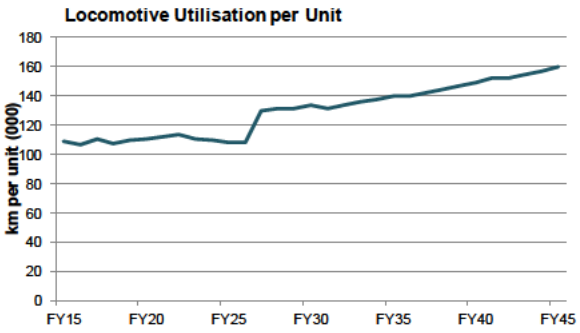
The future supply of rolling stock is matched against the demand from the freight task. The primary objectives are to:

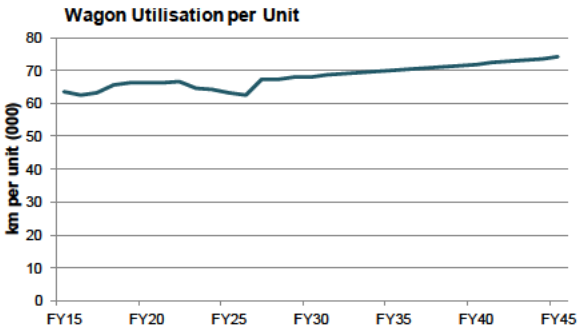
- Reduce the number of classes of rolling stock to a more standardised fleet
- Optimise the annual running time for each asset to ensure higher utilisation of the assets deployed
- Reduce the average age of each asset class towards their mid-life to smooth the capex and maintenance profiles over time

By taking a 30 year view, the model assumes that the majority of the rolling stock assets will go through a full life cycle. As such, the capital programme reflects the cyclical pattern of procurements and overhauls over the life cycle. A mainline locomotive is assumed to undergo the following key component changes:

- Bogie set replacement every 650,000 km (approximately every six years)
- Rotable overhauls every 1.2 million km
- Electronic and cab overhauls every 2.6 million km

The forecasts include an improvement in average annual kilometres travelled per locomotive and wagon, indicating higher utilisation.





5.4.3. New Locomotives

The plan sees eight new DL locomotives arriving into service in January / February 2015. All new locomotives will be deployed in the North Island fleet, replacing old locomotives with lesser horsepower.

The 17 electric locomotives in the fleet are assumed to be replaced in FY18 and FY19. A full business case assessment is currently underway that will determine whether replacing the electric locomotives with new electrics or switching to diesel is preferred.

5.4.4. Wagon Fleet

KiwiRail plans to standardise the fleet and reduce the number of wagon types by seeking to have predominantly flat top wagons, which can be used for multiple freight disciplines. Intermodal containers will replace the legacy box wagons used in the Domestic freight market (these containers are also able to be utilised for road bridging activity). CFT wagons with removable log bolsters will replace specialised log wagons.

The fleet plan sees the retirement of obsolete and expensive-to-repair wagon classes. A standardised heavy rated (56.9 tonne load weight, compared to 43 tonnes for a UK) CFT wagon model is being added and will form the basis of the wagon fleet going forward.

FY14 saw the addition of 300 new CFT wagons. The increased payload of the new fleet accommodates a significant portion of the rail volume growth, and the improved utilisation provides an additional uplift. A further 100 wagons are planned to arrive in New Zealand in August 2015.

Heavy Maintenance Facilities

The current heavy maintenance (overhaul) facility for locomotives is the Hutt workshop. This facility requires investment for it to remain a viable facility for future heavy overhaul work. The current overhaul programme fully utilises the Hutt facility over the next three to five years.

A strategic plan is currently being developed to determine the future heavy overhaul requirements and approach for the business.

5.4.5. Operating Costs

Labour

Labour is split between locomotive engineers, terminal staff and other staff. Various productivity initiatives are underway to reduce these costs.

Locomotive engineers have been a focus of recent productivity and training initiatives. The time spent physically driving the train is critical to achieving efficiency and productivity improvements and further improvements are forecast.

Terminal staff numbers are adjusted to reflect the physical activity that occurs in a terminal to build and break up trains. With container terminals, the key activity that drives costs is the number of container lifts that occur.

Fuel

Fuel is the second highest cost in the freight business at approximately $50m per annum. Exposure to the price of fuel is managed through the Fuel Adjustment Factor (FAF) charged to customers.

The forecasts include a fuel burn rate for the freight task. As the volume of the freight task increases, the fuel burned increases proportionally. A fuel saving initiative is currently being implemented through the Energymiser system which instructs train drivers on the optimal way to operate the train to minimise the amount of fuel burned. It is expected that KiwiRail will save upwards of [redacted] of its annual fuel bill when the new technology is rolled out in FY16.

Maintenance Costs - Wagons and Locomotives

The forecasts include a small reduction to per kilometre maintenance costs to reflect a lower weighted average cost as the fleet age reduces closer to the long run average age profile.

[redacted]

5.4.6. Unallocated Costs

Unallocated costs are those that do not vary directly with changes in volumes or closure of a track section. Unallocated costs (both opex and capex) are expected to total [redacted] in FY16. This is broken down by category in the following table:

[redacted]

5.5. Corridor Summaries

This section sets out financial forecasts for specific corridors (see appendices for a schematic) showing a 30 year view of projected freight net cashflow[7] for each year mapped against the direct infrastructure and facilities spend. Where track sections are shared across corridors (e.g. Auckland to Hamilton, Marton to Palmerston North and Christchurch to Rolleston) revenues and capex have been allocated on a gross tonne-kilometre (GTK) basis. The corridor projections exclude any non-freight revenue generated on a corridor (primarily Scenic and Property rentals) and [redacted] of unallocated operating and capital costs which cannot be directly attributed to a track section.

[7] Freight operating margin (revenue less direct operating costs) less allocated capital costs for rolling stock.

[redacted]

Northland

- Currently three key customers [redacted]
- No other sources of contribution from the line
- The line cannot carry hi cube containers and would require significant infrastructure spending or specialised wagons to address this
- Total revenue less than [redacted] per annum. Annual infrastructure costs are forecast to be almost twice the annual revenue on the line
- No material growth opportunities forecast on this line over the next 30 years

[redacted]

- [redacted]
- [redacted]

[redacted]

Auckland / Bay of Plenty

Base assumptions:

- Four major customers [redacted]
- Port of Tauranga traffic varies significantly with ship call moves between Tauranga and Auckland
- A capacity constraint of a 10–12 daily train programme for MetroPort

Assumed Changes:

- FY15 volume forecasts for Port of Tauranga are higher than FY14 with the resumption of the Maersk ship calls
- Lift in volumes ex Pahiatua from FY17
- Expansion of Lichfield (Putaruru) dairy factory. Volume is assumed to go via Port of Tauranga
- Increased big ship calls into Port of Tauranga from FY18
- Timberlands – assumed five trains per day five days a week, increasing to seven days a week
- [redacted]
- New Zealand Steel volumes are constant reflecting plant capacity
- Genesis coal programme has ceased and does not recommence

[redacted]

Auckland to Christchurch

Base assumptions:

- Approximately 1,000 km of track linked by the Interislander ferry operation
- Auckland – Hamilton and Marton – Palmerston North segments are on multiple corridors
- The Domestic freight market (particularly Auckland / Christchurch services) is the main contributor to this corridor
- [redacted]
- Ongoing traffic imbalance, with southbound heavier

Assumed changes:

- [redacted]
- Growing northbound export traffic originating in lower North Island (Whareroa and Pahiatua)
- Domestic freight growth marginally ahead of the NFDS – with small modal share gains each year, consistent with the last five years
- Other product ([redacted] grain, bulk wine) relatively stable

[redacted]

Central North Island

Base assumptions:

- Two customers in excess of [redacted] per annum on the line – Fonterra dominates with bulk milk (between Oringi and Palmerston North to Whareroa) and finished dairy product from Longburn / Pahiatua / Whareroa to export ports (Napier, Tauranga and Auckland). Winstone Pulp International moves wood related product from Karioi to Napier Port
- The Marton to Palmerston North line segment is critical as it has the east west traffic of the Central North Island corridor as well as the north south traffic of the Auckland to Christchurch corridor

Assumed changes:

- Expansion of the Pahiatua plant [redacted]
- [redacted]
- A new inland port hub is being established by Port of Auckland and Napier Port in Longburn (Palmerston North) to attract finished products from the Central North Island and to consolidate the movement of empty containers. [redacted]
- [redacted]
- [redacted]
- Forestry exports ex Whanganui to Port of Napier or CentrePort commence in FY15 [redacted]

[redacted]

Wairarapa

Base assumptions:

- Line goes from Woodville south to Wellington
- Analysis is freight only – excludes the Metro passenger service from Masterton to Wellington
- Total revenues of less than [redacted]
- [redacted] increase rail traffic out of Pahiatua
- Annual infrastructure costs of approximately [redacted] per annum

Assumed Changes:

- Fonterra's Pahiatua dairy factory is the single large freight customer on this line. Fonterra plans a major expansion to this plant, which would increase export volumes north on rail [redacted]

[redacted]

West Coast

Base assumptions:

- Solid Energy and Westland Dairy are the only two major customers that operate on this line
- [redacted]
- [redacted]
  - [redacted]

[redacted]

Christchurch South

Base assumptions:

- An export corridor dominated by dairy and meat processing

- Total revenue of approximately [redacted] with 15% of the revenue being Domestic freight [redacted]
- The Ohai and Invercargill to Bluff line segments service a small number of customers. [redacted]

Assumed changes:

- FY17 introduction of Rolleston Hub changes freight flows
- Edendale plant expansion from FY17 produces volume growth
- Flat meat traffic as arable land is converted to dairy with 8% growth over 30 years (NFDS)
- Reduced Clandeboye to Lyttelton Port traffic from FY15

[redacted]

5.6. Interislander

5.6.1. Future Strategy

The future strategy for the Interislander involves targeting the rail, Commercial Vehicle (CV) and passenger markets with a more flexible fleet that can be more readily adjusted to meet market demand.

Key changes envisaged are:

- Moving to a leased fleet using roll-on-roll-off passenger ferries (ROPAX) rather than purpose built and owned rail ferries
- This allows more active adjustment of capacity relative to market requirements. The size and capacity of the fleet can be varied more easily than with a purpose built rail ferry fleet
- ROPAX capacity requires road bridging to transfer goods across the Cook Strait. This was used in the recent Aratere outage and it is envisaged that this will be retained on a more permanent basis from FY16 with the Arahura retirement, [redacted]

The net effect of these changes is a fleet with much lower capital commitment and much more flexibility to adapt to changing market conditions. [redacted]

5.6.2. Fleet Assets Assumptions

Ship	Age (years)	Tonnage	Ownership	Freight Volume (lane metres)	Passenger Numbers	Crew
Arahura (retiring FY15)	30	12,735	KiwiRail	756	539	50
Aratere	15	17,816	KiwiRail	1,052	670	39
Kaitaki	18	22,365	Leased	1,150	1,650	60
Stena Alegra (from FY16)	16	22,152	Leased	1,240	550	60

The Interislander services three segments:

- Rail business – approximately 1 million rail lane metres per annum
- CV – 1.2 million lane metres per annum
- Passengers and cars – approximately 700,000 passenger journeys per annum

Interislander operates in competitive markets where there are alternate operators. The main competitors are airlines (for the foot passenger market) and Bluebridge (for CV and passengers with vehicles).

Demand varies significantly – seasonally, intra week and by sailing. For example, the 2.30pm sailing from Wellington to Picton is critical for the premium Auckland to Christchurch rail freight service. This is also the case for some key CV services as freight forwarders match their service offering on the basis that they are able to secure space on a specific sailing.

The rail capacity has an annual utilisation of approximately [redacted] of the nominal available capacity. However, this is not indicative of true excess capacity as key sailing demand can be at 100% as it matches the market offering for premium rail freight services.

For passenger services, sailings during holiday periods are generally heavily booked, whereas non peak periods have lower capacity utilisation.

The future strategy for the Interislander is highly dependent on the growth strategy for the Domestic freight segment and Auckland / Christchurch services. Participation in the Domestic freight business is the primary strategic reason for KiwiRail retaining ownership of the ferries.

[redacted]

[redacted]

[redacted]

5.6.4. Key assumptions

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]

- [redacted]

Road Bridging

- Road bridging of rail freight not carried by Aratere commences in FY16, using an optimised version of the road bridging established when Aratere was out of service in FY14
- [redacted]

[redacted]

- [redacted]
- [redacted]

[redacted]

[redacted]

[redacted]

5.7. Scenic

5.7.1. Current Services

KiwiRail Scenic Journeys (Scenic) operates three long distance passenger train journeys, charter services and the commuter service between Palmerston North and Wellington:

- Northern Explorer: connects Auckland and Wellington with trains departing three days per week from each location, carrying 32,144 passengers in FY14
- Coastal Pacific: operates between Picton and Christchurch over the November to April high season, carrying 34,933 passengers in FY14
- Tranz Alpine: operates a daily service between Christchurch and Greymouth. The Tranz Alpine is the most 'international' of the Scenic services in terms of its reputation and passenger mix, carrying 108,380 passengers in FY14
- Charters: Scenic operates charters during the cruise ship summer season from Christchurch to Arthur's Pass, and other ad hoc general charters in association with heritage operators
- Capital Connection: a weekday commuter service that runs between Palmerston North and Wellington, carrying 139,022 passengers in FY14

5.7.2. Current Financial Performance

[redacted]

[redacted]

[redacted] [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

5.8. Tranz Metro Wellington

Tranz Metro is the business unit that provides train operation services in the Wellington commuter market. It is assumed to make no material contribution post FY16 with the end of the current GWRC contract. KiwiRail will make a joint venture bid for the operating contract going forward with Keolis / Downer. This is not included in the Trimmed Network option, but is included in the upside sensitivity analysis.

5.9. Property

5.9.1. Overview

- The Property division is tasked with the following key objectives:
  - Provide direction and service to the business on all property matters including the acquisition, consolidation, rationalisation or disposal of assets, management of easements and planning and recording of agreements for crossings and sidings
  - Generate income growth through long-term sustainable leasing arrangements with appropriate commercial terms (including development of assets where necessary)
  - Increase utilisation of property assets (i.e. land and buildings) to achieve growth and maximise profitability
- There are 1,700 property assets controlled by KiwiRail:
  - The main asset types (based on number) for leased properties are: Storage (28%), Workshops (15%), Offices (14%), Stations (10%), Residential (9%). The gross floor area of buildings for leased properties is approximately 213,000 square metres
  - The main asset types (based on number) for operational properties are: Critical Buildings (34%), Storage (15%), Platforms (11%), Yards (10%), Workshops (8%). The gross floor area of buildings for operational properties is approximately 809,000 square metres
- KiwiRail does not own any land:
  - All land (~18,130ha) is owned by New Zealand Railways Corporation (NZRC) and managed by KiwiRail under a lease arrangement
  - Under this agreement, KiwiRail may identify railway land that should be sold and request NZRC to sell it or surrender it from the lease
  - Upon the sale of land, sale proceeds are provided to KiwiRail
  - Sale proceeds (less selling costs) are recognised as a gain on sale for KiwiRail, as the value of the land is not part of KiwiRail's asset base

5.9.2. Description of current business

- Leasing income (including opex recoveries) is the prime source of income, [redacted]
- Land sales provide significant revenue, [redacted]
- A small number of leases [redacted] generate the majority [redacted] of the leasing income
- The leases generating approximately [redacted] of income are mostly commercial leases, and include those with freight forwarding entities who occupy large sites on railway land for their distribution hubs

5.9.3. Forecast Assumptions

Revenue

- Annual leasing revenue growth is forecast at approximately [redacted] per annum

Operating expenses

- Repairs and Maintenance – these costs have been increased by [redacted] per annum between FY16 to FY20 to reflect catch up spend required that was previously deferred
- [redacted]

- Lease expenses are approximately [redacted] per annum. These include major leases at:
  - Featherston St, Wellington for Interislander
  - Stanley St, Auckland for Corporate Office
  - CentrePort land in Wellington for Interislander
- KiwiRail plans to reduce these expenses as leases expire and substitute existing underutilised property

[redacted]

- [redacted]

[redacted]

Section 6: Development of Scenarios

6. Development of Scenarios

6.1. The Board's Task

Having developed the data necessary for analysis, the Board's task was to determine the forward options for the business most likely to represent useful bases for Shareholding Ministers' consideration of the trade-offs between Crown investment and KiwiRail's role in the New Zealand freight market.

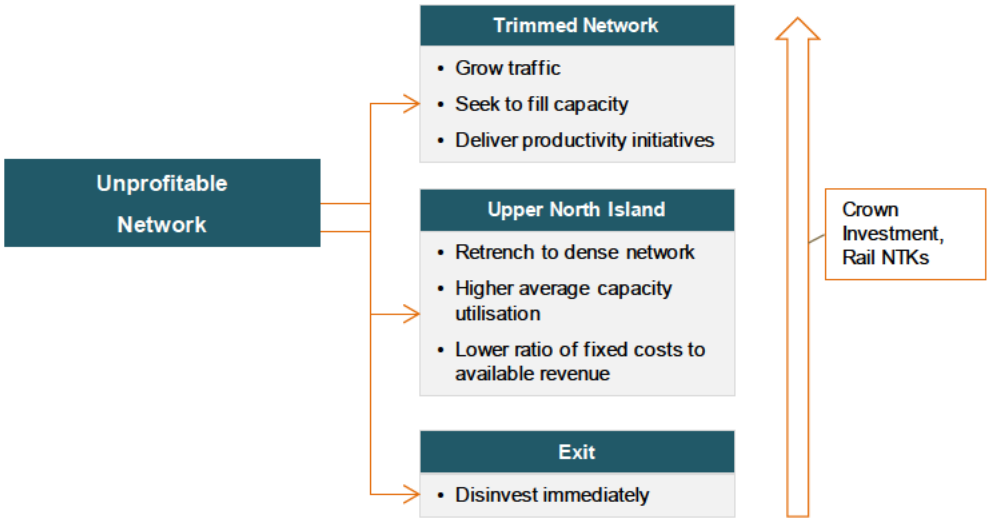
KiwiRail plays a major role in the New Zealand transport sector but remains unprofitable despite significant Crown investment over the past five years. In developing options for the future, the Board has focused on ways in which the commercial performance of the business can be improved under varying levels of Crown investment.

In developing the options, the Board has been conscious of the economics summarised in section 3 above.

Starting from an unprofitable status quo, these economics drive a commercial analysis that is structured as follows:

- Optimise the status quo. Seek to increase the value (reduce the losses) that is generated with the existing assets and services
- Test whether there are alternative smaller configurations of networks and services that improve commercial cashflows
- If no profitable solution can be found, consider the economics of exit / closure

These choices are illustrated in the diagram below.



There is no option that assumes an expansion of the network.

6.2. Option Selection

6.2.1. Overview

The Board approached scenario selection as follows:

- Identify corridors and services which were non-economic across the range of expected market outcomes

- Use this information to develop a base case network
- Test alternative network and service configurations to determine whether there were other value-adding rationalisations

6.2.2. Drivers of Change to the Base Network

[redacted]

Scenic Services

KiwiRail provides five non-Metro passenger services:

- Capital Connection – weekday Wellington to Palmerston North commuter service
- Northern Explorer – Auckland to Wellington (three days a week from each location)
- Coastal Pacific – Picton to Christchurch summer-only service (connecting with the Interislander services)
- Tranz Alpine – Christchurch to Greymouth daily return journey

- Charters – Cruise charters from Christchurch to Arthur's Pass and other charter services

[redacted] During the course of this analysis it became clear that the choices were between an approach centred on growing traffic on the existing larger network or contracting to a smaller denser network. Intermediate options, e.g. North Island only, generally reduced revenues more than costs because they eliminated positive contribution services with lesser impacts on costs.

6.3. Options Selected

The Board has developed the following options:

Trimmed Network

Align broadly, the existing network and services overlaid with a limited set of network and service rationalisation decisions and demanding but credible business improvement targets:

- Largest feasible rail network
- [redacted]
- Steady market share over time
- No new Bulk or Forestry
- High but reducing levels of Crown investment

Separate Island Networks

A North Island network and a South Island network from Christchurch south and the West Coast. No dedicated inter-island rail services.

- Exit inter-island Domestic freight services
- [redacted]
- IMEX, Bulk and Forestry focus
- Significant reduction in rail traffic
- Limited growth options
- Crown investment similar to Trimmed Network

Upper North Island

Rationalise back to upper North Island services only. Largely the Auckland / Hamilton /Tauranga triangle, [redacted]

- Pull back to services where rail is more competitive – dense traffic network on a much reduced network
- Centre on Ports of Auckland and Tauranga
- Exit lower North Island, South Island
- Lower Crown investment

Exit

Close the entire network except those parts the private sector is willing to operate on a no-subsidy basis.

- Remove Crown investment post exit process

- Sell / transfer some assets to private sector but no material rail traffic assumed
- Longer-term funding equation favourable if rail not required
- High near-term funding to finance exit / rationalisation

The Board believes that the options above provide a useful basis for the Government's policy decisions.

- The Trimmed Network case is largely business as usual but includes a small number of network and service rationalisations that the Board regards as commercially rational. This case also delivers the highest rail volume which may be a consideration for the Government in its decisions on transport policy and road network funding
- The Separate Island Networks case is regarded by the Board as the least attractive option. The level of Crown investment required is very close to that required in the Trimmed Network case but there is a substantial reduction in traffic carried by KiwiRail
- The Upper North Island case represents a possible retrenchment to a much smaller network where traffic levels are denser and rail's competitive position (at least in the short-term) appears more secure. The present value of the Crown investment required is significantly less than in either of the larger network cases, primarily driven by the reduced network size. Note however that there is considerable near-term Crown investment required to implement the very substantial rationalisation. Note also that a detailed transition case to a network of this scale has not been fully developed so the rationalisation costs are indicative only at this stage
- The Exit case has been developed on the basis that the Government may seek an outcome that requires no long-term investment in KiwiRail. Significant near-term Crown investment is required to execute the rationalisation

Details of the options are set out in the following sections.

Section 7: Trimmed Network

7. Trimmed Network

7.1. Key Rationalisations

[redacted]

The Trimmed Network scenario assumes the existing integrated inter-island rail freight and long distance passenger and ferry network continues, with the following network and service rationalisations:

[redacted]

- [redacted]
- [redacted]

[redacted]

- [redacted]
- [redacted]

[redacted]

- [redacted]
- [redacted]

KiwiRail continues to provide network access for Auckland and Wellington Metro services. [redacted]

[redacted]

[redacted]

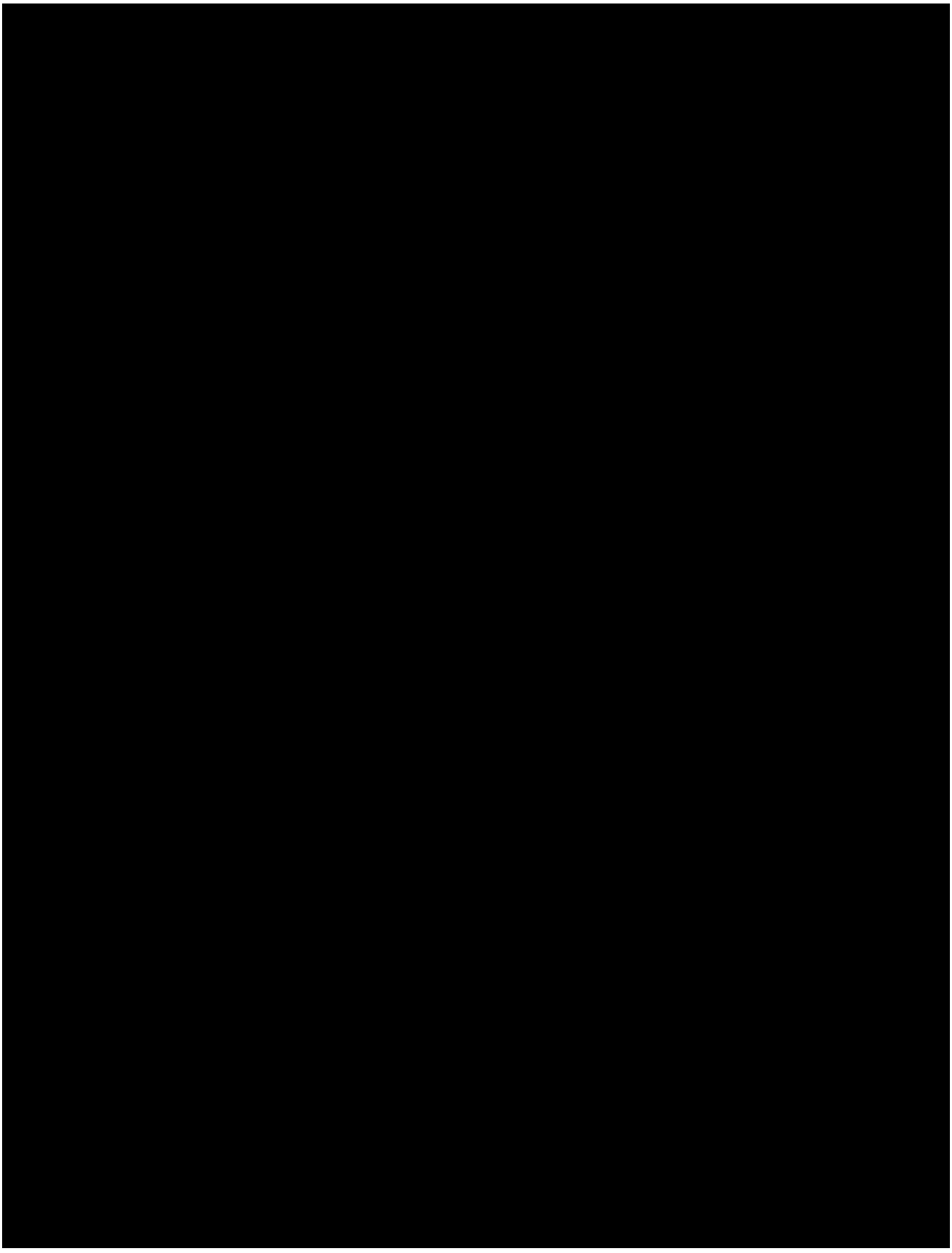
[redacted]

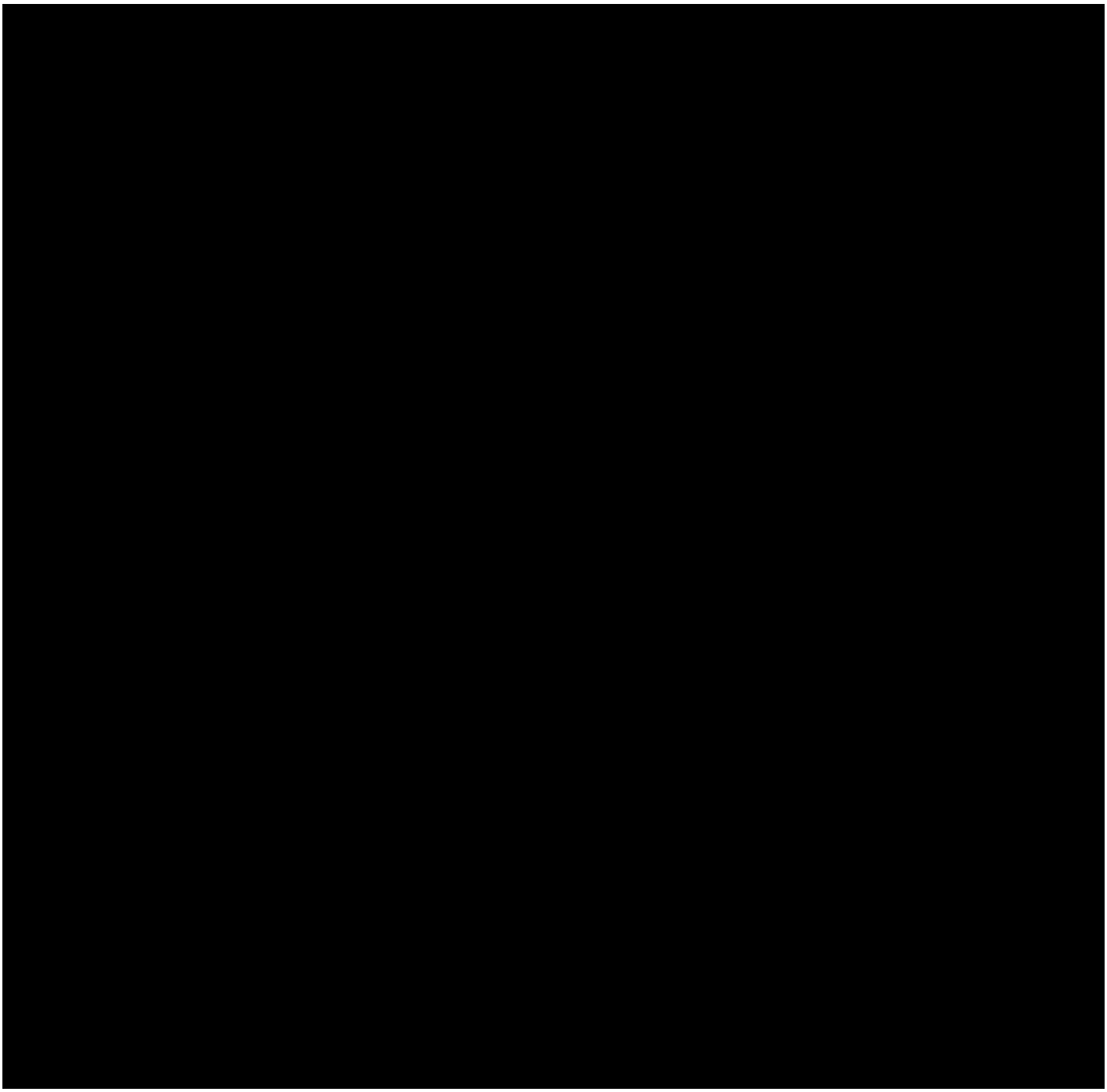
[redacted]

7.2. Financials

[redacted]

[9] Note that these savings include operating costs and capex savings and are net of closure costs





7.3. Productivity Improvements

- The range of productivity improvements included in the Trimmed Network forecasts is summarised in the table below:
  - Productivity improvements have been factored in across the business and result in sizeable cash savings,
  -

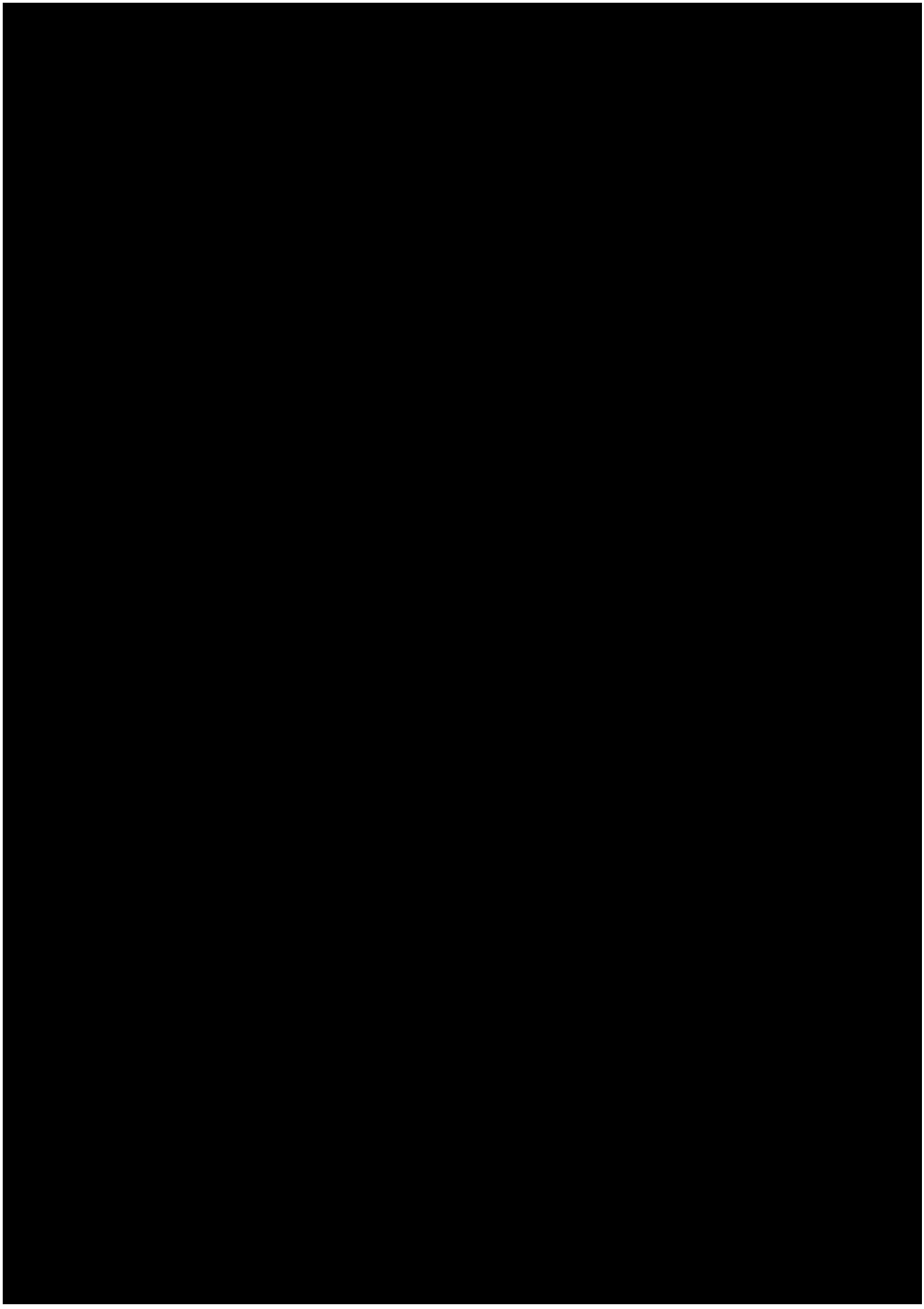
7.4. Capex

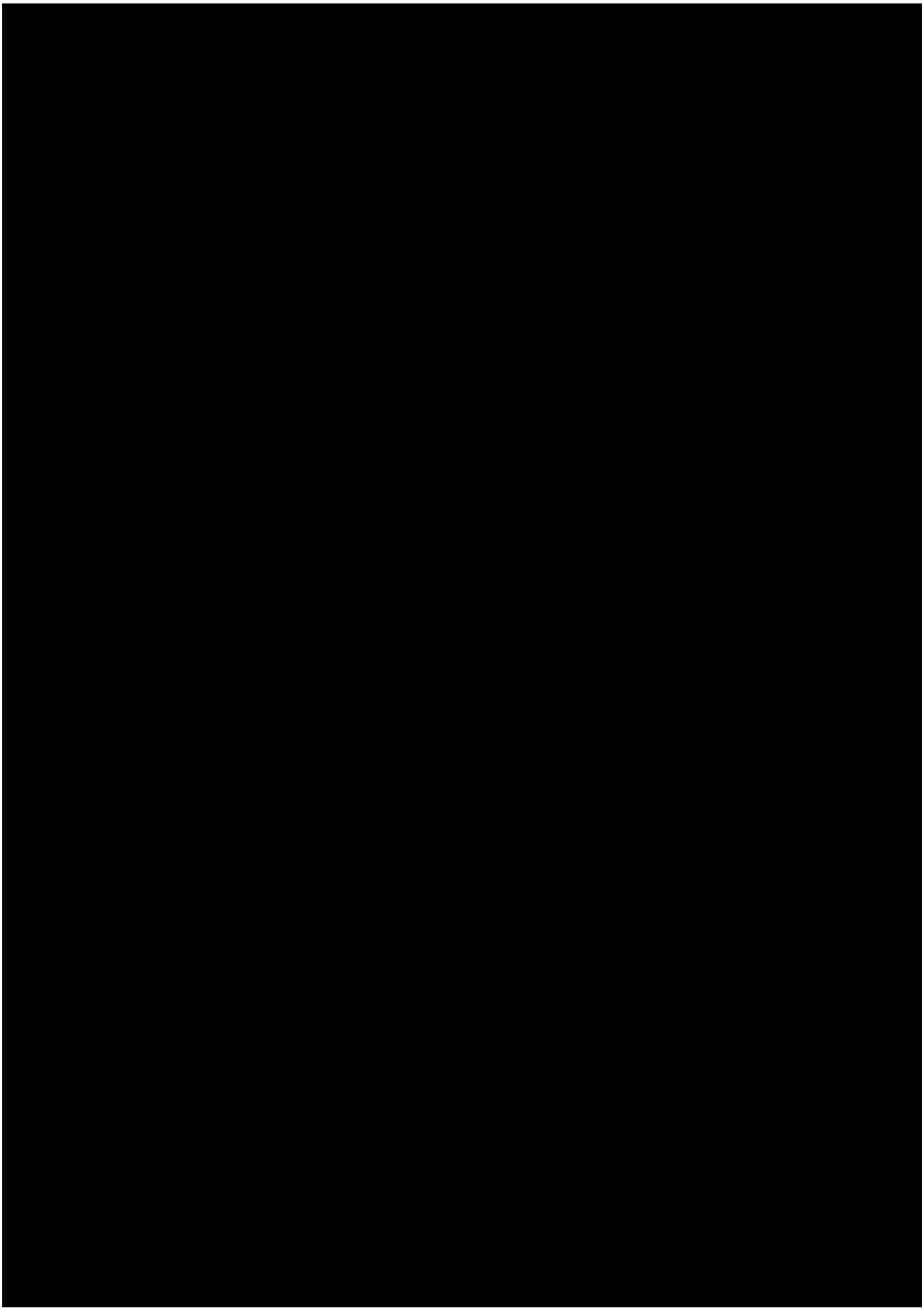
Total capex over the next five years averages [redacted] per annum, of which approximately [redacted] primarily relates to ensuring safe operation of the network. Capex relating to I&E accounts for over half of total capex.

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]





[redacted]

7.5. Auckland Network Access

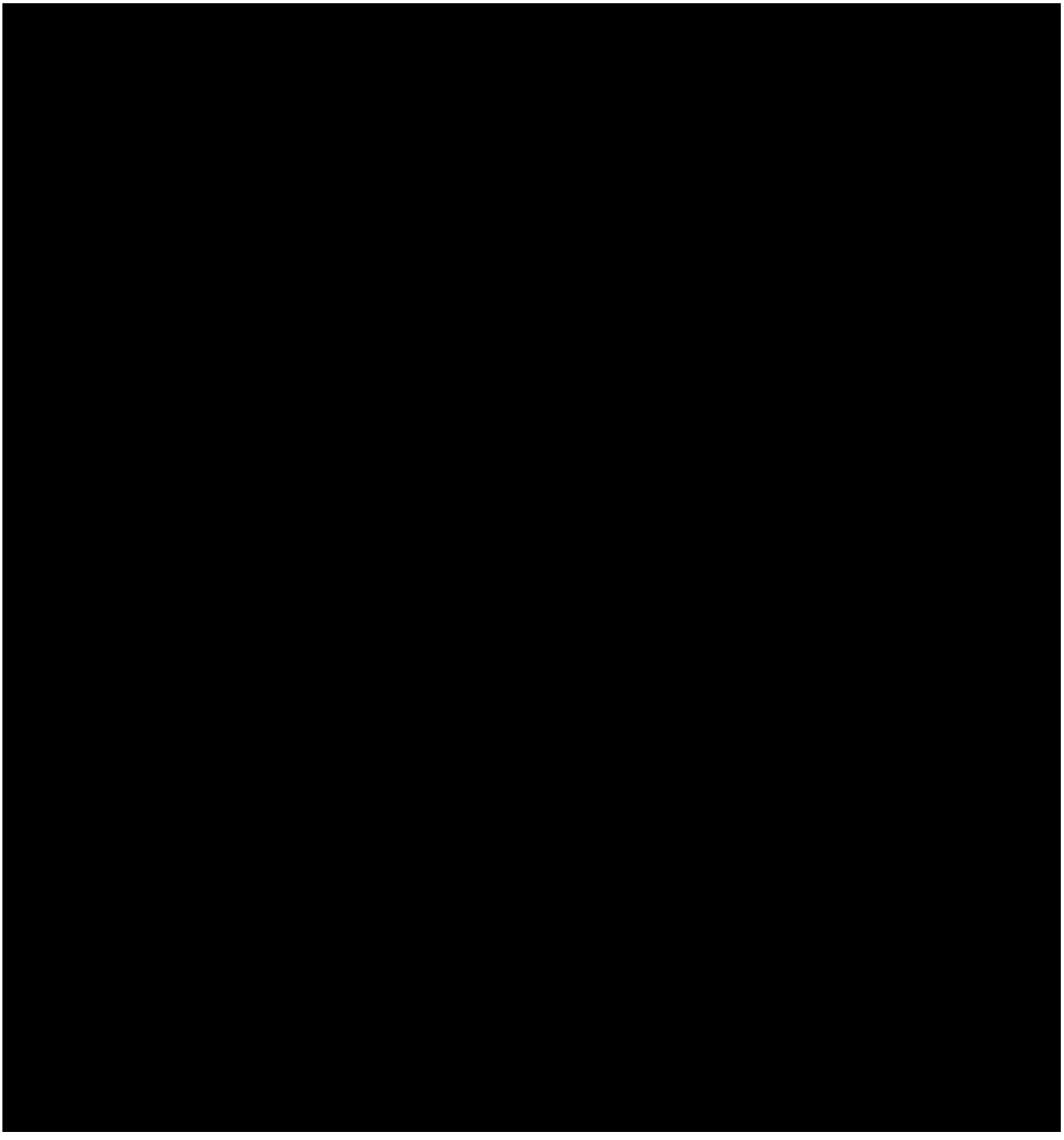
Auckland rail services are challenging with competing demands from commuter, port and national freight services creating timetable and service quality risk. Discussions with Auckland Transport are underway [redacted]

The rail network in Auckland is shared between the metro passenger services operated by Auckland Transport and the KiwiRail freight and Scenic services.

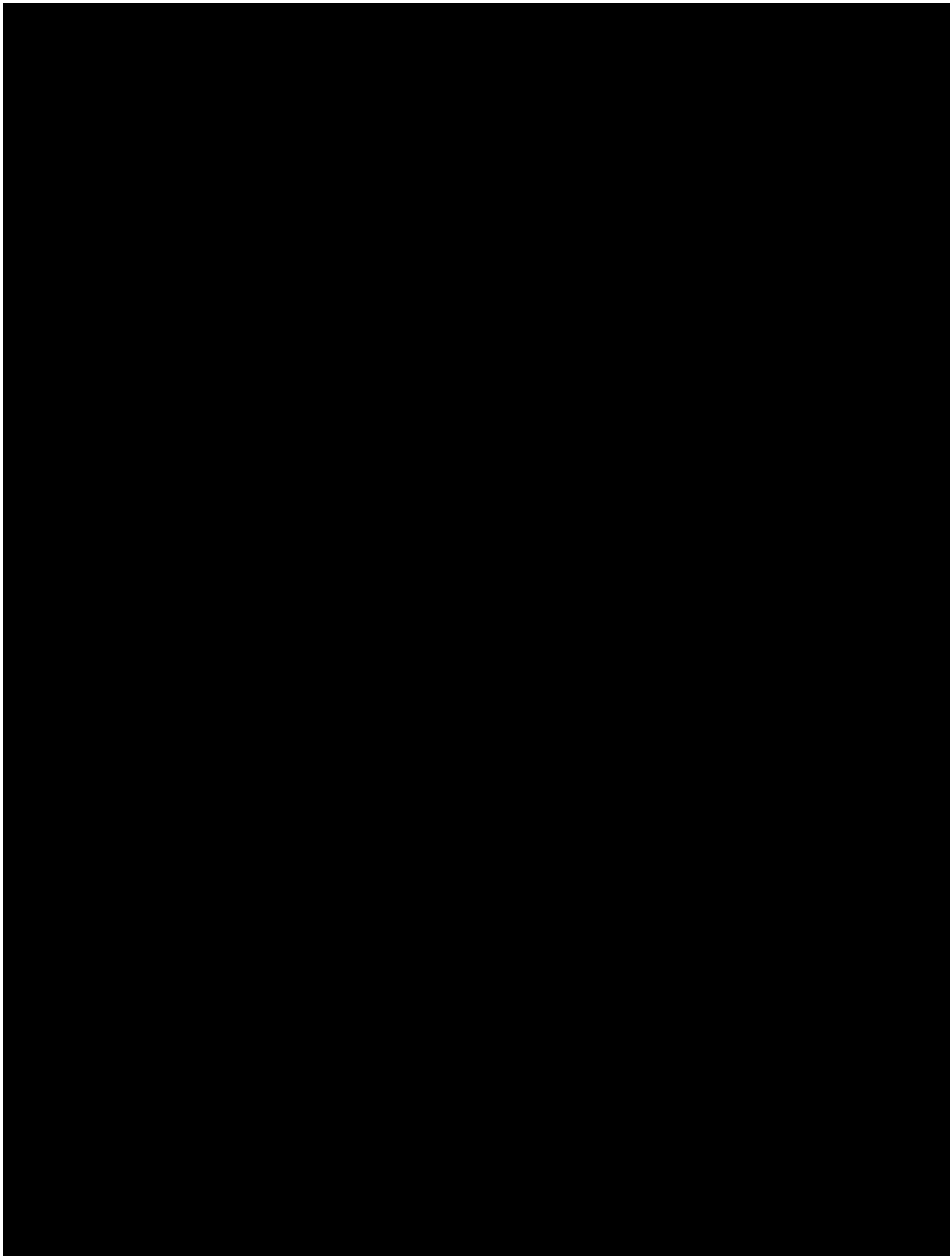
The frequency of commuter services is growing rapidly as improvements to the network and rolling stock take effect. Along with passenger growth, freight services are also forecast to grow materially over coming years. Much of the freight is managed at Southdown, near Penrose. The Port of Auckland is also exploring greater use of rail to Wiri to reduce truck traffic entering and exiting the port.

The Crown and Auckland Council have invested heavily in the Auckland commuter service over the past eight years to provide a quality metro service. [redacted]

[redacted]



[redacted]



[redacted]

7.7. Crown Investment

Forecast Crown investment is essentially the difference between net cash generated by the business and cash required to fund its capex.

- Crown investment is still required for the Trimmed Network scenario, but is nonetheless steadily reducing over the 30 year horizon to a level of around [redacted] of current funding requirements
- Note that there has been no material contingency included in the forecast Crown investment required. Although the Board believes its forecasts are appropriately risk-weighted, recent events have shown the potential for short-term financial impacts from unforeseen events

KiwiRail is forecast to make an increasing contribution to the cash requirements of operating the rail network. As can be seen from the graph below, the capex requirements diminish over time as the business gets closer to steady state. During the same period, the contribution required by the Crown reduces (both in relative and absolute terms) but is not eliminated.

The contribution required from the Crown solely relates to track and infrastructure capex (i.e. below rail). As is shown in the following graph, KiwiRail's free cashflow pays for all other capex (i.e. above rail), and its contribution to below rail capex is forecast to increase while the investment required by the Crown reduces.

Notwithstanding forecast improvements in a number of key metrics, namely increases in revenue and EBITDA, significant Crown investment is required over the forecast period. The following chart illustrates the gap and the contribution of the initiatives relative to a simple status quo business plan.

The annual Crown investment under the base, upside and downside scenarios, is depicted in the graph below:

Section 8: Separate Island Networks

8. Separate Island Networks

8.1. Rationale

[redacted]

Separate Island Networks was considered as an option because:

- It eliminates inter-island Domestic freight traffic where competition from road is strongest
- It eliminates business complexity (operating consistently to a fixed, time sensitive timetable) by allowing a focus on a small number of IMEX, Bulk and Forestry customers

[redacted]

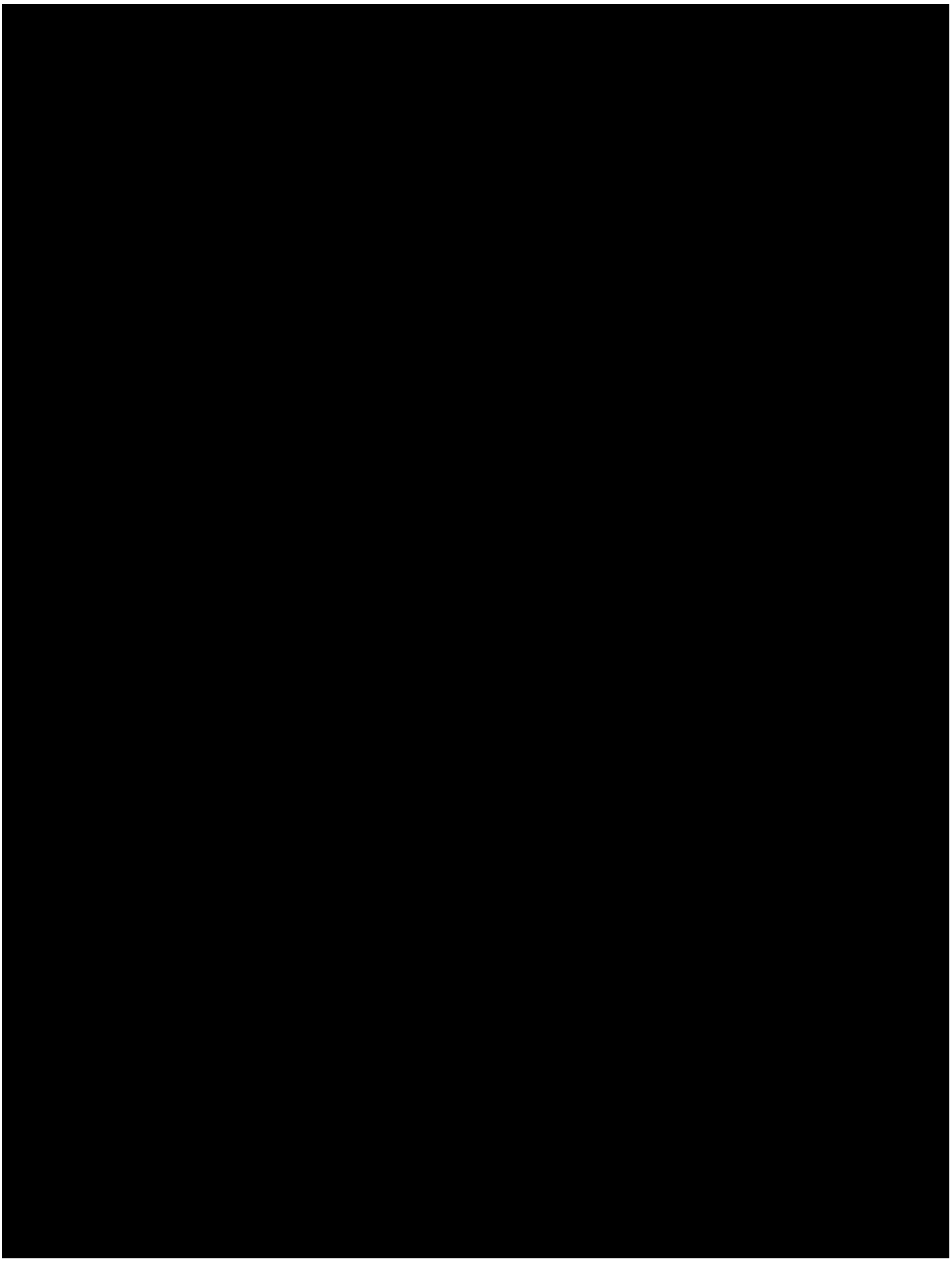
8.3. Financials

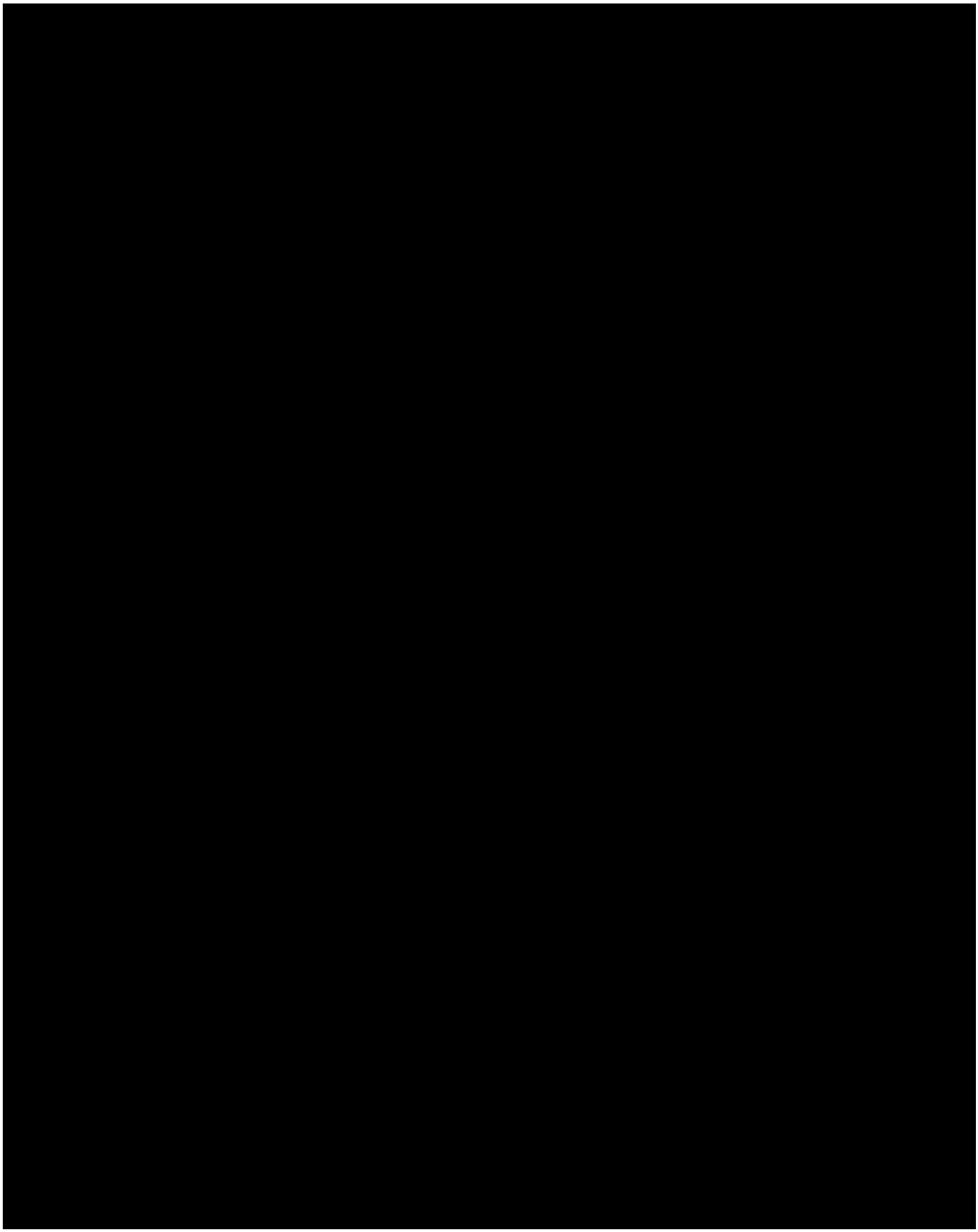
8.3.1. Financial Performance and Free Cashflow

The Separate Island Networks scenario has been modelled in detail. Core revenue streams, expenses and free cashflow forecasts are summarised in the following table.

Key assumptions are as per the Trimmed Network option plus the following:

- Drop in freight revenue in FY18 of approximately [redacted] of which relates to the Domestic freight market which is materially impacted under this scenario as [redacted] of the Domestic freight market flows inter-island
- [redacted]





[redacted]

8.3.4. Capex

- Compared with the Trimmed Network, capex spend will reduce by [redacted] per annum from [redacted], with the reduced spend mostly related to I&E [redacted] and freight [redacted]

[redacted]

8.4. Crown Investment

- The level of Crown investment is similar to the Trimmed Network scenario over the FY16 to FY26 period. After this, Crown investment becomes progressively higher (compared to the Trimmed Network) as the lower earnings from the Domestic freight sector (under the Separate Island Networks scenario) begin to outweigh the capex savings from the Main North Line closure

[redacted]

8.5. Commentary

The Separate Island Networks scenario shows outcomes in line with the discussion on rail economics. The reduction in costs is significant because the network is more significantly reduced [redacted] However, the reduction in revenues is greater. Consequently, the outcome is a small increase in the forecast Crown investment alongside a significant reduction in the NTKs forecast to be carried by KiwiRail.

This scenario illustrates the inherent difficulties with the structure of rail economics and reducing the scale of the network or services. It is extremely challenging to reduce costs faster than revenues without a significant retrenchment to a smaller, higher density network.

The Board ceased detailed consideration of this option at a relatively early stage. The Board considers it unattractive for the following reasons:

- Higher Crown investment requirements relative to traffic moved
- Limited growth options as significant growth potential lies in the Auckland–Christchurch corridor
- Insufficient downsizing to offer a large enough step-change in fixed and corporate costs relative to revenue loss

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

Section 9: Upper North Island

9. Upper North Island

9.1. Rationale

[redacted]

The Upper North Island offers high rail density, and has the potential to generate significant NTKs relative to forecast Crown investment

This option has a network with its southernmost point at Te Kuiti and centres on the Auckland / Hamilton / Tauranga triangle. It would maintain Forestry, Bulk and IMEX operations in this region. All other rail services across the balance of the network would be exited.

9.2. Key Rationalisations

Key rationalisations include:

- [redacted]
  - [redacted]
    - [redacted]
    - [redacted]
      - [redacted]
    - [redacted]
    - [redacted]
  - [redacted]
- [redacted]
- The Metro rail systems in Auckland and Wellington continue to operate with local government taking a lead role
- [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- A high level calculation of closure costs has been estimated. These are based on complete closure of the discontinued line segments rather than mothballing. Note that these costs require further development and refinement should this option be pursued. Key components included in the closure costs are shown in the table below:

[redacted]

- Redundancy costs were calculated from the number of staff assessed as no longer required, and the average base wage or salary per business unit [redacted] together with the redundancy entitlement (based on average length of service). The estimated redundancy cost of [redacted] relates to approximately [redacted] staff
- Infrastructure costs relate to the securing of all structures and the removal of track. It is assumed that the track is removed (including ballast) but the corridor is left intact. Structures would be demolished to the extent necessary to make them safe. This includes:
  - Blocking the entrances to tunnels longer than 100m
  - Removal of the end spans from bridges to prevent access
  - Demolition of climbable structures, primarily the steel trestle viaducts
  - Removal of the ancillary equipment such as turntables and crossing alarms
  - Repairing road surface at level crossings
  - It is assumed that there is no environmental (waterway) obligation to demolish bridges or culverts
- Remediation costs [redacted]
- Recoveries from the disposal of rolling stock have been calculated from market value estimates. Recoveries from disposal of track and specialised track maintenance vehicles are included
- Ongoing closure costs consist of inspections and actions to maintain the safety and environmental compliance of the corridor, including removal of debris around bridge piers and culverts, vegetation control for pest plants, and clearing of slips involving other people's property

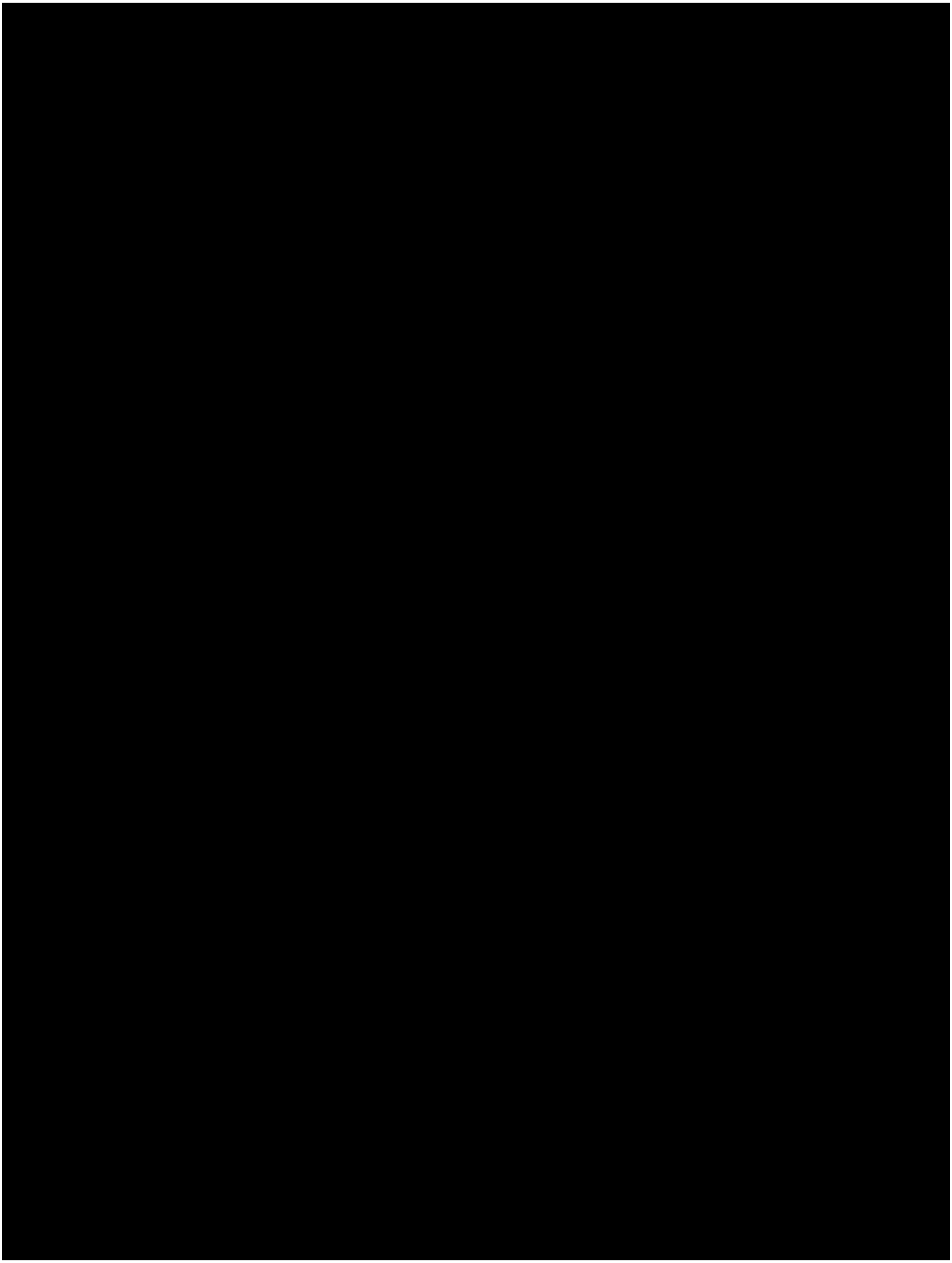
9.3. Financials

9.3.1. Financial Performance and Free Cashflow

The Upper North Island scenario has been modelled in detail for first order effects only. Second order effects (which could have a material impact) have not been quantified nor factored into the financial projections. Core revenue streams, expenses and free cashflow forecasts are summarised in the following table.

Key financial outcomes:

- Drop in freight operations as a result of the significant reduction [redacted] in network size in FY16 reduces revenue and expenses by approximately [redacted]
- [redacted]
- Significant restructuring costs of approximately [redacted] incurred in FY16



From FY16, there is a significant loss of freight revenue streams across Domestic freight [redacted], Bulk [redacted] and IMEX [redacted], and a moderate reduction in Forestry [redacted]

[redacted]

9.3.2. Metrics

- [redacted]
- Freight volume – from FY16, NTKs are reduced by approximately [redacted] while net weight carried is only reduced by approximately [redacted]. The greater percentage reduction in NTKs reflects the shorter line haulage distances involved under the Upper North Island scenario

[redacted]

9.3.3. Capex

- Compared to the Trimmed Network, capex spend will reduce by approximately [redacted] per year from FY16, with the reduced spend mostly related to I&E [redacted] and Freight [redacted]

9.4. Crown Investment

- The Upper North Island scenario requires significant Crown investment in FY16 relating to closure costs. However the ongoing Crown investment required under this scenario [redacted] is significantly less than that required under the Trimmed Network scenario

[redacted]

9.5. Commentary

- The transition costs to an Upper North Island network are high. These arise from the removal of 3,200 km of track, securing structures, remediation [redacted]
- Beyond the transition costs, the annual Crown investment requirement is substantially below the Trimmed Network scenario
- The business becomes highly concentrated on a small number of customers. [redacted]
- Business scope and complexity is substantially reduced allowing a significant reduction in corporate overheads and scale
- Rolling stock and other infrastructure surpluses would be substantial with all redundant assets being sold
- Should Ministers wish to explore this scenario further, a more detailed assessment and implementation plan would be required to fully scope a number of issues, including the impact on existing customer contracts

9.6. Risks

- [redacted]
- [redacted]
- [redacted]
- [redacted]

Section 10: Exit

10. Exit

10.1. Rationale

The Board has not been able to put forward a business plan where the business becomes self sustaining in the next ten years. Consequently, it has considered Exit in the event the Crown is unwilling to continue investment.

[redacted]

10.2. Key assumptions

- All Freight and Scenic passenger services closed from FY16, and Wellington Tranz Metro closed from FY17
- Interislander operations are assumed to continue, [redacted]
- The Metro rail systems in Auckland and Wellington continue to operate with local government taking a lead role
- [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- A high level calculation of closure costs has been estimated. These are based on complete closure rather than mothballing. To the extent that closure does not occur across the entire network, the costs indicated below may reduce. Note that these costs require further development and refinement should this option be pursued. Key components included in the closure costs are shown in the table below:

[redacted]

- Redundancy costs were calculated from the number of roles assessed as no longer required, and the average base wage or salary per business unit [redacted] together with the redundancy entitlement (based on average length of service). The estimated redundancy cost of [redacted] relates to approximately [redacted] staff
- Infrastructure costs relate to the securing of all structures and the removal of track. It is assumed that the track is removed (including ballast) but the corridor is left intact. Structures would be demolished to the extent necessary to make them safe. This includes:
  - Blocking the entrances to tunnels longer than 100m
  - Removing end spans from bridges to prevent access
  - Demolition of climbable structures, primarily the steel trestle viaducts
  - Removal of ancillary equipment like turntables and crossing alarms
  - Repairing road surface at level crossings
  - It is assumed that there is no environmental (waterway) obligation to demolish bridges or culverts
- Remediation costs [redacted]
- Recoveries from disposal of rolling stock have been calculated from market value estimates. Recoveries from disposal of track and specialised track maintenance vehicles have also been included
- A high level allowance has been estimated for other costs that may arise under a large scale business change. While no detailed analysis has been performed, this provides for potential costs such as asset sales expenses, penalty payments for termination of customer contracts if required [redacted] and other implementation costs
- Ongoing closure costs consist of inspections and actions to maintain the safety and environmental compliance of the corridor, including the removal of debris around bridge piers and culverts, vegetation control for pest plants and clearing of slips involving private property

10.3. Financials

10.3.1. Financial Performance and Free Cashflows

The Exit scenario has been modelled at a high level and attempts to quantify key costs and activity where practicable to do so.

[redacted]

[redacted]

[redacted]

10.4. Crown Investment

- The Exit scenario requires a high level of funding in FY16 [redacted] to cover one-off closure costs, and a much lesser amount in FY17 [redacted]

10.5. Commentary

- Exit does not necessarily mean complete network closure. There may be elements of the network that private interests are willing to take on without subsidy.
- Interislander operations are assumed to continue, servicing both the commercial vehicle and passenger markets
- Metro rail systems in Auckland and Wellington continue to operate with local government taking a lead role
- A high level calculation of closure costs has been estimated. These are based on complete closure rather than mothballing. To the extent that closure does not occur across the entire network, the costs indicated above may reduce. Note that these costs require further development and refinement should this option be pursued
- Key components included in the one-off closure costs are:
  - Redundancies in excess of employees
  - Secure all structures (including demolition where necessary)
  - Removal of track (including ballast)
  - Remediation
  - Recoveries from disposal of rolling stock and specialised track maintenance vehicles
  - Ongoing closure costs relating to keeping the corridor safe and the clearance of pests, plants, etc
- Should Ministers wish to explore this scenario further, a more detailed assessment and implementation plan is required to fully model the impacts

10.6. Risks

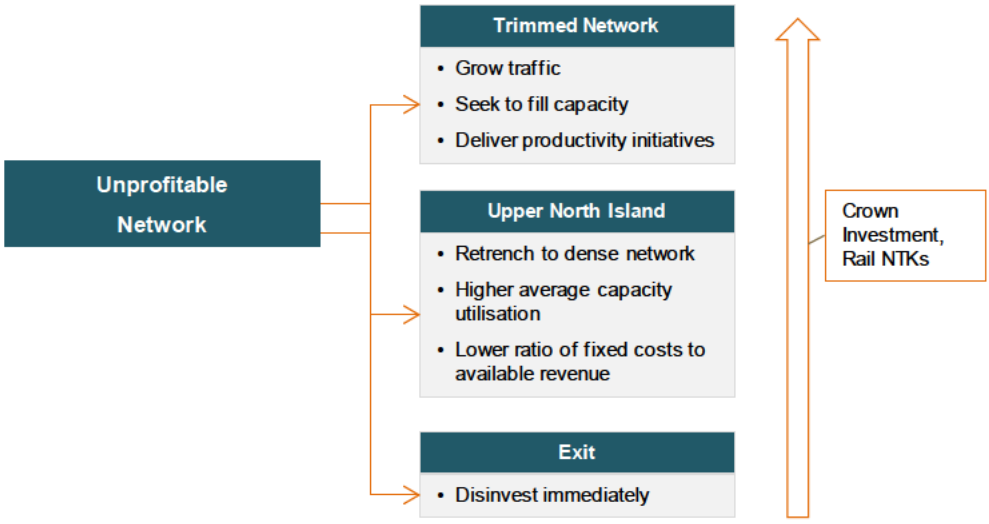
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

Section 11: Summary / Next Steps

11. Summary Comments / Next Steps

11.1. Overview

The diagram below shows the commercial choices that are driven by the underlying economics.



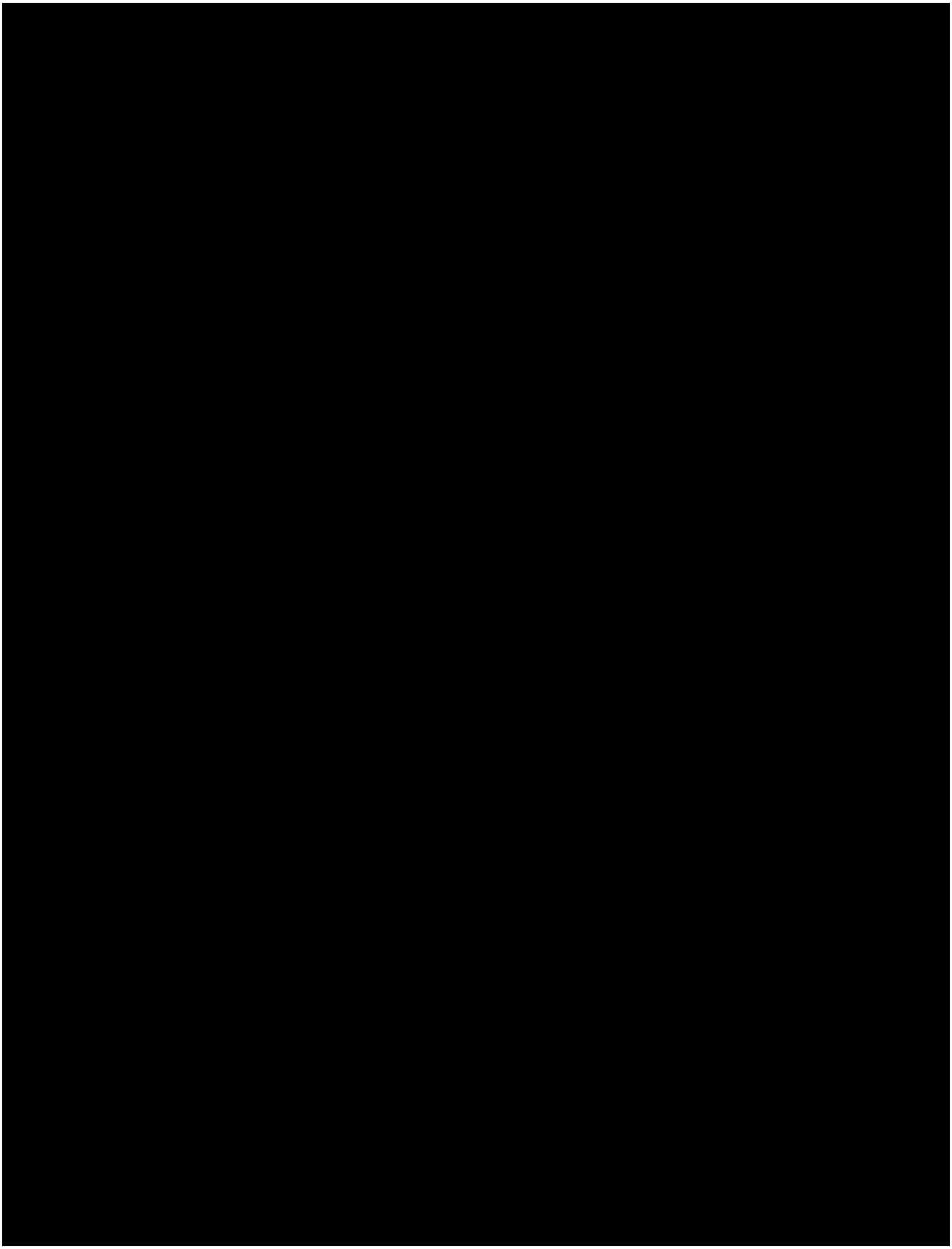
- On a purely commercial basis (i.e. ranking by the present value of Crown investment required), Exit appears the highest value option for the Shareholder
- The Separate Island Networks option is unattractive. It requires the highest present value of Crown investment without offering any compensating advantages
- The Trimmed Network maximises rail traffic but requires relatively high levels of ongoing Crown investment and does not become financially sustainable in the near to medium term
- The Upper North Island option gets closer to financial sustainability in the later years of the forecast. Rail traffic volumes (measured in NTKs) are much lower than in Trimmed Network

11.2. Results

Overall, the Board has not been able to develop an option that reaches financial sustainability in the near to medium term.

[redacted]

The charts below show the scale of KiwiRail (measured by NTKs) against the value of Crown investment for different periods. They show that the forecast rail volumes broadly follow the forecast Crown investment.



11.3. Implementation

- All the options outlined can be adjusted at the margin. [redacted]
- Consideration will also need to be given to the impact of the different options on customers, employees, communities and other infrastructure. [redacted]
- All the options present significant execution challenges. The Board believes that a clear statement of objectives and a stated commitment to a particular plan will be critical to KiwiRail being able to attract and retain the right talent to execute the chosen plan
- In addition, different options will benefit from customised organisational and financial arrangements for implementation and monitoring. [redacted]
- As with organisational arrangements, further detailed work will be required on the financial arrangements for implementation of a preferred option. [redacted]

11.4. Next Steps

The report assesses four scenarios. The Board is confident that three of the four scenarios presented provide a realistic base for the Government's policy considerations relative to network scale and services and Crown investment requirements. Note that each of the scenarios can be adjusted at the margin depending on Shareholder preferences.

The discussion of the options in this document focuses on the economics of the alternatives as a basis for making choices about the future. Implementation of a preferred option will require consideration of a number of issues including the financial and organisational arrangements that will maximise the probability of the agreed objectives being realised.

The Board does not wish to pre-judge Shareholder preferences in terms of commercial and wider policy choices but believes it would be preferable to address these wider choices in the following sequence:

- An initial focus on which of the three realistic alternatives (Trimmed Network, Upper North Island, Exit) is most likely to be aligned with the Government's policy preferences
- Further development and refinement of the detailed business plan associated with the preferred choice

- Development of the best organisational and financial arrangements for the implementation of the chosen business plan

During this sequence of analysis, the Board envisages the Government will retain flexibility on all options until a final business plan is agreed.

KiwiRail looks forward to further engaging with Shareholding Ministers to finalise and agree a business plan and implementation structure based on the Government's preferred option. The Board's view is that both parties should then commit to this plan, at least into the medium term, to ensure that it has the maximum chance of successful execution.

Section 12: Glossary

12. Glossary

Term	Definition
4-Wheel Wagon	Obsolete wagons that do not have bogies. Restricted to use in Northland – very limited future
Auckland Electrification Projects (AEP)	Projects to introduce electric trains in the Auckland area. The electrified network extends from Papakura in the south to Swanson in the west, and includes the Onehunga Branch Line and the Manukau Rail Link
Arahura	Ship owned by KiwiRail as part of the Interislander fleet
Aratere	Ship owned by KiwiRail as part of the Interislander fleet
Average Haul	The (weighted) average distance freight is carried. It is calculated as net tonne-kilometres / net tonnes
Auckland Metro	Commuter train services operating in the Auckland region by a non-KiwiRail service provider
Auckland Metro Maintenance	The contract under which KiwiRail provides locomotive and driver hire and maintenance services to Transdev (the current Auckland Metro operator)
Auckland Transport (AT)	Subsidiary of the Auckland Council responsible for managing Auckland's regional passenger network
Bogie	A twin axle wheel set or truck
Box Wagon	Wagon with permanent enclosed superstructure, preferred wagon for freight forwarding customers with siding access. New and future box wagons use curtain sided containers for superstructure, providing flexibility
Branch Line	Secondary railway line which branches off a more important through route, usually a main line
Breakeven Cost	The level of total costs that equal total revenue, such that profit equals zero
Bulk	Sector of rail freight operations that serves specific traffics between point to point locations, typically full train loads. Types of commodities include coal, mi k, steel etc
Cab Overhaul	Full refurbishment of the layout and fit out of a locomotive cab
Capital Connection	Scenic weekday passenger service between Palmerston North and Wellington
Centralised-Traffic-Control	Signalling system on single-track sections whereby all signals and main-line points (at crossing locations or junctions) are operated remotely from Train Control (or a signal box), enabling the prompt crossing of trains
CFT Heavy Rated 50ft Wagon	Container Flat Top wagon capable of carrying container combinations up to 2.5 TEU. Length enables two 20 foot containers to be loaded provided the customer has siding/platform access (e.g dairy factories)
CFT Heavy Rated 60ft Wagon	Container Flat Top wagon capable of carrying container combinations up to three TEU
CFT Wagon	Container Flat Top wagon used to move containers on rail. Containers are fastened to wagons with twist locks
Christchurch Earthquakes	Earthquakes that occurred in the Canterbury region between September 2010 and February 2011, causing widespread damage to Christchurch and the surrounding areas
Coal Route	The railway route from Ngakawau to Lyttelton in the South Island for Solid Energy, incorporating the Midland Line and the Stillwater Westport Line
Coastal Pacific	Scenic passenger service between Christchurch and Picton
Coastal Shipping	Movement of cargo between New Zealand ports, broadly equivalent to 'short sea shipping'
Commercial Vehicle (CV)	A truck used for transporting freight
Container Flat Top (CFT)	Rail wagon with flat deck for the transportation of containers

Term	Definition
Contribution Margin	Freight revenue less direct operating and capital costs
COGS	Cost of Goods Sold
CMA - CGM	Shipping company
Crown investment	Crown's capital contribution to KiwiRail
DBR Locomotive	Class of diesel-electric locomotive built as a narrow-gauge version of the EMD G8 model
DC Locomotive	Most common class of diesel-electric main-line locomotive on the New Zealand rail network (engine type GM 12-64SE). Similar dimensions to the DX class
DFB Locomotive	Class of diesel-electric locomotive (engine type GM 12-64 SE). Contains 'Brightstar' computer system to aid the operating of the locomotive
DFT Locomotive	Class of diesel-electric locomotive (engine type GM 12-64SE)
Density	A measure of the level of operating activity on a particular line (or group of lines) expressed as millions of gross or net tonne-kilometres per route kilometre (per annum)
DL Locomotive	Most recent type of diesel locomotive built in China, commissioned in 2011
Domestic freight	Sector of rail freight operations heavily linked with the distribution logistics of freight forwarders
DQ Locomotive	Class of diesel locomotives in New Zealand and Australia. Purchased by Tranz Rail in 1995 to be rebuilt
DSG Locomotive	Class of diesel-electric shunting locomotives used in New Zealand with a central cab design and twin engine
DX	Class of diesel-electric locomotives introduced in New Zealand in 1972 as a more powerful locomotive to handle traffic on the North Island Main Trunk (engine type GE 7FDL-12)
EBITDA	Earnings before Interest, Tax, Depreciation and Amortisation
ECMT	East Coast Main Trunk line between Hamilton and Kawerau
EF Locomotive	Class of electric locomotives that operate on the electrified section of the North Island Main Trunk between Palmerston North and Te Rapa (near Hamilton)
Electronic Overhaul	Replacement of all electronic components and rewiring for a locomotive
Electronic Train Control System (ETCS)	A signalling control and train protection system designed to prevent collisions between moving trains
Energymiser	Initiative to improve fuel burn and reduce carbon intensity for KiwiRail's customers
Fit For Business Initiatives	Initiatives to improve productivity and / or reduce costs
Footprint Strategy	Relates to the future direction on how existing land and buildings are to be utilised and optimised (including possible divestment and property revenue opportunities)
Forestry	Sector of rail freight operations focused on transport by rail of wood and related products, specifically in Northland, Bay of Plenty and the lower North Island
Forestry Routes	Key routes which are primarily used for transporting forestry products, e.g. Murupara to Mt Maunganui
Free Cashflow (Post-Financing)	Cashflow after any interest payments
Free Cashflow (Pre-Financing)	Cashflow before any interest payments
Freight Net Cash Flow	Freight operating margin (revenue less direct operating costs) less allocated capital costs for rolling stock
KiwiRail Freight	Provides rail freight services and locomotives for passenger services

Term	Definition
Freight Forwarding Customers	Companies who contract with the shipper for the complete transport task, but sub-contract the linehaul
FTEs	Full Time Equivalent staff
Fuel Adjustment Factor (FAF)	A surcharge added to freight rates to adjust for movements in fuel prices
Greater Wellington Regional Council (GWRC)	Council responsible for the southern end of the North Island, including Wellington, Lower Hutt, Porirua, Upper Hutt, Wairarapa and Kapiti
Gross Tonne-Kilometres (GTK)	The sum of the total train weight multiplied by the distance travelled
Harvesting	Limiting capex to below the long run average required to renew an asset
Hi cube Container	Container that is outside the standard dimensions (i.e. taller than normal). Standard shipping container is 8' 6" (2,591mm) high. Hi cube containers are 9' 6" (2,895mm) high
Hi cube Wagon	A container flat top wagon carrying a semi-permanently attached hi cube container (typically a curtain sided)
Hook and Tow Fuel Costs	Fuel used within a locomotive that transports scenic passenger carriages
Hopper Wagon	Type of railroad freight car typically used to transport loose bu k commodities
Infrastructure and Engineering (I&E)	The KiwiRail business unit that maintains and improves the rail network and controls train operations
Infrastructure Investment Grouping	Categorises rail lines into six groups depending on track quality and investment objectives
Inland Freight Hub (IFH)	Site used as an inland port
IMEX	Import / Export. Sector of rail freight operations that delivers containerised freight to and from ports
Interislander	The KiwiRail business unit that operates Cook Straight ferry services, transporting rail freight, commercial vehicles and passengers
Kaitaki	Ship leased by KiwiRail as part of the Interislander fleet
Kotahi	Freight management partnership that brings together New Zealand exporters and importers, seeking to match freight supply and demand to reach distant markets more efficiently
Linehaul	The transport task between terminals (distinguishing from the aggregation and distr bution of each end of the journey)
Log Wagon	Wagon fitted with log bolsters / cradles, used in the carriage of logs
MSC	Mediterranean Shipping Company Limited
Main Line	Principal artery of the rail network from which branch lines, yards and sidings are connected
Main North Line (MNL)	Railway line that runs from Christchurch along the East Coast of the South Island through Kaikoura and Blenheim to Picton
Main South Line (MSL)	Railway line that runs north and south from Lyttelton through Christchurch and along the East Coast of the South Island to Invercargill via Dunedin
Mean Distance Between Failures (MDBF)	A performance measure of the mechanical reliability of rolling stock
MetroPort	Port of Tauranga's Inland Freight Hub
Milk Route	Movement of bulk mi k from Longburn (Manawatu) and Oringi (southern Hawkes Bay) to Whareroa Dairy factory (Hawera)
Milk Wagon	Wagon permanently fitted with a 52,000 litre stainless steel tank, used for transporting bu k milk

Term	Definition
Mothballing	Closure of rail line with infrastructure left in place and minimal expenditure to meet any residual obligations. Note that this is an intermediate step relative to closure and does not assume the track is lifted and bridges, etc, are removed
National Freight Demand Study (NFDS)	A study commissioned by the Ministry of Transport to provide a snapshot of New Zealand's current freight task and a forecast over the next 30 years. The latest report was released in March 2014
Net Present Value (NPV)	The net present value of post tax cashflows using a real discount rate of [redacted] over the period FY16 to FY45
Net Tonne-Kilometres (NTKs)	The sum of the net tonnes of freight carried multiplied by the distance travelled
Net Weight Carried	Weight of product moved on behalf of the customer
North Island Main Trunk (NIMT)	The route of railway from Auckland to Wellington
New Zealand Railways Corporation (NZRC)	State owned enterprise that owns the land beneath the rail network on behalf of the Crown
Northern Explorer	Long distance passenger service between Auckland and Wellington
NorthPort	Deep water commercial port facility at Marsden Point, Northland
Office of Treaty Settlements (OTS)	Government department providing advice on policy and negotiations to the Minister for Treaty of Waitangi Negotiations
Operating Leverage	Extent to which a firm commits itself to high levels of fixed operating costs as compared with the levels of variable costs. Firms with high operating leverage have high breakeven points but they show a greater increase in operating income with every increase in sales revenue relative to firms with low operating leverage
ONTRACK	The former Government entity that controlled the operation of trains on the network, and was respons ble for maintaining and improving the rail network (pre-KiwiRail)
Project 2045	The 30 year commercial review undertaken by KiwiRail covering the period FY16 to FY45
Passenger	People who ride on either a train or a ferry (with or without a vehicle)
Productivity Commission	Independent Crown entity providing advice to the Government on improving productivity
Property	All land and buildings leased or owned by KiwiRail
Railhead	KiwiRail freight terminal where containers can be loaded onto a wagon
Renewal	The replacement of an asset on a like-for-l ke basis
Road Bridging	Loading / unloading process where freight containers are unloaded from rail wagons, placed onto trailers and boarded onto a ROPAX ship (with the reverse procedure taking place at the ship's destination)
Rolling Stock	All locomotives, railcars, wagons and carriages
ROPAX Capability	Roll-On-Roll-Off freight (wheeled cargo) and passenger ferry
Rotable overhaul	Replacement and overhaul of rotating parts in locomotives and wagons
SAP	KiwiRail's in-house financial reporting system
Scenic Passenger Services	KiwiRail business unit that operates the Tranz Alpine, Coastal Pacific, Overlander and Capital Connection long distance passenger rail services
Siding	Site (either privately or KiwiRail-owned) providing locations for wagons to be loaded, unloaded, maintained or stored
Single-Line-Automatic	Signalling system whereby a train crew generally has to stop their train and manually operate points in order to cross another train, but the signals automatically indicate stop or proceed (at low, medium or normal speed) based on the presence of other trains. Signals and points at some crossing locations may be operated remotely by Train Control

Term	Definition
Site Development Plans (SDP)	Tailored for a specific geographic location, a SDP identifies opportunities to improve site utilisation (via increasing revenue, realising efficiencies or divesting)
State Owned Enterprise (SOE)	Government owned entities with a mandate to operate as a business, as profitable as those not owned by the Crown
Stena Alegra	A leased vessel which was chartered to replace the Aratere while it underwent repairs
Sunk Capital	A capital cost that has already been incurred and thus cannot be recovered
Toll Rail	The subsidiary of Toll Holdings Limited which acquired and operated Tranz Rail between 2003 and 2008
Track Access Charge (TAC)	Fee charged to third parties to access the rail network
Track Capacity	Maximum number of trains that can be moved in each direction over a section of track in a day
Track Quality Index	A weighted sum of geometry exceedences. A lower level indicates a higher track quality
Track Warrant Control	Signalling system on single-track sections where occupation of the main line is controlled by a verbal instruction issued from Train Control, which is written down by the recipient. A Track Warrant is an authority issued by Train Control defining limits and other instructions for the occupation of the main line. Crossing locations may be equipped with basic signals, or simply warning boards. Train crews manually operate the points and crossings take longer compared with automated signalling systems
Tranz Metro Wellington	The KiwiRail brand for the provision of rail based public transport services in the Greater Wellington region
Tranz Rail	Former name of KiwiRail for the period from 1995 until it was acquired by Toll Holdings Limited in 2003
Twenty-foot Equivalent Units (TEU)	Twenty–foot equivalent unit freight container
Truck Trip Equivalents (TTE)	Equivalent trucks required to meet the rail freight task
Turnaround Plan (TAP)	A report produced in 2010 by the KiwiRail Board and Management with the express objective of bringing KiwiRail to a position of financial sustainability by 2020
UK Wagon	Type of CFT wagon, 50ft capable. Most widely used wagon type in the KiwiRail Container Flat Top fleet
US Wagon	Flat Deck wagon that is used for general purpose freight. This class is now considered obsolete
Wairarapa Line	Secondary line that runs between Wellington and Woodville
Wall of Wood	Large volume of radiata pine plantations expected to be harvested from around 2018
Winstone Pulp International	New Zealand subsidiary of Ernslaw One Limited, fourth largest forestry owner in New Zealand
Zero Harm	Initiative identifying and reducing critical risk, implementing compliant, robust management systems, building capabilities, maintaining environmental accountability and improving leader visibility across KiwiRail

KiwiRail Commercial Review

Appendices

COMMERCIAL IN CONFIDENCE

December 2014

KiwiRail

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Pages 4-31 (inclusive) have been withheld due to commercial sensitivity

Important Notice to the Reader

The following information has been prepared by the KiwiRail Board for the exclusive use of KiwiRail's Shareholding Ministers and their advisors. It has been compiled to assist Shareholding Ministers in making their own evaluation of the future KiwiRail strategy and the Board believes it contains the information that Shareholding Ministers require. The information is supplied on the basis that it is private and confidential.

Please note that

- KiwiRail has relied on information and data obtained from various third parties and has assumed the honesty and accuracy of this information
- Subsequent to the date of this report, such information and data may change and KiwiRail will not necessarily correct or update any data or matter referred to in this report
- All references to dollar amounts are in New Zealand Dollars (NZD) unless otherwise stated
- All figures are real as at December 2015 and do not include GST
- All FY15 figures are as per the FY15 budget submitted

1. Schematic of Rail Corridors