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FRANCHISING PASSENGER RAIL SERVICES IN NSW:

Options for Reform

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INTRODUCTION

About the authors

Infrastructure Partnerships Australia

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

Our membership comprises Australia's most senior business leaders and public sector executives from across the infrastructure sector. IPA is the only body that brings together the public and private sectors in a spirit of partnership, to build Australia together.

Infrastructure is the lifeblood of the national economy. It is the key to how Australia does business, how we compete in the global economy and how we sustain the quality of life of a growing population.

IPA's mission is to develop and articulate the best public policy solutions needed to deliver the assets and services that will secure Australia's productivity and prosperity. IPA is committed to ensure that governments retain all procurement options for the delivery of infrastructure. We believe that procurement models must be selected case by case, with a guiding principle of sustainably delivering better value, better quality infrastructure.

Aegis Consulting Australia

Aegis Consulting is an independent advisor to government, corporate and non-government organisations on:

- Public Policy Evaluation & Design
- Cost Benefit, Economic & Social Impact Assessments
- Strategy
- Government Relations
- Stakeholder & Indigenous Relations

Aegis specialises in preparing business cases and options to shape government policy, regulation and funding. Our consultants are subject matter experts on a range of policy areas including rail and road transport, ports and freight, network and social infrastructure, competition and regulation, energy and utilities, health, environment and conservation, sustainability, tourism, welfare management, community services and indigenous affairs.

Aegis was established in 2002 and has a team of consultants in Brisbane, Cairns, Canberra, London, Perth and Sydney.

Vishal Beri, Managing Director of Aegis Consulting Australia, who has authored this report with Infrastructure Partnerships Australia, has been involved in competition reforms since 1996 as an adviser within government and as a consultant.

EXECUTIVE SUMMARY

Passenger rail is the heavy lifter of the New South Wales transport network.

Under current arrangements, passenger rail services in New South Wales are delivered by RailCorp, a vertically integrated public sector monopoly provider of urban, interurban and regional passenger rail services. Every day, passenger rail in NSW carries over 830,000 passenger journeys across 2,110 kilometres of track; on 1,685 individual train carriages.

In the past several years, large taxpayer investments and good network management have seen substantial improvements in the operational performance of the passenger rail network. However, the quality of rail services – and the cost at which those services are delivered – continues to point to a significant case for reform.

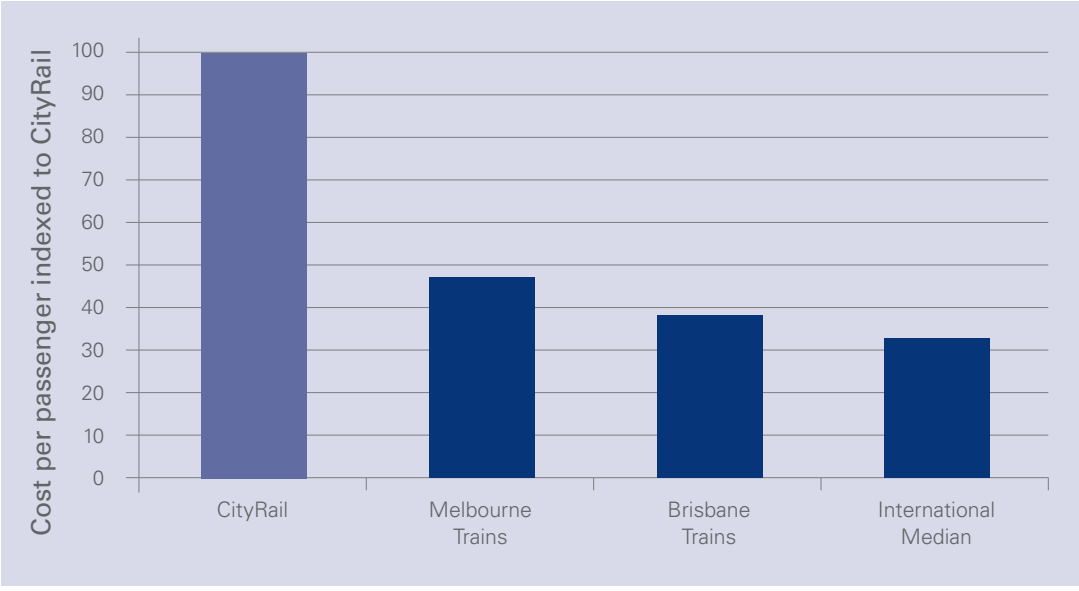
In 2005/06, RailCorp received a subsidy of $6.77 per passenger journey. By 2009/10, this subsidy had surged to $8.33 for every passenger journey on the network; requiring an annual taxpayer subsidy of more than $2.3 billion per annum.

The low (and declining) productivity of New South Wales railways mean that every man, woman and child in New South Wales contributed $345 in taxation to the operation of passenger rail services in 2009/10 and services are delivered at about twice the cost per passenger as in Victoria (see Figure 1).

The falling productivity of the New South Wales passenger rail system can be explained largely by low efficiency and changes in staffing levels and types. Between 2005/06 and 2009/10 overall headcount at RailCorp, including headquarters and 'corporate' staff, grew by over 47 per cent. Over the same period, patronage grew by just 11 per cent; and the number of front-line station staff actually declined by 22 per cent.

In the context of an increasingly challenging budget and the requirement to substantially increase capital investment in new transport infrastructure, this paper explores opportunities to deliver enhanced service levels, new innovations and greater cost efficiency through competition based reforms.

FIGURE 1 Comparison cost per passenger



Source: L.E.K Consulting, Cost Review of CityRail's Regular Passenger Services, 2008

Reform would provide for a significant increase in accountability for efficient, high quality mass transit. The use of franchise delivery models removes the current inconsistency where the public sector acts as both the regulator and sole service provider.

The current system means that when a train runs late or services fail, the best the public can expect is an apology.

Under a franchise, Government has an enforceable contract with clear expectations and outcomes, with financial sanctions for poor or part performance.

It is this introduction of accountability, incentives and sanctions that could lead to dramatic improvements in performance and efficiency in the State's rail network.

There is now a long track record of competition reforms in passenger transport, both in other Australian and global jurisdictions. New South Wales has the opportunity to learn from these jurisdictions, capturing best practice and avoiding pitfalls, to drive superior efficiency and quality on passenger rail services.

In making its recommendations, this paper explores three case studies of rail reform:

1. United Kingdom rail franchising;

2. Swedish rail reform; and

3. Victorian rail franchising.

These case studies have seen different approaches to the structure and design of the transport services in each jurisdiction. But these structures are united by their fundamental outcome of driving contestability, accountability and efficiency into the delivery of passenger rail services.

There are two core models for introducing contestability into passenger rail services:

1. On track competition

   This sees open access arrangements adopted, with different operators competing on the same network. On-market competition is used in Australia's freight rail network, with government regulating access and operating rail track through the Australia Rail Track Corporation.

   However, it is unlikely that open access arrangements would prove suitable in the context of New South Wales passenger rail services, due to the requirement for government to ensure regular services throughout the day, including many that are sub economic. Therefore this paper will not consider on-market competition models further.

2. Off track competition

   This model sees a private operator granted an exclusive franchise to operate all services on a network – or a section of a network - for a defined period of time on behalf of government. Bidders compete based on their ability to deliver the highest quality of public transport service, at the least cost to taxpayers.

Each of the models explored in this paper sees the public sector retain full ownership of the rail network, stations and rolling stock. Indeed, fare prices, safety, timetabling and scheduling, performance monitoring and other regulatory functions would continue to be controlled by the public sector. Rather, it is the operation and maintenance of the passenger rail network that would be the subject of a new, contestable and competitive model of service delivery, which would see the private sector compete down the cost and bid up the quality of service under the reform models explored in this paper. Those models can also bring a renewed customer services focus to the operation of the State's rail system.

In considering franchise models in Sydney, the metropolitan passenger rail network could be structured to support either a single whole of network operator franchise, or alternatively, the network could be separated into several different concessions, supporting several alternative operators.

This paper argues that the structure adopted in any reform of passenger rail services will be a key determinant of success.

Therefore this paper, argues that the New South Wales Government should form a *Special Commission of Inquiry*, to investigate the application and ideal structure for the reform of passenger rail services in New South Wales.

However, experience in New South Wales and elsewhere has shown that inquiries alone often do not create sufficient public awareness or momentum toward meaningful reform.

This paper therefore argues that 'Sector One' of the network, the Eastern Suburbs Railway and Illawarra lines, should be immediately put to market on a short term franchise agreement. Tendering Sector One services would provide a valuable 'demonstration' franchise of services in metropolitan Sydney, to inform the *Commission of Inquiry*.

The CountryLink network could also provide a discrete franchising opportunity. The network bears similarities to European, North American and Asian interurban networks that have benefited from franchising for many years. Again, experiences on the CountryLink network would inform the *Commission of Inquiry* and build knowledge should a wider franchising option be pursued.

The experience of reform on Sydney's ferry network has also shown a much higher degree of public support when there is an operating example of better, more cost efficient private services supporting the case for reform.

Decisions about the future shape and operational strategy on the New South Wales rail network should not be delayed. Major capital investments, such as the North West Rail Link, need to be considered within the context of a long term operational strategy. That is not to say, however, that these decisions should be rushed. Rather, a *Special Commission of Inquiry* and short term franchising of Sector One and the CountryLink network, should be pursued in the short term to inform long-run decisions about the future strategy to drive down costs and increase service quality.

The success of franchising in other jurisdictions is clear, though it is also evident that franchising has come with costs and hard lessons have been learned. The United Kingdom has experienced improvements in service quality, customer satisfaction, on time running and the volume of services offered. It has also seen considerable investment in new rolling stock and better infrastructure. Franchising in the United Kingdom has also driven innovation – customers can now routinely access enhanced services including WiFi, power points, priority and reserved seating, boosted mobile phone signals, quiet zones, e-ticketing and customer lounges.

The Victorian experience, too, should be widely viewed as a success. Broadly modelled on the United Kingdom franchising template, Victoria's reforms have delivered improvements in performance and significant investments in new and refurbished rolling stock. Like the United Kingdom, lessons have been learned through the three evolutions of franchising in Victoria, with each evolution providing improved links between infrastructure investment and demand.

Rail reform in Sweden differs in pace and style from the other case studies in this paper, but provides a strong example of how the introduction of competitive tension can drive improved service delivery. Placing the public monopoly on a commercial footing and franchising unprofitable lines has reduced operating costs on those routes by between 20 and 30 per cent. The broader network has benefitted from related innovations in rolling stock provision, management, services and ticketing.

The case studies in this paper point to both the successes and the lessons learned from franchising in Australia and Europe. New South Wales is therefore in a strong position to learn from these experiences and provide an improved reform process with appropriate risk sharing and enhanced accountability.

Competitive franchising of public transport is not a silver bullet. It still requires substantial taxpayer investment and many of the challenges that present under a traditional public monopoly model of delivery still remain. However, franchising has much to offer in terms of increased accountability, efficiency and quality.

In the context of increasing network costs, declining productivity and service quality shortfalls, franchising of passenger rail services in New South Wales has much to offer in taking that State's rail network into the 21st century.

RECOMMENDATIONS

It is recommended that the NSW Government:

1. **Undertake a *Special Commission of Inquiry* on improving quality and efficiency on the passenger rail network, including a detailed investigation of the potential to franchise part or all of the NSW passenger rail system to the private sector.**

   The guiding objective of the Inquiry should be to identify options to achieve increased rail customer satisfaction, at better value to government. The *Commission of Inquiry* should be led by a suitably qualified individual or team of experts, and be able to draw on sufficient resources to fully examine the necessary issues. The *Commission of Inquiry* should also investigate the governance and regulatory framework that would need to be applied to improve the quality and efficiency of the passenger rail network - including safety and contract management. Consultation with, and submissions from, government agencies, industry, business, unions, the community and regulators should be sought to ensure consideration of the full spectrum of issues and opportunities.

2. **Commence steps toward an immediate demonstration project for rail franchising on Sydney's Sector One.**

   The Government should immediately commence preparation and market soundings for a limited demonstration franchise of services on Sector One (the Eastern Suburbs Illawarra line) timed to coincide with the *Special Commission of Inquiry* findings, (see Figure 2). A short-term demonstration will leave options open for either a whole of network franchise or sector franchise in the future.

   In our analysis, we have identified Sector One as the most suitable for a demonstration project, because this sector is already operationally separate from the wider CityRail network. The performance of the metropolitan demonstration project would inform the findings of the Inquiry and allow the public to consider the benefits of wider reform.

3. **Commence steps toward an immediate franchising project for operation and maintenance of the CountryLink network.**

   The CountryLink network also provides a discrete system that is an early candidate for franchising. It bears a range of similarities to interurban networks in Europe, North America and Asia which have been subject to successful franchising for many years. The performance of the CountryLink demonstration project would inform the findings of the Inquiry and allow the public to consider the benefits of wider reform.

   The Government should immediately commence preparation and market soundings for the operation and maintenance of the CountryLink network, in advance of any wider application that might be recommended by the *Special Commission of Inquiry*.

4. **Articulate the principles that will underpin effective franchising and better quality and value rail services. These principles should form the basis of the terms of reference of the *Commission of Inquiry*. Based on this report's examination of other franchising models, these principles should include:**

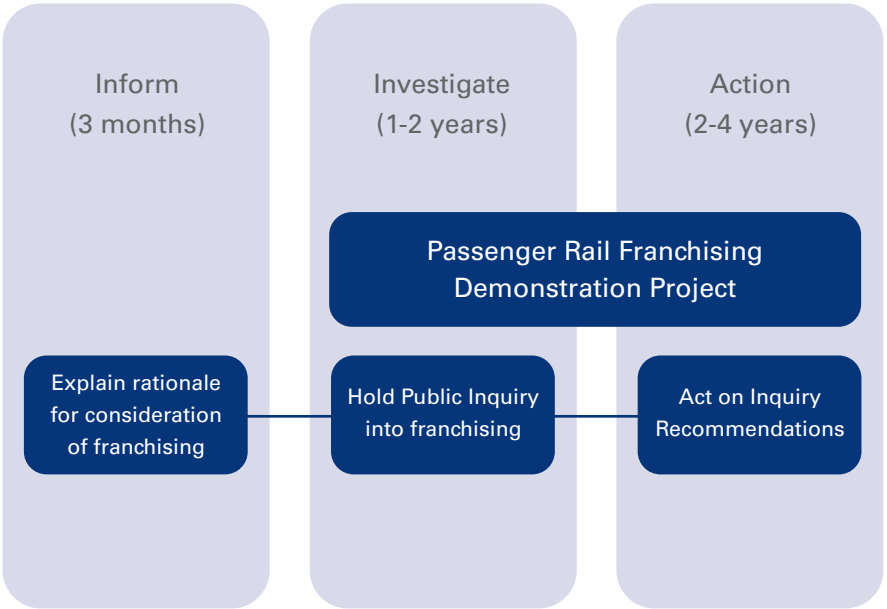
- All existing rail assets, including below rail and above rail infrastructure and rolling stock should remain in full public ownership and be provided to and managed by the franchisee;
- Passenger fares should continue to be regulated by Government on a whole of network basis;
- Government should specify the standard operating timetable, clearly specifying the minimum services that are to be provided;
- Government should retain responsibility for network planning. Network planning should be informed by an operating plan, demand analysis, customer requirements, economic analysis, engineering analysis and risk assessment;
- Rail maintenance should be bundled with passenger service contracts, with franchisees to bid for public funding for these projects. This would create incentives for the operator to plan for and undertake maintenance across the network;
- The franchise contract should run for a period of between eight and ten years, with an option for a further term at the end of the initial term; and

- Franchise contracts should be clear and simple, with measurable objectives that provide for continuous improvement in the delivery of services. To ensure this, contracts should:
  - Explicitly identify any government funded Community Service Obligations that the franchisee is expected to deliver.
  - Include relevant, measurable and achievable performance indicators that:
    - are linked to customer requirements;
    - can be benchmarked;
    - can be independently verified;
    - support trend analysis; and
    - form the basis of payments or penalties to the franchisee.

5. **Consider whether the NSW Government, as the infrastructure owner, should assume risk in the rail network and simplify the network to improve operating efficiency.**

   While franchising offers opportunities to attract private sector innovation, investment and efficiency into the rail network, government should at an early stage determine its own investment levels. Government or private investment would need to be linked to network planning to have the optimal impact on operating efficiency.

FIGURE 2 Recommended pathway to franchising NSW passenger rail



Source: AEGIS Consulting and IPA

PREVIOUS NSW RAIL REFORM

1 PREVIOUS NSW RAIL REFORM

Before 1996, the New South Wales rail system was operated by a single, vertically integrated government monopoly, the State Rail Authority (SRA). The SRA owned all above and below rail infrastructure and was the monopoly provider of freight and passenger services, all maintenance and all infrastructure functions.

During the late 1990s, the State Rail Authority was disaggregated, in line with the National Competition Policy, but has since come full circle.

In 2004, RailCorp was re-aggregated as the monopoly public sector rail corporation; and in 2009 it was reconstituted as a statutory authority, mirroring its predecessor, the SRA.

1.1 1995 National Competition Policy Reform

1.1.1 Background

In the early 1990s, Australia's governments embarked on an exciting period of competition policy reform. These reforms were spurred by the increasing exposure of Australia's economy to global competition, with a resulting need to increase the efficiency of infrastructure services.

Following a series of Special Premiers' Conferences, a committee led by academic and businessman Fred Hilmer was commissioned to undertake a major report to the Council of Australian Governments (COAG) on a reform pathway for public monopolies. In 1993, Hilmer's committee produced its report, the National Competition Policy. It recommended a raft of reforms to public monopolies, including rail.

The underpinning principal of the National Competition Policy was the need to reform the structure and function of public monopolies to promote competitive markets for infrastructure services. A key principal was the separation of natural monopoly infrastructure from contestable service delivery and maintenance functions.

1.1.2 Application of NCP to NSW Rail Sector

The New South Wales Government moved in 1996 to reform the structure of the New South Wales rail system, in response to the National Competition Policy. This saw the vertically integrated State Rail Authority structurally separated into four primary functions:

- State Rail Authority (SRA) to provide passenger rail services and procure and operate rolling stock. The SRA reported to the Minister for Transport, but uniquely for a state authority, the Authority's Board could review Ministerial directions that were not in its commercial interests. This review capacity was a type of 'shadow corporatisation' and was intended to enable the SRA to operate as commercially as possible, within the constraints of public ownership. The SRA also had responsibility for procuring and operating rolling stock.

- Rail Access Corporation (RAC) to own and manage rail infrastructure, such as rail track, stations, signals, communications and related network functions. The RAC was created as a corporation under the State Owned Corporations (SOC) Act 1989 (NSW) meaning the RAC was not directly responsible to the Minister for Transport. The Minister could direct RAC, but only with the consent of the Shareholder Ministers. As a result the RAC was guided first and foremost by the priorities of NSW Treasury to extract reliable dividends from government corporations.

- Rail Services Australia (RSA) to provide maintenance and related goods and services to the rail industry, including SRA and RAC. RSA was created as a State Owned Corporation similar to RAC. Although RSA was created with the responsibility of maintaining the NSW rail system to safe and reliable standards, it was intended that over time, bundles of maintenance work would be contestable to encourage competitive tendering by both the RSA and the private sector. The RSA was also able to compete for maintenance contracts in other Australian and international jurisdictions. The RSA's participation in other markets was encouraged by the need for it to deliver dividends to the NSW Treasury.

- FreightCorp to provide safe, reliable and efficient rail freight services. FreightCorp was created as a State Owned Corporation. In 2002, the NSW Government privatised FreightCorp in concert with the Federal Government's privatisation of the National Rail Corporation, which formed the private freight operator, Pacific National.

In conjunction with these structural changes, the NSW Government developed an access regime to govern third party passenger and freight rail providers access to the State's rail network. The NSW Rail Access Regime covered above and below rail activities and set benchmarks for access pricing. Third party access arrangements were negotiated and managed by RAC and overseen by the NSW Independent Pricing and Regulatory Tribunal (IPART).

1.2 2000-2001 Response to Glenbrook Rail Accident and the 2003 Waterfall Rail Accident

The December 1999 Glenbrook rail accident saw a fatal collision between an interurban and an interstate passenger train. The accident resulted in the appointment of a *Special Commission of Inquiry* to investigate the causes of the accident and six other incidents on the rail system. The *Commission of Inquiry* released a series of interim reports, with the final report released in April 2001.

The report found that the rail accident was caused by failures in a number of areas including training, operational procedures, infrastructure management and maintenance. The Commission made recommendations about the restructuring of the rail system and new regulations to improve safety, reliability and performance. Key recommendations of the Inquiry included:

- The RAC and RSA should be merged into a single organisation that owns and controls infrastructure access and maintenance;
- An Office of Co-ordinator General of Rail should be formally established to oversee the merger of RAC and RSA and related issues;
- An Office of Rail Regulator should be established to manage and enforce rail safety and related legislation; and
- The control and management of timetabling, train movements and network control should be transferred from RAC to the CityRail network area within the SRA.

1.2.1 Appointment of Coordinator General of Rail

In addition to the *Special Commission of Inquiry*, the NSW Government moved to immediately address structural and management problems that contributed to poor rail safety and service reliability. Accordingly, whilst the *Commission of Inquiry* was carrying out its investigation, in June 2000 the NSW Minister for Transport appointed a Co-ordinator General of Rail to:

- Manage and co-ordinate the functions of the RAC, RSA and SRA; and
- Review the effectiveness of the existing arrangements within the RAC, SRA and RSA.

In September 2000 the Coordinator General of Rail reported a range of findings that were echoed in subsequent reports by the *Commission of Inquiry*. The Coordinator General's report found overall rail system performance was poor because:

- Significant growth in passenger demand had placed the rail system under increased pressure;
- Ongoing rail infrastructure maintenance spending and management by RAC and RSA had not been adequate;
- There were inferior performance standards for the rail industry in relation to safety and reliability and performance management systems within and between RAC, RSA and SRA;
- The contractual arrangements between RAC, RSA and SRA did not adequately identify and create proper obligations and accountabilities;
- There was poor co-ordination between RAC, RSA and SRA in relation to asset management, network control and service delivery;
- Regulatory arrangements did not impose enough discipline on RAC, RSA and SRA, particularly because RAC and RSA were not subject to the control of the Minister for Transport; and
- There was an absence of long term strategic planning by RAC, RSA and SRA in relation to capital and maintenance projects required to enhance rail network performance to meet passenger growth.

In addition to maintenance and capital projects, the Coordinator General of Rail recommended a range of short, medium and long term structural and regulatory changes to address these problems.

In late January 2003 a train travelling from Sydney to Port Kembla derailed at high speed on a curved section of track shortly after leaving the Waterfall Station with the loss of seven lives and injuries to over 40 passengers[1]. The *'Special Commission of Inquiry into the Waterfall Rail Accident'* found the driver, while incapacitated following a heart attack, engaged a 'deadman' emergency brake foot pedal, allowing the four car Tangara train to accelerate to approximately 117 kilometres per hour on a curved section of track limited to 60 kilometres per hour.

The *'Special Commission of Inquiry into the Waterfall Rail Accident'* identified a series of failings in the SRA safety management systems and rolling stock design and procurement. The report also identified a number of cultural impediments to safe operation of the rail network.

After the release of the *'Special Commission of Inquiry into the Waterfall Rail Accident'* report two senior staff from the SRA (which had subsequently become RailCorp – see Section 1.3) had their employment terminated without benefits[2]. The subsequent absolute risk aversion and highly prescriptive approach to procurement within RailCorp has been attributed to the reaction to the Waterfall rail accident.

1.2.2 Policy Responses by Government

The NSW Government responded to the recommendations of the Commission and the Co-ordinator General of Rail by introducing a range of structural and regulatory changes including:

- Merging RAC and RSA into the Rail Infrastructure Corporation (RIC). The RIC was created as a State Owned Corporation with primary responsibility to the Shareholder Ministers. However, the Minister of Transport had new powers to direct RIC.
- Formally creating the Office of Co-ordinator General of Rail and Office of Rail Regulator to oversee the creation of RIC and manage structural and regulatory changes for a transitional period after which its powers would be transferred to the Rail Regulator.
- Introducing new rail safety legislation and creating a Rail Safety Inspectorate.
- Committing $1.2 billion over 4 years to above and below rail capital and maintenance projects that were essential to improve the safety and reliability of the rail system.
- Vesting control and management of timetabling, train movements and network control in the SRA.

1.2.3 Strategic Plan for Rail

In June 2001 the Co-ordinator General of Rail, Ron Christie, delivered the *Long-term Strategic Plan for Rail: Greater Sydney Metropolitan Region*[3]. The plan, known as the Christie Report, considered the SRA to be sole operator of suburban and intercity passenger services in the metropolitan region; and recognised that the SRA now had legal responsibility for timetabling and control of passenger and freight movements in the greater Sydney metropolitan area.

Accordingly, the plan recommended that the SRA take a proactive role in rail planning to ensure that RIC's capital and maintenance project activities were based on SRA's service needs. The plan also recommended that the Government share long term planning objectives with the private sector, so that the private sector could dedicate resources to developing proposals and ideas that were best suited to deliver those objectives.

Key infrastructure concepts in the plan included the need to:

- Consider metro style and other non-traditional approaches to rail service delivery;
- Identify and secure transport corridors for future transport network augmentation, whether for suburban rail or for other modes including roads, buses and light rail – with ease of intermodal and inter-rail interchange a key consideration; and
- Separate the rail system into sectors that could operate individually from each other. This was seen as necessary to reduce the system wide impacts of service interruptions. In conjunction with sectorisation, the plan recommended a range of infrastructure enhancements to improve reliability and safety within sectors, including line duplications, passing loops, turn-backs and improved signalling and communications.

Some of these concepts, and projects to achieve them, were included in the NSW Government's *2003 Long Term Strategic Plan for Rail*.

1 *Special Commission of Inquiry* into the Waterfall Rail Accident,Final Report, Volume 1, January 2005.
2 "Sacked Waterfall disaster boss Arthur Smith rehired" Joe Hildebrand, The Daily Telegraph May 20, 2008.
3 Office of the Co-ordinator General for Rail, Long-term Strategic Plan for Rail: Greater Sydney Metropolitan Region, June 2001.

1.3 2004 Creation of RailCorp and Clearways Programme

The NSW Government regarded the separation of RIC from the SRA as a continuing risk to the provision of reliable, safe services and infrastructure management. In response the Government merged RIC and the SRA to create RailCorp in January 2004. This structure has been maintained since then.

The Government also developed the Clearways programme. Clearways involves separating the rail system into distinct, standalone sectors that could operate independently, reducing the network wide impacts of failures within individual sectors.

The Clearways programme involved 15 projects which were designed to achieve three separate sectors on the rail network.

The Independent Transport Safety Regulator (ITSR) was established in July 2004 as safety regulator for the State's rail industry reporting directly to the Minister for Transport[4]. The ITSR was established in response to findings from both the Glenbrook and Waterfall *Special Commission of Inquiry* that there were insufficient regulatory resources in NSW to properly regulate rail safety[5].

1.4 2008 Review of Capital and Clearways Programmes

In 2008, the now defunct Office of the Co-ordinator General in the NSW Department of Premier and Cabinet was asked to lead a whole of government review of the causes and impacts of delays in the delivery of rail capital programmes, including *Clearways*.

The review found that delays were caused by a range of factors including:

- Skill shortages in critical resource areas in RailCorp;
- Changes and increases to the scope of *Clearways* projects;
- Management and collaboration issues between rail agencies;
- Competition for scarce resources with external programs (such as Automatic Train Protection and RTA level crossings);
- The unprecedented levels of capital works demand on the system and workforce; and
- Limited track possession time within an existing live rail operating environment.

The review recommended a series of solutions to address these issues; these solutions have since been implemented.

4 ITSR was renamed from the Independent Transport Safety and Reliability Regulator (ITSRR) under the Transport Administration Amendment Bill 2010.
5 Transport for NSW: National Transport Reforms(http://www.transport.nsw.gov.au/national-transport-reforms - accessed 7/10/2011).

1.5 2009 Re-Constitution of RailCorp

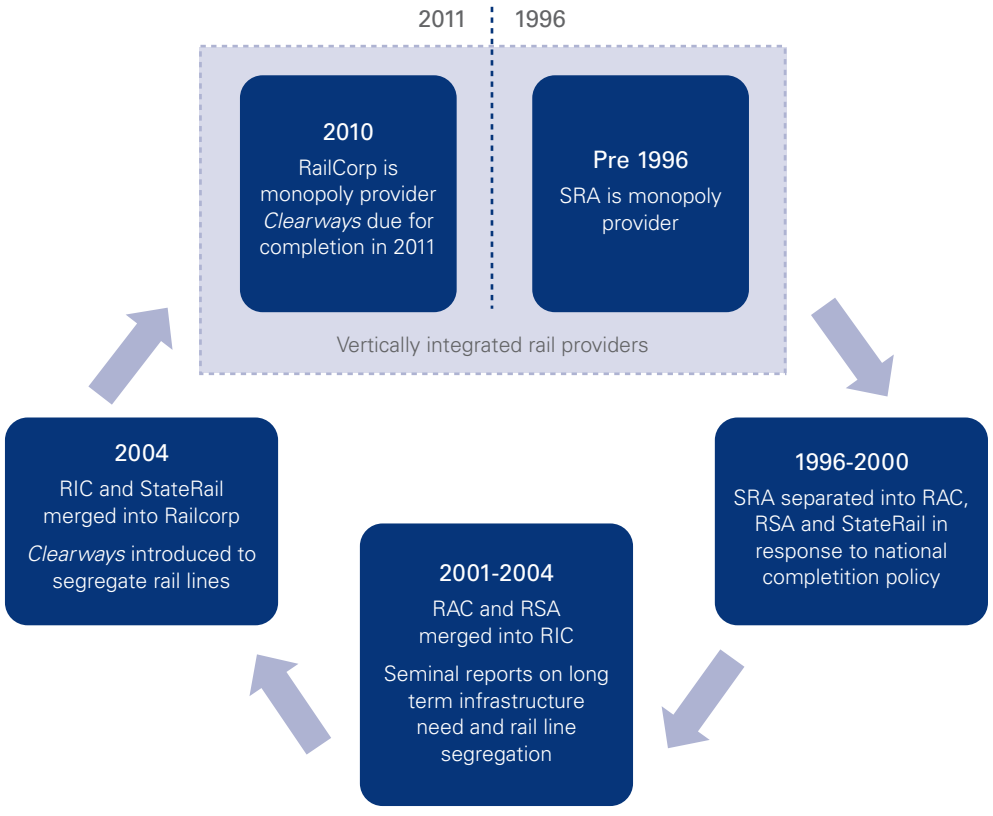
In 2009 RailCorp was changed from a state owned corporation to a statutory authority, similar to the status of the State Rail Authority prior to 1996. As a result RailCorp now reports directly to the Minister for Transport and Government, rather than to shareholding Ministers.

In 2010, this structure was changed in line with a whole of government reform, which saw RailCorp relocated to report through Transport NSW – one of several NSW Government 'super agencies'. On 1 July 2010 the Country Rail Infrastructure Authority (CRIA) was constituted as a statutory corporation and as a NSW Government agency under the *Transport Administration Act 1988*.

CRIA was established to assume the role and functions previously undertaken by the RIC – with a regional network covering 2,391 route kilometres of operational passenger and freight rail lines and 3,134 route kilometres of non-operational lines[6].

Following the March 2011 State Election, the structure was altered as the new NSW Government sought to fully integrate transport planning. Individual transport agencies, including RailCorp, transferred planning and strategic functions to the integrated transport agency, *Transport for NSW*. Transport line agencies, such as RailCorp, were freed up to focus purely on service provision under the new structure. Under the changes the Transport Construction Authority (TCA) – which has responsibility for the Clearways programme and other major rail projects – was integrated into *Transport for NSW* under the Transport Projects Division.

FIGURE 3 Rail in NSW has been disaggregated and re-aggregated over the last 15 years



Source: AEGIS/IPA

6 CRIA is the NSW Government agency which owns the non-metropolitan rail networks in New South Wales, comprising: the Country Regional Network (CRN), owned by CRIA and managed by the Australian Rail Track Corporation (ARTC); and the Leased Network (NSW Interstate and Hunter Valley Networks), owned by CRIA and leased to and managed by ARTC. At the time of writing CRIA maintenance was being taken over from ARTC by a private sector provider under a 10 year deal.

OPERATION OF PASSENGER RAIL IN NSW

2 OPERATION OF PASSENGER RAIL IN NSW

Under current arrangements, RailCorp is the monopoly passenger rail provider in New South Wales. It operates 2,110 kilometres of track, with 830 kilometres in metropolitan areas and 1280 kilometres in non-metropolitan areas, serving over 300 stations with 1,685 rail cars and nearly 15,000 staff, carrying in excess of 300 million passengers a year[7]. Metropolitan and interurban services are provided by CityRail, with non-metropolitan services provided by CountryLink.

2.1 Sydney's Suburban Rail System

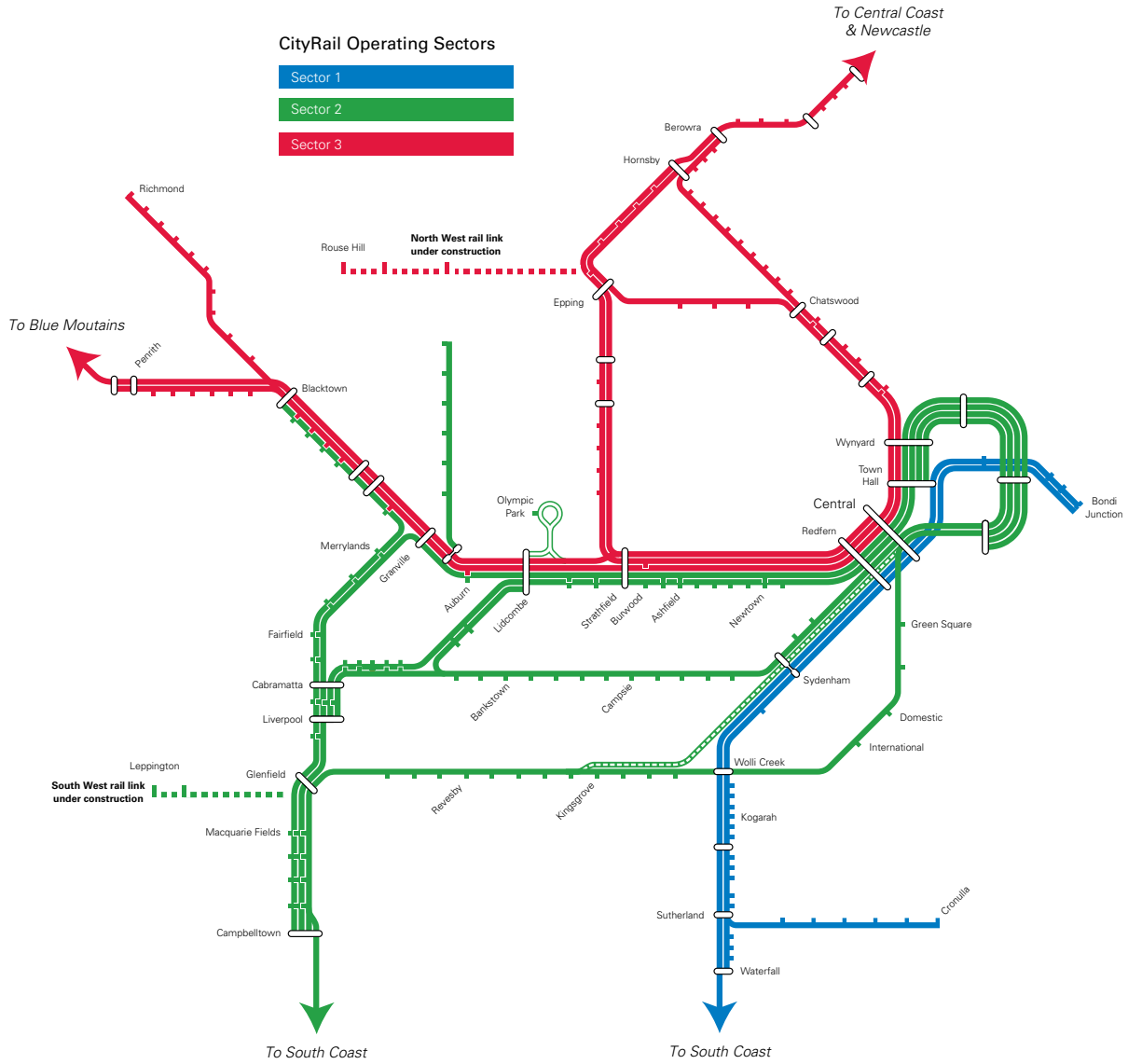
The suburban rail system is divided and operated in three sectors. In spite of the *Clearways* programme, there remains significant overlap between these sectors at key system intersections where trains approach the central business district and city circle. These key junctions include Sydenham, Redfern, North Sydney and Strathfield. There is also overlap in the use of train sets, which may travel between sectors. The majority of system intersections exist between Sectors Two and Three which have significant overlaps at key junction points and overlapping operations.

Only Sector One, comprising of the Eastern Suburbs and Illawarra line, could be regarded as operating separately from the rest of the network. Sector One enjoys minimal intersection, separate infrastructure in terms of signalling, rolling stock and other requirements – and a dedicated path through the CBD, with dedicated platforms.

The three rail service sectors are illustrated in Figure 4, together with planned and proposed short and medium term expansions in the North West, South West and the Western Express/City Relief Line. Figure 5 shows the broader Sydney region rail and tram network including the South West Rail Link (under construction), North West Rail Link (planned) and CDB Relief Line (proposed).

7 RailCorp Annual Report 2009-10 and CityRail – A Compendium of CityRail Travel Statistics, Seventh Edition, June 2010.

FIGURE 4 Sydney Rail System Showing Operating Sectors



Source: AEGIS

TABLE 1 Suburban Rail System

Sector	Rail Lines/Services	Key Intersection Points with Other Sectors and Lines
1	• Illawarra suburban • Eastern suburbs railway (Bondi Junction – Waterfall/Cronulla)	• Redfern
2	• South line (Circular Quay – Macarthur/Bankstown/Liverpool including Cumberland, Carlingford and Olympic Park)	• Strathfield and Sydenham
3	• West/North and North Shore lines (Central – Emu Plains/ Richmond/Berowra)	• Strathfield and North Sydney

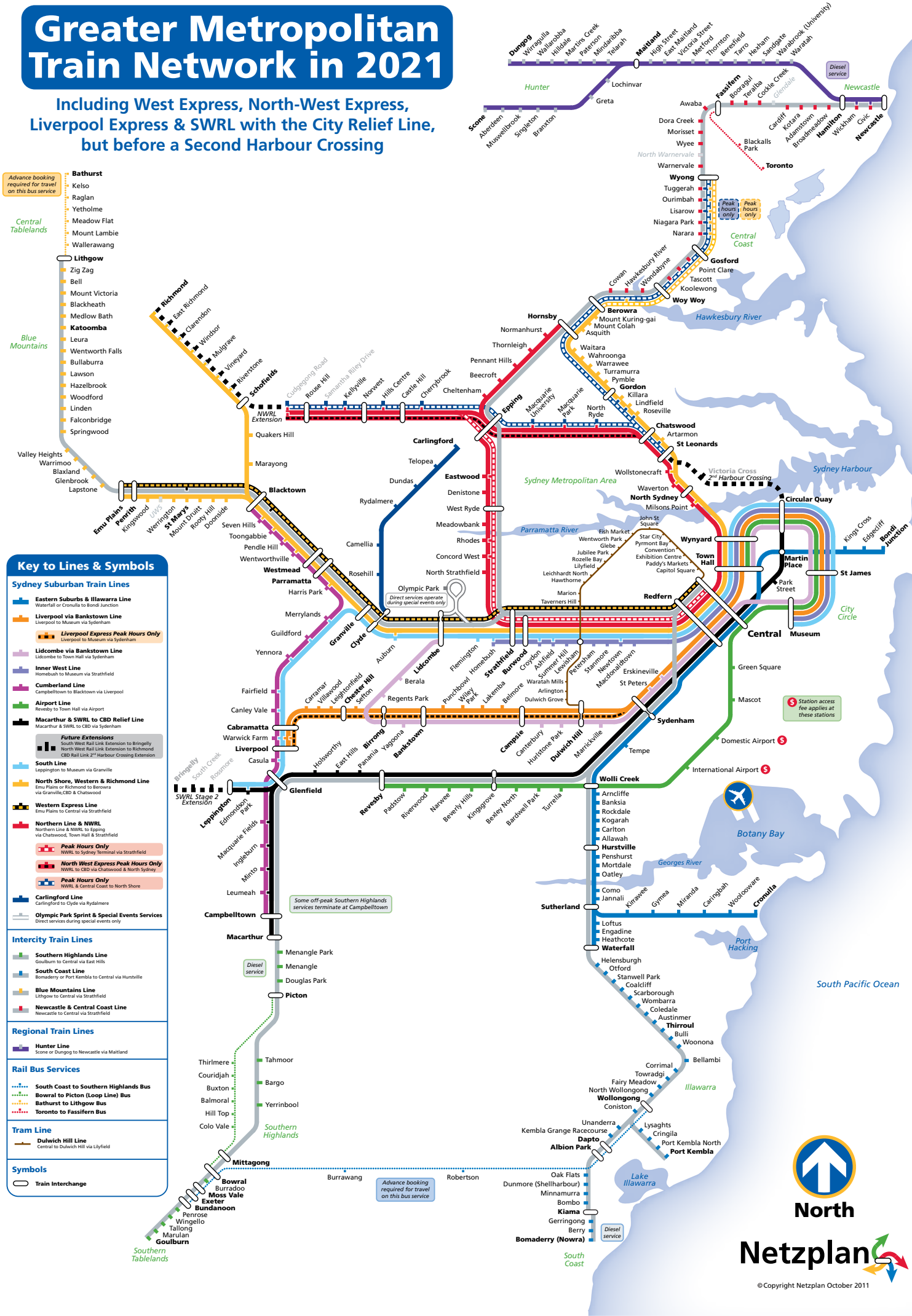
Source: AEGIS

FIGURE 5 Standardised 2011 Map

Source: Prepared for Infrastructure Partnerships Australia by The Tipping Point Institute, 2011

Greater Metropolitan Train Network in 2021

Including West Express, North-West Express, Liverpool Express & SWRL with the City Relief Line, but before a Second Harbour Crossing



2.1.1 CityRail Services by Sector and Line

Table 2 shows a breakdown of CityRail services by sector on a standard weekday. Designated sectors are those displayed in Figure 4 and Table 1. A total of 2124 services (trips) operate across the three suburban sectors each weekday. Sector 2 – which includes the City Circle, through Circular Quay, the CBD and the Airport – accommodates the highest number of trips with 1050 daily and 29,927km travelled.

2.1.2 CityRail Rolling Stock[8]

The CityRail fleet consists of 1,685 train cars – 1,643 double-deck Electrified Multiple Unit's (EMU) and 42 diesel carriages. Diesel trains service non-electrified sections of the network in the Hunter Valley, South Coast and Southern Highlands. Of the 1,685 carriages in service 1,187 are air-conditioned. A full breakdown of the fleet is shown in Figure 6.

The oldest carriages in the CityRail fleet entered service in 1972-73 – the 50 Series 1 R&S train sets reached the end of their theoretical design life in the early 2000's. The first eight-car Waratah Train (not shown) entered service with CityRail on 1 July 2011. The full Waratah fleet will include 626 carriages, enough for 72 eight-car trains. CityRail's EMU fleet age profile at June 2010 – excluding Waratah Trains which had not entered service – is shown in Figure 7.

The 626 Waratah carriages (A-set) PPP project will replace all 498 non-airconditioned L, R & S set carriages and provide additional capacity for passenger and network growth. Delivery of the Waratah fleet is expected to be complete in 2014.

Despite the introduction of Waratah trains onto the network CityRail continues to operate a significant number of older units – growing demand and additional services are likely to exacerbate this issue with older carriages having to remain in service beyond their intended design life.

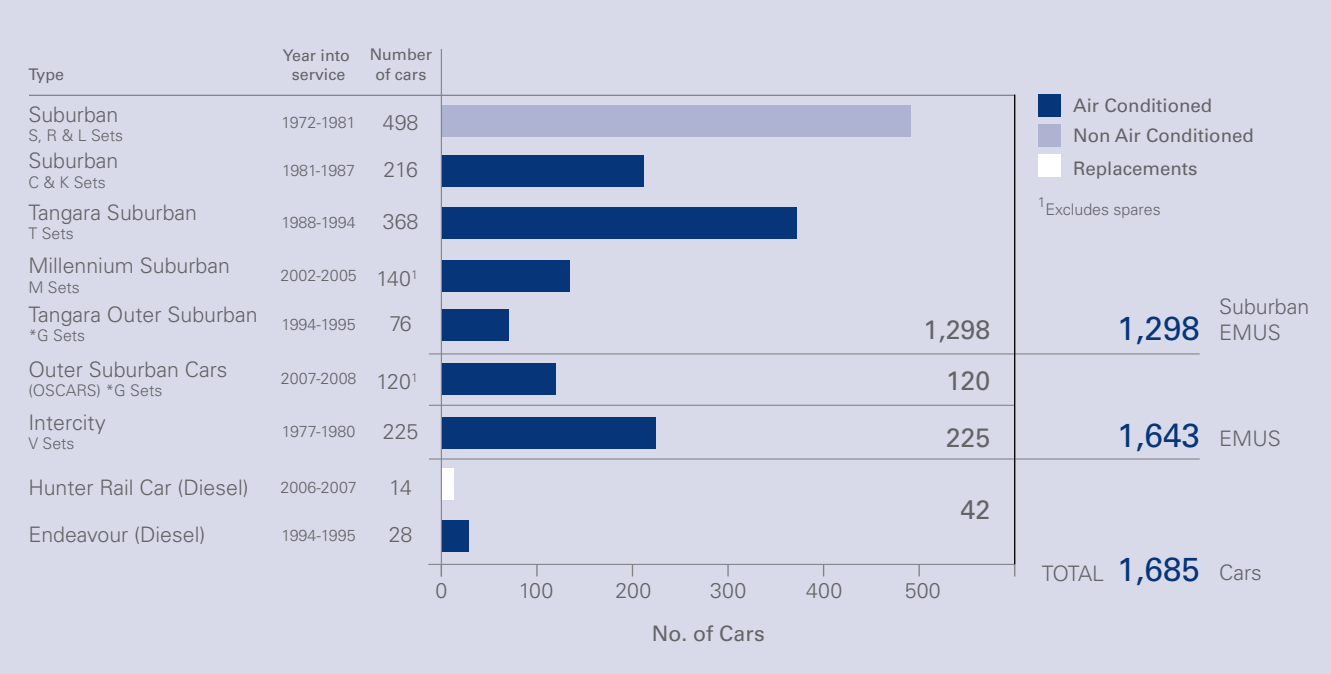
TABLE 2 CityRail Weekday Services[9]

Overall CityRail Services by Suburban Sector and Intercity Region				
	No of trips	**Travel dist (km)**	**Travel time (hour)**	**Ave Speed (Travel km per hour)**
Suburban				
Sector 1	290	10804	300	36
Sector 2	1050	29927	846	35.4
Sector 3	784	28509	759	37.6
Sub Total	2124	70147	1928	36.4
Intercity/Regional				
South Coast – CBD	69	6850	144	47.6
South Coast – Diesel	36	1623	29	56.9
South Coast – Local Electric	74	1564	39	39.7
Southern Highlands	38	3805	59	64.7
Blue Mountains	66	8572	163	52.5
North Intercity	109	13468	236	57.2
Newcastle – Electric	28	1845	34	53.7
Hunter – Diesel	96	4730	83	56.7
Sub Total	516	42456	787	53.9
Total	2640	112604	2715	41.5

Source: A Compendium of CityRail Travel Statistics, Seventh Addition, June 2010

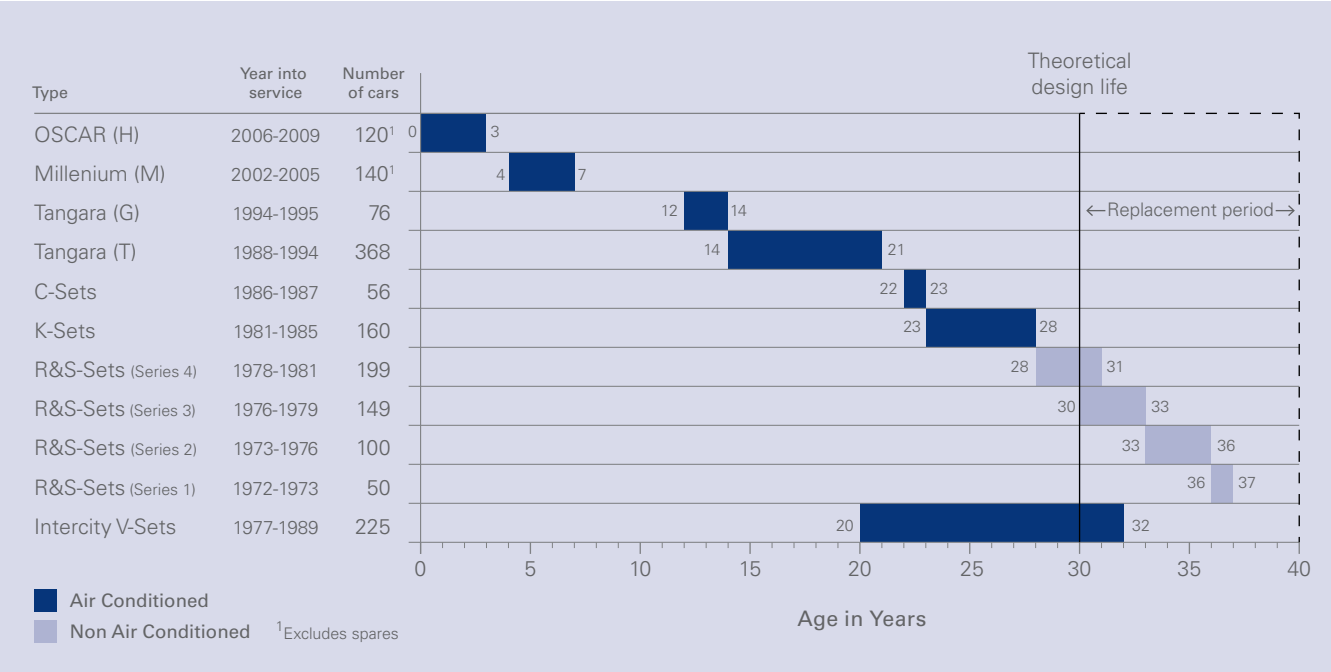
8 CityRail – A Compendium of CityRail Travel Statistics, Seventh Edition, June 2010.
9 Ibid.

FIGURE 6 CityRail Fleet at June 2010



Source: A Compendium of CityRail Travel Statistics, Seventh Addition, June 2010

FIGURE 7 CityRail EMU Fleet Age Profile – June 2010



Source: A Compendium of CityRail Travel Statistics, Seventh Edition, June 2010

Over the coming decade further investment in rolling-stock will be required with the K and C sets (216 cars) reaching the end of their theoretical design life. Additionally, the entire InterCity V-Sets (225 cars) and the older Tangara (T) units will pass the design life threshold and will need staged replacement or refurbishment.

By any measure NSW has had a difficult history in rolling stock procurement. One of the opportunities available through franchising is to bundle rolling stock procurement – or refurbishment – contracts with the franchise. This mechanism transfers a portion of or all the procurement risk to the private sector operator. However, potential contractual mismatches exist with new rolling stock being a 30 year plus investment and passenger rail franchises typically being for shorter periods.

Franchised rail operators in both the United Kingdom and Victoria have been contractually required to invest in new and refurbished rolling stock. In the United Kingdom legacy rolling stock replaced by Train Operating Companies between 2001 and 2006 reduced the average age of a carriage running on the network by 35 per cent[10]. Rolling stock investment flowing from franchising is highlighted further in the United Kingdom and Victorian case studies in Section 4.

2.2 Patronage Demand for CityRail and CountryLink Services[11]

Over the past 15 years, patronage has grown by an average of 1.9 per cent per year on the CityRail network. This has seen patronage of 235 million journeys in 1995 grow to more than 302 million trips in 2010. A typical weekday in 2010 saw 999,000 journeys completed on the CityRail network.

Rail patronage growth trajectories for CityRail and CountryLink between 1994-95 and 2009-10 are shown in Figures 8 and 9. CityRail saw a significant patronage spike in 2000-01 due to the Sydney's hosting of the Olympic Games. Even with this spike taken into account, there is a clear upward movement and strong growth trend in CityRail patronage over the 15 year data sample. Conversely, CountryLink saw declining patronage for a decade from 1996-97, before a recent upward movement beginning in 2007-08.

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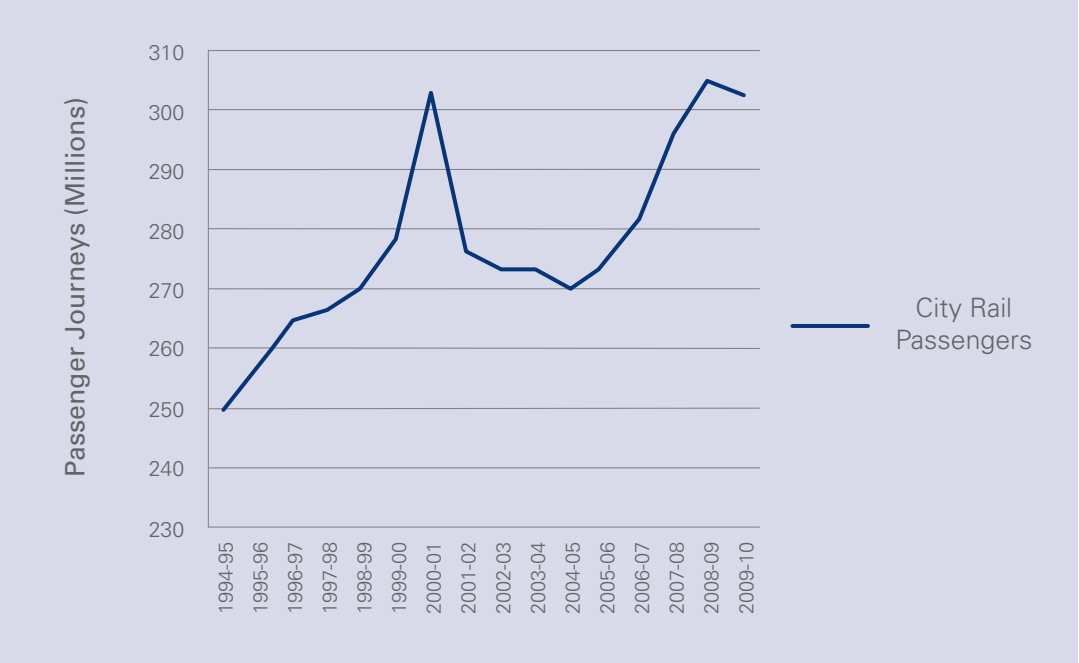
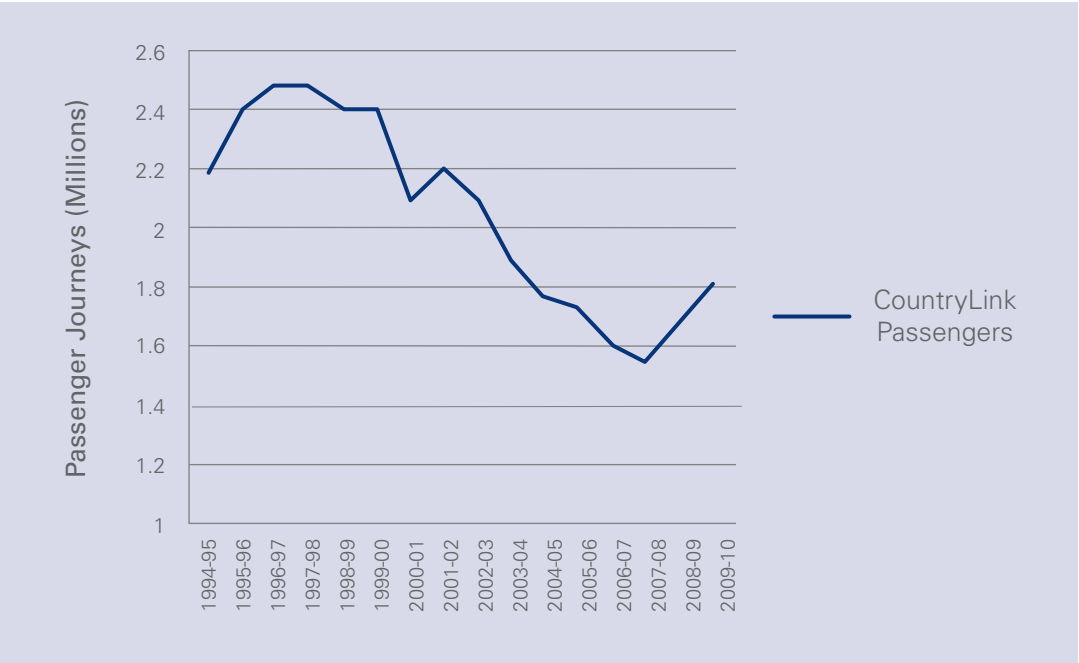
10 Table 6.1, Page 58, Office Rail Regulation National Rail Trends Yearbook 2009-2010.
11 Information in this section has been drawn from RailCorp's Compendium of CityRail Statistics 2010 and other RailCorp material.

FIGURE 8 CityRail Annual Passengers – 1994 to 2010[12]



Source: IPA analysis of a Compendium of CityRail Travel Statistics, Seventh Edition, June 2010

FIGURE 9 CountryLink Annual Passengers – 1994 to 2010[13]



Source: RailCorp Annual Reports

12 Infrastructure Partnerships Australia analysis of RailCorp data.
13 Ibid.

2.2.1 Current Operating Capacity on CityRail Network[14]

CityRail conducts periodic service capacity surveys and makes that information available on its website.

Information in this section analyses the March 2011 survey, focussing on patronage during the peak hour on services to and from the CBD. The peak hour varies between lines, so each line is accompanied by the statistics relating to the busiest hour on that sector.

CityRail measures service capacity as a percentage of train loading:

- 100% Capacity – Every seat taken
- 110% Capacity – Every seat taken, 6-7 people standing in each vestibule
- 120% Capacity – Every seat taken, 11-12 people standing in each vestibule
- 135% Capacity – Every seat taken, 15-16 people standing in each vestibule, 5-6 people standing on each level
- 160% Capacity – Every seat taken, 74 people standing throughout all levels and vestibules.

TABLE 3 CityRail Morning Peak Hour

Morning Peak Hour – to the City (CBD Cordon)				
Line	**Location Measured**	**Passengers**	**Average load**	**Max load**
Illawarra	Sydenham/ Hurstville	16,905	130%	170%
Airport & East Hills	Redfern/Wolli Creek	11,735	110%	120%
Bankstown	Redfern	6,040	110%	120%
North Shore	St Leonards	16,680	110%	150%
Eastern Suburbs	Kings Cross	8,515	70%	130%
Northern	Redfern	4,985	140%	140%
Western	Redfern	17,280	130%	160%
South	Redfern	9,615	120%	150%
Inner West	Redfern	3,810	110%	120%
Newcastle & Central Coast	Strathfield	3,730	110%	130%
Blue Mountains	Parramatta	3,020	100%	100%
South Coast	Hurstville	2,140	90%	120%
Total		**104,455**	**119%**	**134%**

Morning peak – to the City (Intercity Outer Cordon)				
Newcastle & Central Coast	Woy Woy	4,350	70%	90%
Blue Mountains	Glenbrook	1,710	50%	70%
South Coast	Helensburgh	1,430	60%	70%
Total		7,490	60%	77%

Source: IPA analysis of CityRail published performance statistics from March 2011 observations

14 CityRail published performance statistics from March 2011 observations.

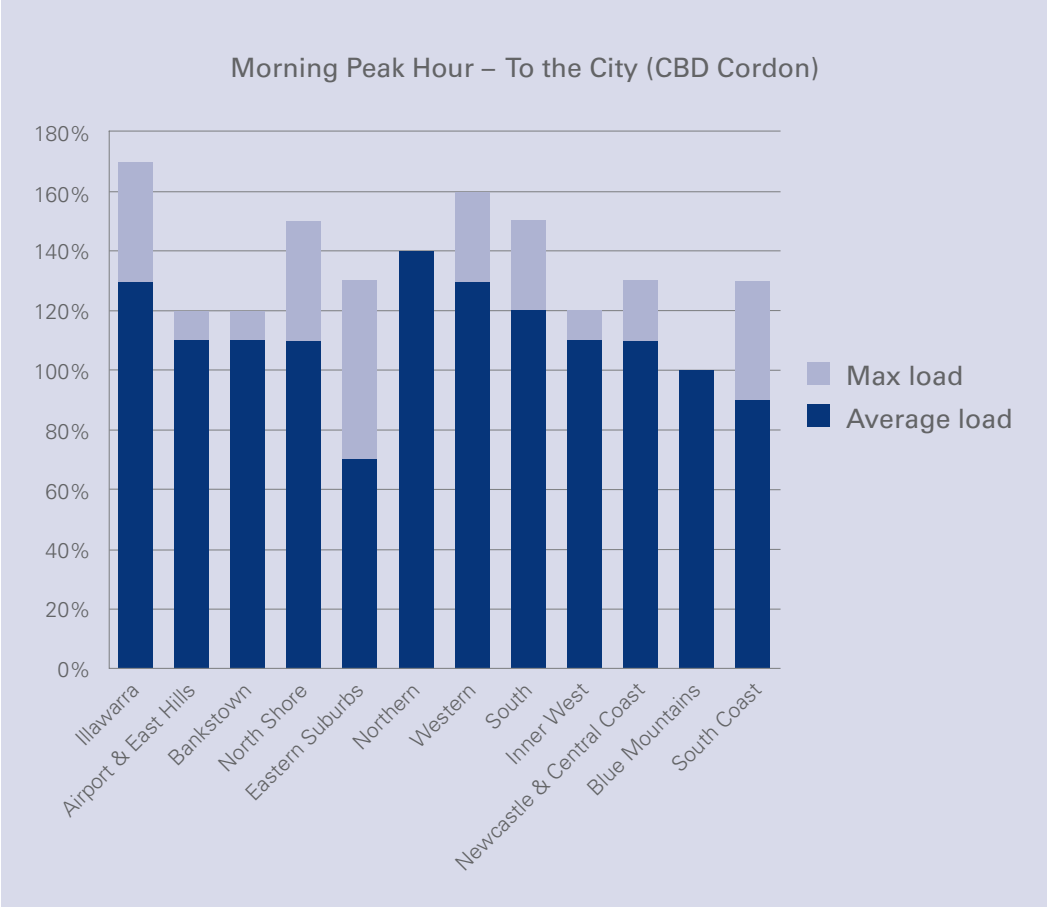
March 2011 CityRail patronage figures show that in the one hour peak[15] – for both morning peak to Sydney, and afternoon peak from Sydney – at the CBD cordon the vast majority of lines experienced average train loading of at, or over, 100 per cent of capacity.

All metropolitan lines experienced maximum loading of greater than 100 per cent during both peak hours at the CBD cordon and loads of between 120 per cent and 160 per cent are routinely encountered. Specific line loading rates for morning and afternoon peaks are detailed on the subsequent pages.

Morning Peak Hour – to the City

During the morning one hour peak nearly 17,000 customers on the Illawarra Line experience average loadings of 130 per cent across the hour and 170 per cent on the busiest service. Similar experiences occur for passengers on the Western Line and Northern Line customers experience consistent loadings of 140 per cent across the one hour peak. Over 104,000 passengers travel into the City during the morning peak hour with trains experiencing average loads across all services of 119 per cent and average maximum loading of 134 per cent. Table 3 shows the patronage and loading levels of CityRail services during the morning peak hour broken down by line and location measured.

FIGURE 10 Morning Peak Hour – Sydney CBD



Source: IPA analysis of A Compendium of CityRail Travel Statistics, Seventh Edition, June 2010

15 The timing of peak patronage varies between lines. To ensure consistency CityRail records the 'one hour peak' for each line during both the AM (0600-0930) and PM (1500-1830) peak periods. The 'one hour peak' refers to the busiest single hour within each period. For example the AM 'one hour peak' on the Blue Mountains line is 0730-0829, whereas the AM 'one hour peak' on the Bankstown line is 0800-0859.

Afternoon Peak Hour – from the City

The afternoon peak services fewer passengers, with travel out of the city spread over a wider peak period. Despite this dispersed peak period the busiest hour still sees the majority of lines at, or over, 100 per cent of capacity with half of all lines experiencing maximum train loading higher than 135 per cent. Over 80,000 passengers travel out of the City during the afternoon peak hour with trains experiencing average loads across all services of 107 per cent and average maximum loading of 125 per cent. Table 4 shows the patronage and loading levels of CityRail services during the afternoon peak hour broken down by line.

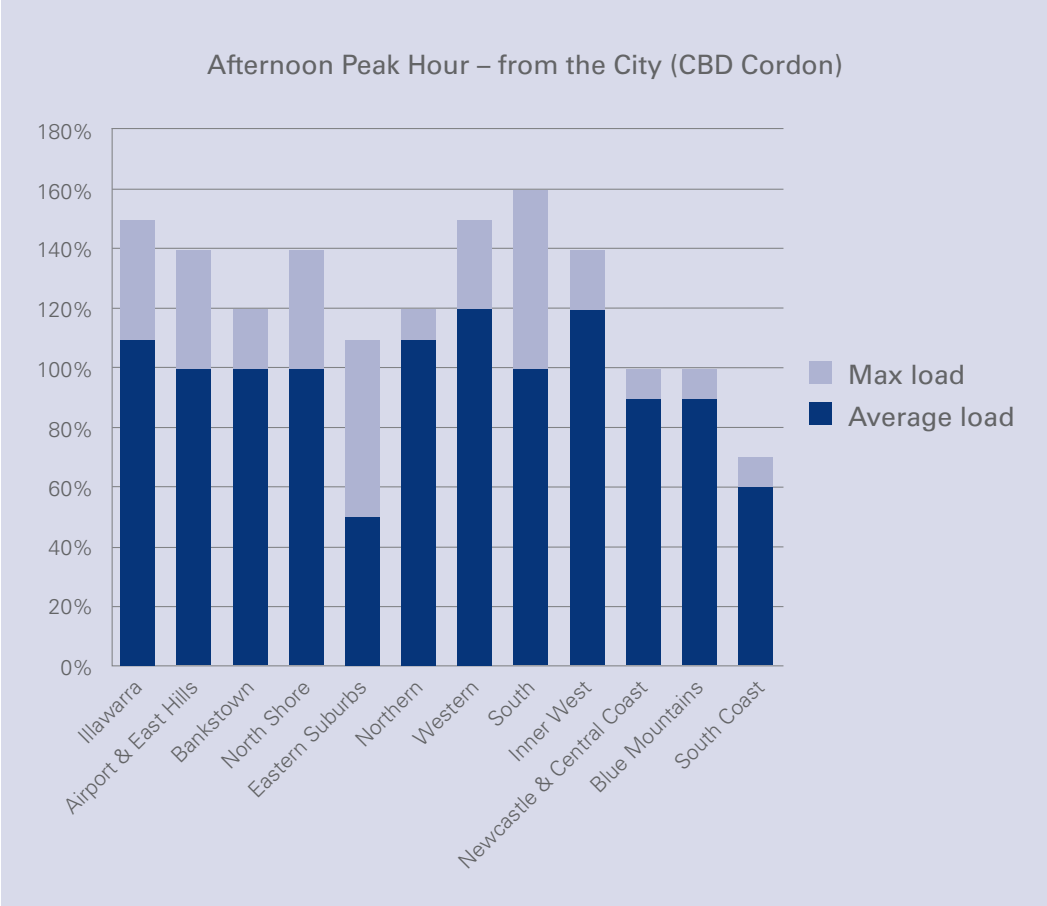
TABLE 4 CityRail Afternoon Peak Hour

Afternoon Peak Hour – from the City (CBD Cordon)				
Line	**Location Measured**	**Passengers**	**Average load**	**Max load**
Illawarra	Sydenham/ Redfern	12,090	110%	150%
Airport & East Hills	Redfern/Wolli Creek	9,490	100%	140%
Bankstown	Redfern	5,280	100%	120%
North Shore	St Leonards	11,340	100%	140%
Eastern Suburbs	Martin Place	4,700	50%	110%
Northern	Redfern	3,950	110%	120%
Western	Redfern	15,240	120%	150%
South	Redfern	6,310	100%	160%
Inner West	Redfern	4,320	120%	140%
Newcastle & Central Coast	Strathfield	2,910	90%	100%
Blue Mountains	Parramatta	2,950	90%	100%
South Coast	Hurstville	1,540	60%	70%
Total		**80,120**	**107%**	**125%**

Afternoon Peak – from the City (Intercity Outer Cordon)				
Newcastle & Central Coast	Hornsby	4,150	70%	90%
Blue Mountains	Penrith	1,790	50%	60%
South Coast	Sutherland	1,390	50%	80%
Total		7,330	57%	77%

Source: IPA analysis of CityRail published performance statistics from March 2011 observations

FIGURE 11 Afternoon Peak Hour – Sydney CBD



Source: IPA analysis of CityRail published performance statistics from March 2011 observations

2.2.2 Patronage Growth Forecasts in Suburban Sectors

Patronage growth, and the additional demand this creates for train services on any one line or within any one sector, is a key driver of capital works prioritisation. For example, when *Clearways* was conceived, projects were planned on the basis of an average growth of around 1 per cent between 2001 and 2011 at the CBD cordon – corresponding to an average of 0.8 per cent to 2006 and 1.3 per cent to 2011. However, to 2006 (from 2001) CBD patronage growth was twice as high as that forecast in 2002.

Patronage in the middle ring areas and the inner portion of the Illawarra and the Blacktown to Auburn component grew more than expected. Against this trend, in the inner suburban area, patronage growth was lower than forecast. Table 5 illustrates the model and actual patronage growth between 2001 and 2006 as well as the model and projected actual growth from 2006 to 2011.

As a result of the differences between the previous forecast and actual patronage growth, RailCorp undertook some scenario planning of low, medium and high patronage growth. The scenarios are based on the following assumptions:

- Low is based on Transport Data Centre midpoint forecasts of 1.3 per cent growth per annum.
- Medium is based on the NSW State Plan which under a business as usual scenario would result in 2.5 per cent growth per annum.
- High is based on actual usage trends in the morning peak on particular lines over the last two years which have reached about 6 per cent growth per annum.

Using these scenarios the various impacts on capacity have been determined for the Illawarra, South, Western and Northern Lines. The capacity limit is determined to be at average loadings of 135 per cent of seating, which is the point where reliability and comfort become an issue. At a major interchange station with high on/off volumes, reliability risks emerge at loadings above 110 per cent with the timetable unsustainable above 135 per cent.

RailCorp considers that the continuation of current increases in demand would affect the rail network in ways indicated below.

Illawarra Line (Sector 1): Assuming the growth rate continues to follow the current growth rate of 5.9 per cent per year, then capacity is reached around 2012, even with the operation of 18 trains per hour.

South Line (Sector 2): Assuming the State Plan growth rate of 2.5 per cent per year, which is close to current usage, capacity was reached in 2010.

West Line (Sector 3): Assuming the current growth rate of 3.5 per cent per year, capacity will be reached by 2013.

North Line (Sector 3): Assuming a 3.0 per cent per year growth rate based on current usage, slow services from Epping reached capacity in 2009.

TABLE 5 Comparison of Forecast and Actual Patronage Growth (% per annum)

		2001 to 2006		2006 to 2011	
Line	**Stations**	**Model**	**Actual**	**Model**	**Projected Actual**
CBD stations	7 CBD stations	0.8%	1.5%	1.3%	6.0%
Across Network	All in Suburban Areas	1.1%	0.4%	1.9%	7.6%

2.3 Operational Performance[16]

RailCorp's Customer Charter 2009 is focused on delivering the following key outcomes for passengers:

- on-time trains;
- manage crowding;
- fast, accurate, useful information;
- secure and safe travel;
- clean trains and stations;
- fast ticket sales; and
- quick and fair complaints handling.

To achieve this RailCorp's business must be focussed on and measure:

- infrastructure management including maintenance, renewals and upgrades;
- rolling stock upgrades and refurbishment;
- customer and infrastructure safety; and
- ticketing and revenue protection.

Table 6 provides an indication of the operational performance of RailCorp using the key performance indicator of On-Time-Running (OTR). Punctuality of trains has consistently been rated as one of the five most important aspects of CityRail services according to the annual ITSR survey and therefore can be used as a proxy of operational performance. RailCorp rates OTR its primary operational performance measure for in its Annual Reports.

Peak on-time running for CityRail services is measured as a percentage of timetabled peak train services reaching their destinations within five minutes of scheduled arrival time for suburban services, and six minutes for intercity services. For CountryLink services, the measure for on-time running is within ten minutes of scheduled arrival time. Improvements in on time running have been attributed to lower signalling failures in the rail system[17], as well as the slowing down of some services and increases in headways. Lower signalling failures are a result of improved asset management and significantly increased funding for infrastructure renewals and maintenance.

TABLE 6 Summary of RailCorp Performance

Service provision	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
CityRail						
Passenger journeys (millions)	270.3	273.7	281.5	296.1	304.8	302.3
Metropolitan trains on time – peak (%)	61.5	88.7	92.9	93.6	95.8	96.5
Intercity trains on time – peak (%)	72.4	89.6	92.1	91.7	94.0	94.9
Total CityRail trains on time – peak (%)	63.1	88.8	92.8	93.4	95.5	96.3
CountryLink						
Passenger journeys (millions)	1.77	1.74	1.61	1.55	1.68	1.81
Trains on time (%)	71.2	75.9	73.7	70.5	76.6	75.0

Source: RailCorp Annual Report 2009/10

16 Information in this section has been drawn from RailCorp's Annual Reports 2004-10.
17 NSW Auditor General Report 2007.

An annual survey is conducted by the ITSR[18]. Participants are asked to rate both the importance of their overall satisfaction with 37 different aspects of RailCorp services. Tables 7, 8 and Figure 12 provide a summary of recent results over some of the key performance areas.

These customer survey results suggest two key outcomes:

- RailCorp's performance has improved in all areas except crowding during peak times and reflects improved management practices; and
- Customer dissatisfaction with crowding is a relative constant but is likely to increase as network capacity reaches above 135 per cent passenger loads.

18 At the time of the surveys publication the ITSR was still the Independent Transport Safety and Reliability Regulator (ITSRR).

TABLE 7 RailCorp Customer Satisfaction Survey Results

ITSRR Annual Customer Satisfaction Survey*	2004	2005	2006	2007	2008	2009
Frequency	56%	52%	63%	69%	69%	72%
Punctuality	44%	38%	64%	68%	73%	79%
Journey Time	75%	69%	74%	80%	81%	83%
Delays and Cancellations	41%	38%	59%	62%	66%	72%
Crowding during peaks	38%	41%	41%	36%	35%	39%

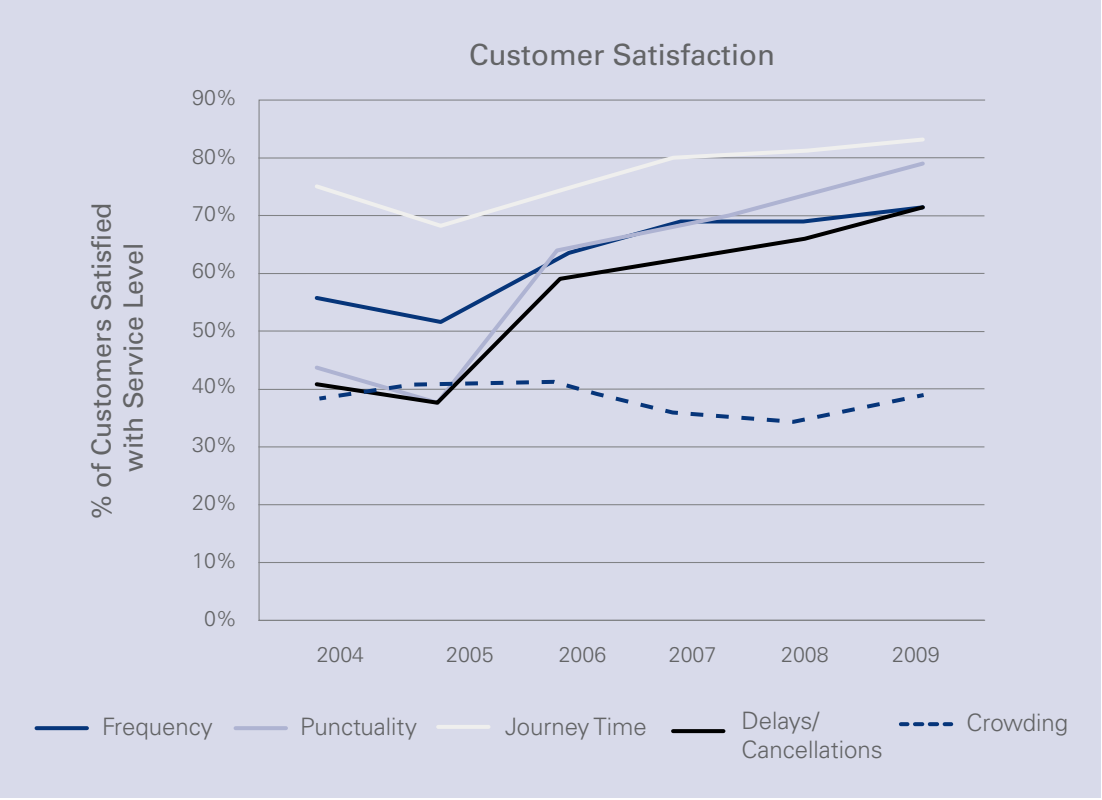
Source: RailCorp Annual Report 2009/10 **Results indicate number of surveyed participants satisfied with each aspect*

TABLE 8 Complaints per million passenger journeys

Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
RailCorp complaints per million passenger journeys	120	101	92	83	69	87

Source: RailCorp Annual Report 2009/10

FIGURE 12 RailCorp Customer Satisfaction Survey Trends



Source: IPA analysis of data from RailCorp Annual Report 2009/10

2.4 Financial Performance

RailCorp is the owner and monopoly provider of above rail (service delivery) and below rail (infrastructure) services in NSW. *Transport for NSW*, the integrated transport agency, contracts RailCorp to provide these services in accordance with RailCorp's Statement of Business Intent and the Rail Services Contract. These documents detail the fares and fare concessions that RailCorp must apply and the maintenance and capital works it must undertake. Through these mechanisms the NSW Government maintains control over fares to support its policies for affordable transport and seeks to ensure that RailCorp's call on government funds are in line with Government Budget estimates and allocations.

Each year RailCorp has the opportunity to seek fare increases from the *NSW Independent Pricing and Regulatory Tribunal* (IPART), which regulates most public monopolies in NSW.

RailCorp's revenue is derived from:

- Fares passengers pay to use rail services;
- Recurrent and capital funding from the NSW Government; and
- Property rental and sales, infrastructure access fees (paid by freight rail operators), interest income, penalty notices and sales of maintenance, advertising revenue and other services and products.

Table 9 shows RailCorp's financial performance from 2005-06 to 2009-10. In 2009-10, before taxpayer support is taken into account, RailCorp earned about $964 million in revenue, but expended about $3.2 billion in operating costs. This resulted in an operating deficit of about $2.26 billion. After government contributions of about $1.6 billion for recurrent spending and $0.7 billion for capital works, which RailCorp treats as income, RailCorp achieved modest surplus of about $0.3 million.

RailCorp's income in 2009/10 increased by some $26 million over the year prior; but expenditure grew by $153 million. This was principally due to employee wages and superannuation growth.

Over the five years from 2005-06 RailCorp's annual expenditure grew $835.1 million from $2.49 billion to $3.225 billion. Over the same period income only grew by $192.7 million from $771.3 million to $964 million.

The capacity of RailCorp to realise a surplus in any given year relies entirely on government contributions to recurrent and capital expenditure. Increases in patronage drive up operating costs and therefore reduce surpluses, unless offset by increased Government funding.

TABLE 9 RailCorp Financial Performance

	$M				
	05-06	**06-07**	**07-08**	**08-09**	**09-10**
Passenger services revenue	526.5	568.3	623.0	660.8	693.3
Other income	244.8	257.1	286.0	277.3	270.7
Income from operating activities	771.3	825.4	909.0	938.1	964.0
Total expenses	2,390.8	2,411.3	2,684.4	3,072.7	3,225.9
Deficit from operations before government contributions	–1,619.5	–1,585.9	–1,775.4	-2,134.6	–2,261.9
Government subsidies and concessions	1,317.2	1,482.4	1,496.6	1,466.8	1,605.8
Deficit from operations before capital contribution	–302.3	–103.5	–278.8	-667.8	–656.1
Government contributions for capital expenditure	471.9	554.4	572.8	932.0	710.8
Surplus for the year	**169.6**	**450.9**	**294.0**	**264.2**	**54.7**

Source: RailCorp Annual Report 2009/10

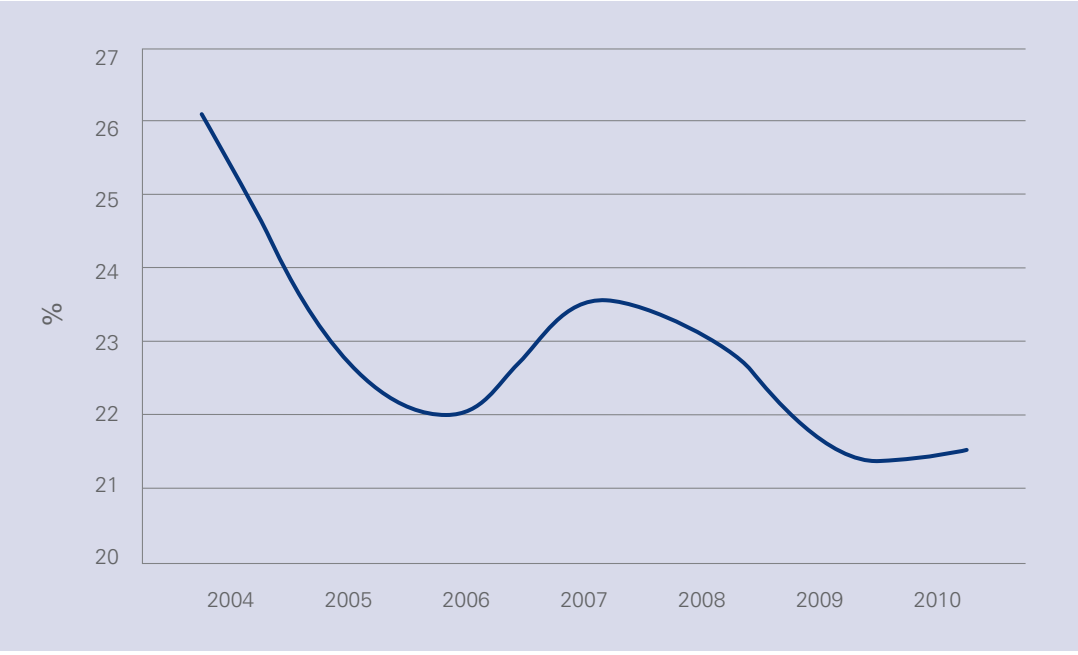
For example, in 2007-08 RailCorp experienced a 5.2 per cent increase in patronage demand compared to previous annual average growth of about 1.9 per cent. This added to its fare based revenue by $55 million but contributed to growing its operating deficit by $190 million. This may be attributable to the fact that increased patronage demand forces RailCorp to provide additional services at higher cost. Where fares do not keep pace with the cost of service provision and efficiencies and productivity are not optimised, this will add to operating deficits.

The cost and revenue per journey data displayed in Figure 13 and Table 10 further illustrate that higher than average passenger demand and lost productivity from 2007-08 onwards has increased the amount that RailCorp loses per passenger journey. Losses were 14 per cent higher in 2009 than they were in 2005. Increased losses by RailCorp create additional demand for government funding to subsidise operating costs and invest in infrastructure enhancements that are needed to meet passenger demand.

Softening productivity creates a dilemma for New South Wales which stems from the impact of increased patronage – a rise in patronage forces CityRail to provide additional services to accommodate growth, but those additional services don't benefit from any economy of scale or greater cost recovery. Without productivity growth, additional services in effect operate at the same level of inefficiency (on cost recovery terms), so every additional service adds to the overall cost burden on the taxpayer.

The increased cost burden of service growth will exist irrespective of delivery structure, but under existing models RailCorp's ability to address inefficiency through productivity improvements is severely impaired.

FIGURE 13 Cost of services percentage recovered from passenger revenue



Source: IPA analysis of data from RailCorp Annual Report 2009/10

TABLE 10 Cost and revenue per journey

	$				
	05-06	06-07	07-08	08-09	09-10
Cost per passenger journey	8.68	8.52	9.02	10.03	10.61
Revenue per passenger journey	1.91	2.01	2.09	2.16	2.28
Loss per passenger journey	-6.77	-6.51	-6.93	-7.87	-8.33

Source: RailCorp Annual Report 2009/10

2.4.1 RailCorp Staff Resources

Table 11 shows the changing structure of RailCorp's staff resources over the last five years.

Over this time, total staff level has increased by 47 per cent. Significantly, over this time, frontline station staff numbers have decreased by approximately 22 per cent while back office or corporate staff numbers have increased by over 160 per cent representing more than 2,140 additional staff, partly due to movements from other areas of the business[19].

Other significant changes to the staffing numbers over this time are increases in the trades and engineering departments, from a relatively low base, in line with increased spending on infrastructure and maintenance.

2.5 Constraints on Service Delivery

Like many other government owned monopoly businesses RailCorp operates within a number of limitations:

- **Variable government funding.** There are competing priorities for government funding for recurrent and capital expenditure and allocations vary depending on the state of the overall government budget, budget forecasts and needs in other portfolio areas;
- **Legacy infrastructure.** Ageing infrastructure requires intensive maintenance and renewal and frequent capital upgrades to meet demand and new service levels. This can be difficult to fund from variable government and passenger fare revenue;
- **Employment relations.** As a government employer RailCorp has historically had limited flexibility in negotiating employee agreements to lift productivity and efficiency; and
- **Fare structure.** The capacity of RailCorp to increase fares is constrained by government policy that seeks to ensure the affordability of public transport. Thus RailCorp can only seek annual fare increases in line with CPI, and even then this must be approved by the independent regulator IPART.

TABLE 11 RailCorp Staff Figures and Distribution

Category Groups	2005[20]	2006	2007	2008	2009	2010	Actual Growth	% Rate of Change 2005-10
Train Operations	593	633	612	585	625	616	23	3.9%
Train Crew	3,080	3,080	3,120	3,202	3,235	3,377	297	9.6%
Station Staff	3,029	2,701	2,829	2,773	2,636	2,358	-671	-22.2%
Presentation Services	559	573	578	592	664	898	339	60.6%
Security	664	559	582	625	576	542	-122	-18.4%
Asset Management – Trades	791	2,449	2,492	2,485	2,475	2,509	1,718	217.2%
Asset Management – Engineering	180	897	826	1,003	1,072	1,255	1,075	597.2%
Corporate/Other	1,289	2,374	2,800	2,828	3,097	3,433	2,144	166.3%[21]
Total	**10,185**	**13,266**	**13,839**	**14,093**	**14,380**	**14,988**	**4,803**	**47.2%**

Source: RailCorp Annual Report 2009/10 with IPA analysis

19 The Corporate/Other category includes all the apprentices, graduates, cadets and interns, of which during 2009 and 2010 there have been an increase in these positions. Corporate/Other also includes displaced employees of which there was an increase due to Station Staff Reform. Source: RailCorp Annual Report 2009-10.

20 For reporting in 2005, Rail Infrastructure Corporation (RIC) was counted as a separate entity and not included in the figures provided at that time. The RIC figures were progressively added in 2006 and 2007.

21 The Corporate/Other category includes all the apprentices, graduates, cadets and interns, of which during 2009 and 2010 there have been an increase in these positions. Corporate/Other also includes displaced employees of which there was an increase due to Station Staff Reform. Source: RailCorp Annual Report 2009-10.

MODELS TO PROMOTE RAIL SERVICE COMPETITION

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3 MODELS TO PROMOTE RAIL SERVICE COMPETITION

There are two core models deployed around the world to open up market access to and promote competition between public and private sector operators of rail systems. These are:

- 'On track competition' under the Open Market or Open Access model; and
- 'Off track competition' under the Franchise model.

The Franchise model can be further segmented into:

- Network Franchise of an entire network to a monopoly operator; and
- Sector Franchising for discrete portions of the network.

Each model is explored in detail in this section.

3.1 On Track Competition

On-track competition assumes that demand for services will provide natural incentives to private operators to provide services over shared infrastructure. It is run on the premise that competitive tendering for an exclusive concession is not required, because private providers can respond naturally to demand by offering services in competition with each other. Although common in freight rail operations (and utilities such as electricity and telecommunications) its application to passenger rail services has been limited by the necessity to guarantee services and availability.

3.1.1 Open Market or Open Access Model (On Track Competition)

To facilitate an open access regime, infrastructure management is ideally separated from train operations and service delivery. In these cases infrastructure ownership and management is often vested in government entities. Open access is the model adopted on Australia's interstate freight rail network; with the Federal Government's Australian Rail Track Corporation controlling the below rail network, with a diversity of suppliers competing for market share in freight haulage.

Since the mid-1990s, European countries including Germany, Sweden, Denmark, Netherlands, Austria and Italy, as well as the United Kingdom have sought to re-engage with the concept of open market competition for long distance passenger rail services. However, these experiments have had limited success. In Germany, open access has been enabled since 1999, but in 2009 accounted for less than 1 per cent of services. Between 1996 and 1999 the Netherlands tested open market competition, but this failed to meet the objectives sought, with the government later moving to tendered concessions.

One of the challenges of the open access model is that services will only be provided on a commercial basis for profitable services. The requirement to provide sub economic services leaves government with the task of subsidising non-profitable routes. In this respect, competitive tendering (off track competition) is often preferred by governments because they have more control over the outcomes.

3.2 Off Track Competition

Rail services are usually seen as a natural monopoly because it is not economically feasible to duplicate above and below rail infrastructure, and factors such as complex train operation intersections, geographic and travel pattern limitations on passenger volume, and finite track or system capacity make it virtually impossible for firms to compete in the same sub market.

Allowing competitive tendering for a concession to deliver train services on a network – either as a whole network or discrete sections of a network – provides a mechanism for the introduction of 'off-track' competitive tension.

Competitive tendering for franchised services can drive down monopoly rents and provide incentives to reduce costs and improve service delivery and quality. However, the economic realities of natural monopoly infrastructure mean that competitive processes cannot replace regulation altogether. Thus, consistent with the existence of natural monopolies in the rail sector, even where governments adopt franchising it is desirable that they retain a central planning control in terms of setting service standards, benchmarks and regulation of participation through access agreements.

3.2.1 Network Franchise Model

In rail networks that contain service, timetable and infrastructure intersections and overlaps to a degree that inhibits or prevents structural separation into sub markets, rail services are often provided by a single monopoly provider. Monopoly provision may also be used where the circumstances suit the efficiencies of a whole of network approach to passenger rail delivery. Under this model a single public or private organisation owns and runs all rail network infrastructure, operations and marketing functions in a vertically-integrated structure[22].

To retain network control and better manage the public policy and political issues associated with monopolies, governments have tended to grant this type of concession to a publicly owned provider, such as RailCorp in NSW. However, tendering to provide rail services for a whole of network concession can be used as a mechanism to introduce competitive tension to service provision whilst retaining the opportunity to benefit from operational efficiencies and economies of scope and scale.

Economic theory recognises that vertically integrated natural monopolies with significant market power tend to have higher production costs, may charge higher prices and may innovate more slowly than firms which are subject to competitive pressures[23]. Periodic tendering of a network concession can be used to apply this competitive pressure, in effect regular competition for the market rather than in the market.

3.2.2 Sector Franchise Model

Sector franchises see government grant exclusive rights to a private operator to operate and maintain publicly owned infrastructure and deliver services for a defined term[24]. For the purpose of this assessment, tendered concessions and franchises are considered distinct from whole of network concessions and whole of network franchises in that they relate to a discrete portion or sector of the broader network.

"A franchise is the right to run specified services within a specified area for a specified period of time, in return for the right to charge fares and, where appropriate, to receive financial support from the franchising authority. Government subsidy is payable in respect of socially necessary services that might not otherwise be provided[25]."

22 OECD, Railways: Structure, Regulation and Competition Policy, 1998.
23 New Zealand Treasury and Ministry of Commerce, Discussion Paper – Regulation of Access to Vertically Integrated Natural Monopolies, 1995, p4.
24 Productivity Commission, Report on Public Infrastructure Financing, Australian Government, 2009.
25 House of Commons Library, Railways: Passenger Franchises, 1 June 2011.

Franchising of rail operations in some jurisdictions, including Sweden and Germany reportedly led to cost reductions of between 20 and 40 per cent[26].

This approach relies on the preparatory step of structural separation of rail network operations into a reasonable set of sub-markets. The configuration of these sub-markets could be based on below or above rail infrastructure, patronage and rail traffic flows, timetables and geographic issues. For this approach to be effective, sub-markets need to be relatively independent of each other, with minimal train operation and timetable intersections.

Within each sub-market, governments might use competitive tendering to select train service operators, above and below rail infrastructure maintenance and rolling stock provision. Competitive tendering can be structured to seek bundled or separate services.

Franchising relies on specifying outputs required from a private operator, under a strict contract with the government. In this way, governments hold the private sector accountable to guaranteed performance standards and conditions, and may impose financial penalties if these are not met.

Governments have used competitive tendering arrangements to improve the quality and maintenance of transport infrastructure, improve service outcomes and maintenance to levels that the public sector cannot efficiently achieve – and importantly – to lower operating and maintenance costs[27].

When tendering for this suite of services governments tend to select providers who can best exceed minimum service levels in relation to service scope, reliability and quality. In relation to profitable sub markets, governments will tend to select an operator who can pay the maximum concession fee to government. In the case of unprofitable sub-markets, government either retains the publicly owned provision of services or seeks a private operator who requires the least subsidy.

There are generally three kinds of contracts that are used to manage the provision of competitively tendered service concessions in sub markets. There can be overlap between some features of these contract types and the way they are applied and thus they are not necessarily completely distinct.

These contract types are[28]:

- **Management or cost plus contract.** This is where the operational and revenue risks are retained by government. This type of of contract would generally be applied where government chooses to outsource service provision to realise any potential efficiencies in unprofitable sub markets. This approach is also used by policy agencies (like a Transport Department) to contract a government owned rail operator to manage infrastructure and deliver services. In some circumstances the government owned rail operator may be a monopoly provider. Government pays a management fee to the successful bidder and subsidises the franchisee's operating costs;

- **Gross cost or gross cost with incentives contract.** Under a gross cost arrangement, the government transfers the operational risk to the private service provider but retains the revenue risk and related community service obligations (CSOs) to subsidise services. This generally means that government retains control of the price of fares and as a result, the private operator has less incentive to build passenger volume – however, the use of innovative contract provisions can mitigate this risk. Under the gross cost with incentives approach, a franchisee is paid at a contracted rate based on measured output in order to transfer some cost risk and incentivise performance improvements; and

- **Net cost contract or commercialised service.** Here government transfers a significant component of the operational and revenue risk to the private operator. The level of risk transferred varies based on the specific contract conditions. Performance under a net cost contract is generally managed through indicators which are regularly monitored and can lead to profit sharing with government for over performance or penalties for under performance. This approach is used in Victoria and the United Kingdom[29]. Another form of this is a commercialised service where the franchisee pays a lump sum fee

26 DfT/ORR Rail Value for Money Study, 31 March 2010 citing The European Conference of Ministers of Transport report: Competitive Tendering of Rail Services, 2007.

27 Productivity Commission, Report on Public Infrastructure Financing, Australian Government, 2009, p185.

28 OECD and ITF, Long Distance Passenger Rail Services for Europe: Market Access Models and Implications for Germany, 2009, p8 and Productivity Commission, Ibid, p200.

29 Ibid.

to gain the right to provide a service. This enables the government to offset the budgetary cost associated with the service as well as transfer risk.

It is impossible to apply a 'one-size-fits-all' approach to franchising – each transport mode and network requires an individual assessment of the best franchising method to undertake. Despite the varied nature of franchising models employed around the world, one aspect that remains relatively consistent is the competitive bidding process where private companies or consortia bid on how they would operate the service. This process can be complex, and success is largely dependent on a number of practical design parameters including[30]:

- whether there is open-bid or sealed-bid auctioning (i.e. where bid prices are not disclosed and bidding happens simultaneously);
- having a robust set of criteria to assess bids;
- ensuring that competition costs are not so large as to offset the anticipated franchising benefits;
- having a contract which appropriately balances risk;
- being wary of the cost of bidding the tender from the private operator's perspective; and
- attracting an optimal level of industry interest, and retaining that market.

The final point is crucial – having an interested and substantial market is critical to achieving an adequate level of competitive tension in the bidding process. Without a sufficiently competitive tender process governments are unlikely to achieve the optimum value for the concession.

A number of factors influence the size and competitive nature of the market, these are summarised in Table 12. Although governments don't have full control over each of the variables, it is possible to structure the concession model and tendering process to promote interest and participation from the market.

3.3 Application of Models Internationally[31]

A relatively late arrival to the rail reform debate means New South Wales can take advantage of lessons learned where competition has been introduced to rail networks both domestically and globally. New South Wales can learn from these experiences – the lessons of success and those of failure. The Case Studies in Section 4 that follow this overview detail the experiences of the United Kingdom, Sweden and Victoria using differing competitive models.

TABLE 12 Factors that Influence Size and Depth of Private Franchising Market

Issue	Description
Physical size of the transport network being franchised	A large rail network, such as Melbourne, will attract large multi-national bidders, whereas a small operation may reduce network economies and thus the level of bidder interest. Some bidders may also be wary of very sizeable systems.
Patronage of the system	A system with high patronage will generally attract greater interest due to its high turnover.
Barriers to entry	These vary from place to place. One particular barrier to entry can be if rolling stock, other vehicles, or existing staff are not transferred to the winning bidder.
Franchise Length	Short franchise lengths lead to greater costs and reduced time for operators to pay back their investment. Ten years is considered to be an appropriate timeframe to encourage investment in the service – experiences from the case studies explored in this paper suggest the majority of contracts are in the 8 to 15 year franchise term range.

Source: Kain, 2009. Table compiled by Aegis/IPA

30 Kain, P. (2009) *Australian and British Experiences with Competitive Tendering in Rail Operations*, forthcoming.

31 The information in this section is drawn from OECD and ITF, Long Distance Passenger Rail Services for Europe: Market Access Models and Implications for Germany, 2009 and Productivity Commission, Report on Public Infrastructure Financing, Australian Government, 2009.

North America

Canada and the USA both have very limited experience in the franchising of rail services.

In the USA, Government owned Amtrak, provides rail passenger transportation service in the major intercity travel markets. Amtrak operates commuter rail operations on behalf of several states and transit agencies. However, of the 21 commuter rail systems operating in various metropolitan areas – which are all publicly owned – 14 are franchised for external management. The franchised systems tend to have a smaller scale than those managed within the public sector, accounting for only 15 per cent of the total service output measured in train revenue miles.

A recent move to privatise Amtrak has been led by Republican members of the *House Transportation and Infrastructure Committee* and the *Pipelines and Hazardous Materials Subcommittee*[32].

In Canada, the Provincial Government of British Columbia in 2003-4 franchised the operation of previously province owned BC Rail under a competitive tender process. Canadian National won the tender with a bid of CAD$1billion – acquiring a 60-year lease over the right to operate on BC Rail tracks and existing rolling stock. The BC Government retained ownership of the rail infrastructure.

Railway deregulation began in the United States with the Staggers Rail Act in 1980[33]. The Staggers Act allowed railway companies to compete with each other and gave them greater freedom to set prices, but was built on the principle of vertical integration where the rail infrastructure is owned by the operator; resulting in significant barriers for new entrants to the market and rail operators to abandon unprofitable passenger routes in favour of more lucrative freight services[34].

United Kingdom and Europe

The United Kingdom has sought to implement limited open access and broader franchising for its suburban, inter-city and regional services, while infrastructure remains in government ownerships. This is discussed in more detail in Section 4.

In Europe, open access and some competitive tendering is used, mainly for long distance regional services, but state owned rail providers still monopolise that market. The case of Sweden is examined in more detail in Section 4. Table 13 provides an overview of competitive mechanisms deployed for long distance rail services in Europe.

Australia and New Zealand

In this region, only the State of Victoria uses franchising for urban rail service provision. This is discussed in more detail in Section 4.

In Australia, there is an open access regime for interstate services, with Great Southern Rail (GSR) – a subsidiary of Serco – operating a premium class, long-distance passenger service aimed at the international tourist market. GSR was sold for $16 million as one of the packages under the Australian National rail privatisation in 1997[35].

On-market competition, or an open-access regime, is currently used in Australia's freight rail network. The Federal Government through the Australia Rail Track Corporation (ARTC) own or hold long term leases over nearly the entire Australian interstate track (over 10,000km) and through negotiated contracts regulate access to the network for the private and public sector operators. The ARTC is responsible for selling access to train operators, capital investment in the corridors, management of the whole network and infrastructure maintenance management.

KiwiRail, the current New Zealand State-owned rail operator, underwent a series of organisational changes since 1986 which saw it nationalised, privatised, sold, and its infrastructure component disaggregated and sold to the crown, before the Government bought back the rail operating business and once again formed a vertically integrated above and below rail business under the New Zealand Railways Corporation Banner, operating as KiwiRail. In March 2009 KiwiRail also bought the train maintenance functions from United Group[36].

32 House Transportation and Infrastructure Committee, 2011.
33 Staggers Rail Act of 1980, Pub. L. 96-448, 14 October, 1980 and Hilmola, Szekely, Deregulation of Railroads and Future Development Scenarios in Europe – Literature Analysis of Privatization Process Taken Place in US, UK and Sweden, Tutkimusraportti 169 Research Report, 2006.
34 Hilmola & Szekely, Deregulation of Railroads and Future Development Scenarios in Europe – Literature Analysis of Privatization Process Taken Place in US, UK and Sweden, Tutkimusraportti 169 Research Report, 2006 and Dr. Brian Slack, rail Deregulation in the United States.
35 Williams, Greig, Wallis, Results of Railway Privatization in Australia and New Zealand, The World Bank, 2005.
36 KiwiRail (http://www.kiwirail.co.nz/index.php?page=history-of-new-zealand-rail – accessed 14/07/2011).

Japan

The privatisation of Japan National Railway (JNR) in 1987 marked the first wholesale and sweeping reform of a railway anywhere in the world[37]. Suffering inefficiency and labour disputes, the publicly owned monopoly JNR, was initially separated into 6 regional passenger entities Japan Railways (JR) and one nationwide freight group. The concept of provision of public infrastructure by the private sector was not new to Japan with much of the existing railway already provided by private companies[38]. Privatisation was a step-by-step process with JR West, JR Central and JR East fully offered to the market, but significant shareholdings across the entities remain in State hands.

JR's are permitted to engage in non-railway business that increase demand for rail transportation, such as housing development, tourism and other transport modes[39].

TABLE 13 Competition in European Long Distance Rail Services

	Austria	Germany	Sweden	Netherlands	France	Italy	United Kingdom
Separation of infrastructure and services	No	No	Full separation	Full separation	Partial separation	No	Full separation
Infrastructure and network ownership	Public	Public	Public	Public	Public	Public	Public now after brief privatisation
Service provider/s	100% state owned	100% state owned	100% state owned	100% state owned	100% state owned	100% state owned	Various private operators
Tendered concessions	No	No	Yes. But only for non-commercial routes	Yes. But only two franchises	No	No	Yes
Open access	Yes	Yes	Yes. But limited to night services	No	No	Yes	Yes

Source: Aegis

37 Mizutani and Nakamura, The Japanese Experience with Railway Restructuring, National Bureau of Economic Research Volume Title: Governance, Regulation, and Privatization in the Asia-Pacific Region, NBER East Asia Seminar on Economics, Volume 12, January 2004.
38 Ibid.
39 Ibid.

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CASE STUDIES IN RAIL SERVICE COMPETITION

4 CASE STUDIES IN RAIL SERVICE COMPETITION

4.1 United Kingdom Experience with Open Access and Tendered Franchises[40]

The United Kingdom has over 20,000 miles of rail track, providing 1.26 billion passenger journeys annually and a total of 51 billion passenger kilometres travelled[41]. Reform of passenger rail services in the United Kingdom began in the early 1990's with implementation of a series of regulatory measures that paved the way for private sector involvement in rail delivery. In 1993 the Railways Act permitted the franchising of passenger services across the network embedding private sector rail delivery that today includes 16 separate operators and 19 franchises[42].

4.1.1 History

The railway network in the United Kingdom was originally developed by competing entrepreneurs, offering disaggregated regional services, before being nationalised through the *1947 Transport Act*[43]. After nationalisation all passenger rail was provided by a nationwide, vertically integrated government-owned monopoly. Until 1993 the public monopoly – British Rail – was increasingly criticised for a failure to deliver an effective, innovative and value-for-money rail service[44].

Between 1991 and 1997, a series of measures were implemented to facilitate the privatisation of Britain's passenger rail sector. These were:

- In 1991 the European Commission adopted Directive 91/440 which set out frameworks and directions for rail services in member countries. Directive 91/440 required member states to introduce vertical separation of rail infrastructure from train operations with a view to enhancing efficiency through greater competition. 91/440 has subsequently been supported by further Directives as part of a gradual de-regulation and liberalisation programme[45];

40 All information in this section has been obtained from the following sources. UK Department of Transport and Office of Rail Regulation, Rail Value for Money: Scoping Study Report, March 2010; UK House of Commons Transport Committee, Passenger Rail Franchising, Fourteenth Report of Session 2005-06; UK Department of Transport, Delivering a Sustainable Railway White Paper, July 2007; KPMG and UK Department of Transport, Rail Franchising Policy, Analysis of Historic Data, January 2010; Nash and Smith, Passenger Rail Franchising: British Experience, University of Leeds, 2002; Frontier Economics, Taking the Strain, Bulletin, August 2010; OECD and ITF (Preston), Competition for Long Distance Passenger Rail Services: The Emerging Evidence, Discussion Paper 2009-23, December 2009.

41 Office Rail Regulation National Rail Trends Yearbook 2009-2010.

42 Department for Transport "Public register of franchise agreements" and the Association of Train Operating Companies.

43 House of Commons Transport Committee, Passenger Rail Franchising, Fourteenth Report of Session 2005–06, October 2006.

44 Ibid.

45 Wetzel, European Railway Deregulation: The Influence of Regulatory and Environmental Conditions on Efficiency, September 2008.

- The *1993 Railways Act* was introduced to separate ownership of rail infrastructure from train operations and permit the franchising of passenger services formerly provided by British Rail;
- The Office of the Rail Regulator was established to monitor infrastructure performance and manage infrastructure access for competitors;
- Railtrack was created as the owner and manager of the infrastructure and subsequently privatised;
- The maintenance of above and below rail infrastructure, including rolling stock was privatised; and
- The Office of Passenger Rail Franchising (OPRAF) was created to administer the franchising of train services.

In 2000, the Railways Act was amended to ensure co-ordination and strategic planning of rail services. This was largely in response to the higher than expected take up of rail franchises and number of competitors. Consistent with the experience of other jurisdictions when introducing competition into an existing monopoly transport network, the United Kingdom Government found it was still required to play a key central planning role to ensure the reliability and safety of the rail system. Accordingly, the OPRAF was replaced with the Strategic Rail Authority which was provided with wider functions and powers to facilitate rail sector co-ordination.

In 2002, the infrastructure assets owned by Railtrack after privatisation were transferred to a new 'not-for-profit' entity called Network Rail. This occurred after Railtrack was forced into administration because of:

- The costs of new safety standards and regulations that were introduced in response to three fatal rail incidents at Southall (1997), Ladbroke Grove (1999) and Hatfield (2000);
- The costs of a backlog in maintenance and renewals and poor work practices; and
- Inadequate levels of minimum income.

A review of access charges led to a new framework of higher access fees and associated income for Network Rail to ensure that its revenue always exceeded its infrastructure maintenance and renewal expenditure obligations. Its revenues are derived from access charges, government payments in lieu of access charges and some property rental and sales.

In 2005 the Railways Act was amended again to transfer the functions of the Strategic Rail Authority to:

- the Department for Transport – service output specification, franchising management, funding control;
- Network Rail – network planning and performance monitoring; and
- Office of Rail Regulation (ORR) – rail safety of the Strategic Rail Authority were transferred to the ORR[46]. Some safety functions were overseen by HM Railway Inspectorate before it was transferred to ORR in 2006 and ceased to exist (becoming the Safety Directorate) in May 2009. ORR is also responsible for economic regulation of British railways under the Railways Act 1993[47].

Network Rail is a company, "limited by guarantee", run by a Board as a commercial business to the standards required by a publicly listed company[48]. As a "not for dividend" entity, which receives significant subsidies from the United Kingdom Government[49], Network Rail is accountable to its members and regulated by the Office of Rail Regulation[50]. It is a company limited by guarantee with a legal existence separate from Government[51]. There has been contention regarding the accounting treatment of Network Rail (whether or not it should appear on the United Kingdom Government balance sheet and be considered a state owned company)[52].

Regulatory measures implemented between 1993 and 2005 are consistent with the approach required for an open market with on track competition and tendered concessions with off track competition. The franchising structure for United Kingdom passenger rail has been a redefined and refined regularly since 1993.

46 Railways Act 2005, 2005 chapter 14, UK Public General Acts. (www.legislation.gov.uk – accessed 12/07/2011).
47 Office of Rail regulation and Railways Act 1993, 1993 Chapter 43, UK Public General Acts. (www.legislation.gov.uk – accessed 12/07/2011).
48 HM Treasury, Accounting Treatment of Network Rail Ltd
Accounting differences: the case of Network Rail, July 2002.
49 Network Rail (http://www.networkrail.co.uk/aspx/713.aspx - accessed 12/07/2011).
50 Ibid.
51 HM Treasury, Accounting Treatment of Network Rail Ltd Accounting differences: the case of Network Rail, July 2002.
52 Network Rail NAO ONS Joint Statement, "accounting treatment and statistical treatment of Network Rail."24 October 2002 and The Daily Telegraph "Network Rail: another publicly subsidised institution doling out bonuses at taxpayers' expense", June 24th 2010.

Over time, open access has been offered to freight operators and some long distance passenger rail services. Restrictions on open access apply to give preference to franchised services. Since 2002, operators applying for open access must demonstrate that their passenger traffic flows are not drawn from franchised operators. Four open access arrangements for long distance passenger rail services have been agreed. These are mostly in areas previously poorly served by rail and hence demand has been strong.

4.1.2 Overview of Open Access and Franchising Take Up

Franchised concessions have been offered for all heavy rail passenger services in the United Kingdom. In general, franchise services can be categorised into London, Intercity and Regional services.

As a result of the regulatory changes between 1993 and 2011 there have been multiple evolutions of franchising. At the time of privatisation there were 25 franchises let to the private sector – today there are 19 franchises and 16 Train Operating Companies (TOC)[53]. Changes to the franchising environment and regulatory structure are a result of lessons learned by government and the private sector over time about the benefits and risks associated with franchising.

53 Department for Transport "Public register of franchise agreements" and the Association of Train Operating Companies.

4.1.3 Regulatory Structure

Revenue Risk

The Government uses a variety of franchise contracts, depending on the services required and areas to be serviced. The maximum contract length for United Kingdom rail franchises is mandated under European Law[54]. Under the regulations a franchise may initially be awarded to run for 15 years but may be extended by up to a further 7.5 years (a maximum of 50 per cent of the initial contract term) – resulting in a maximum mandated franchise length of 22.5 years[55].

In practice the majority of current let contracts are 10 years or shorter (DB Regio's Chiltern Railways has an 'up to 20 years' contract term which started in March 2002 which was contingent on franchisee investment on infrastructure upgrades to the Chiltern Line)[56]. A series of franchises due to be re-let in the next 5 years, including the East Coast, Trans-Pennine Express, Essex Thameside and Greater Western are proposed as initial 15 year contracts[57].

Even where more revenue risk is transferred to the franchisee, government insulates the private operator through revenue-risk sharing mechanisms[58]. The Government achieves this by guaranteeing to subsidise part of any shortfall between estimated (agreed) revenues and actual revenues, within some threshold bands. In return government receives a proportional share of revenue risk upside, where it exceeds agreed levels.

Currently, if revenues are 2 per cent or more below the agreed level, government provides a subsidy of 50p for every £1 of shortfall. This government subsidy rises to 80p where revenue is 6 per cent or more under agreed levels[59]. In times when rail travel demand falls, this can be expensive for government – it offsets this subsidy when the travel demand cycle improves. A difficulty for government arises when there is a long gap between the boom and bust in the travel demand cycle.

The risk-sharing mechanisms in United Kingdom rail franchising can have some perverse impacts. For example, when an operator is outside the 6 per cent contracted revenue range where it derives the greatest return on investment, there is a heavily reduced incentive to introduce costly revenue protection measures to reduce fare evasion. Network wide, fare evasion is estimated at up to 10 per cent – costing more than £6 billion annually[60]. Of course, revenue protection strategies vary between TOC's, with some pursuing aggressive measures.

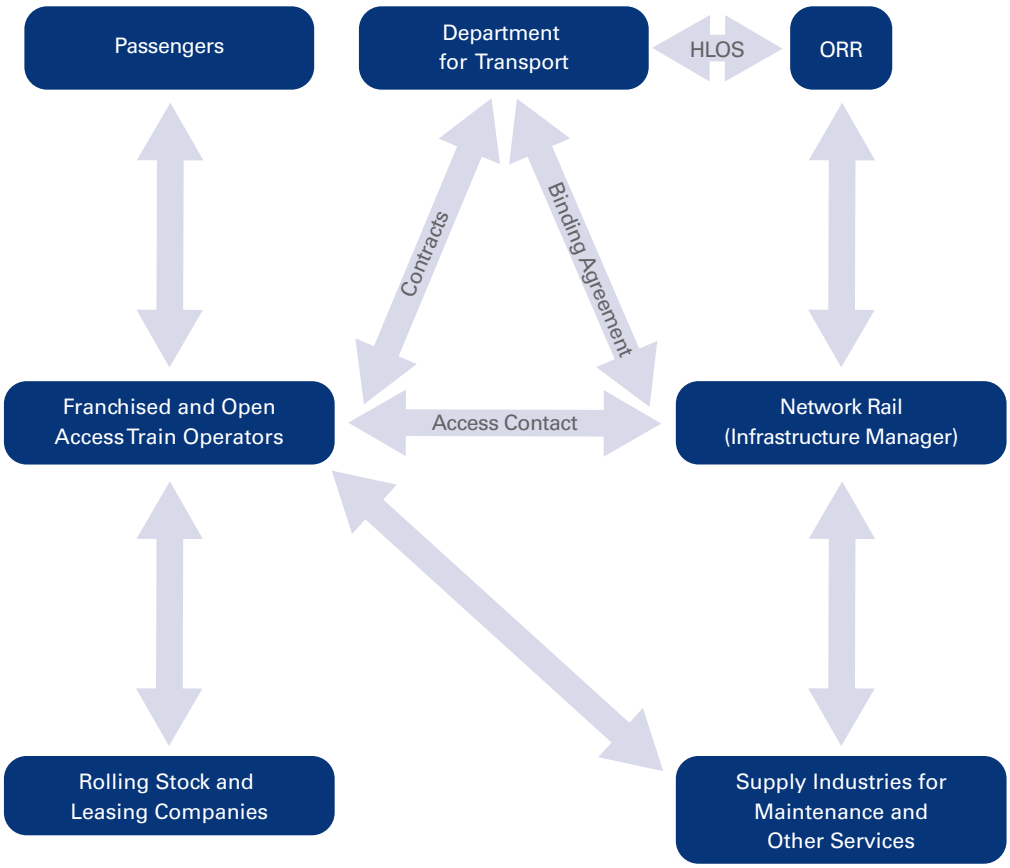
54 Articles 4.3 and 4.4 of Regulation 1370/2007/EC.
55 House of Commons Library, Railways: Passenger Franchises,1 June 2011.
56 Ibid.
57 Ibid.
58 Department for Transport - A guide to the railway franchise procurement process, January 2010.
59 Taking the Strain, Risk Sharing in United Kingdom Rail Franchising, August 2010.
60 Ibid.

Railway System Co-ordination

Within the rail industry three key relationships are vital to its operation (see Figure 14). These are:

- **Department for Transport (DfT) and TOC's.** Franchise agreements between Government and each train operator specify minimum levels of service, including service type for the rail timetable, fares, ticketing policy, quality and investments for service enhancements. The Department determines five year Control Periods and within those periods the High Level Output Specifications (HLOS) which underpin capacity, reliability, safety and other service requirements. DfT maintains a Public Register of Franchise Agreements, published quarterly on its website, including the full text of current Franchise Agreements.
- **TOC's and Network Rail.** Infrastructure access contracts specify the rights and obligations of train operators (infrastructure users) and Network Rail (infrastructure provider). The access contracts set out a TOC's access rights based on their service type for the timetable, the access charges they need to pay to use the infrastructure and performance incentives. Access contracts apply to train operators operating under franchise agreements and those with open access.
- **Network Rail and the Office of Rail Regulator (ORR).** The ORR converts the HLOS set by the Department into detailed infrastructure outputs that Network Rail must achieve and the funding requirements to support this. Through a Network Licence, the ORR monitors and enforces Network Rail's obligations.

FIGURE 14 Regulatory structure of United Kingdom rail industry



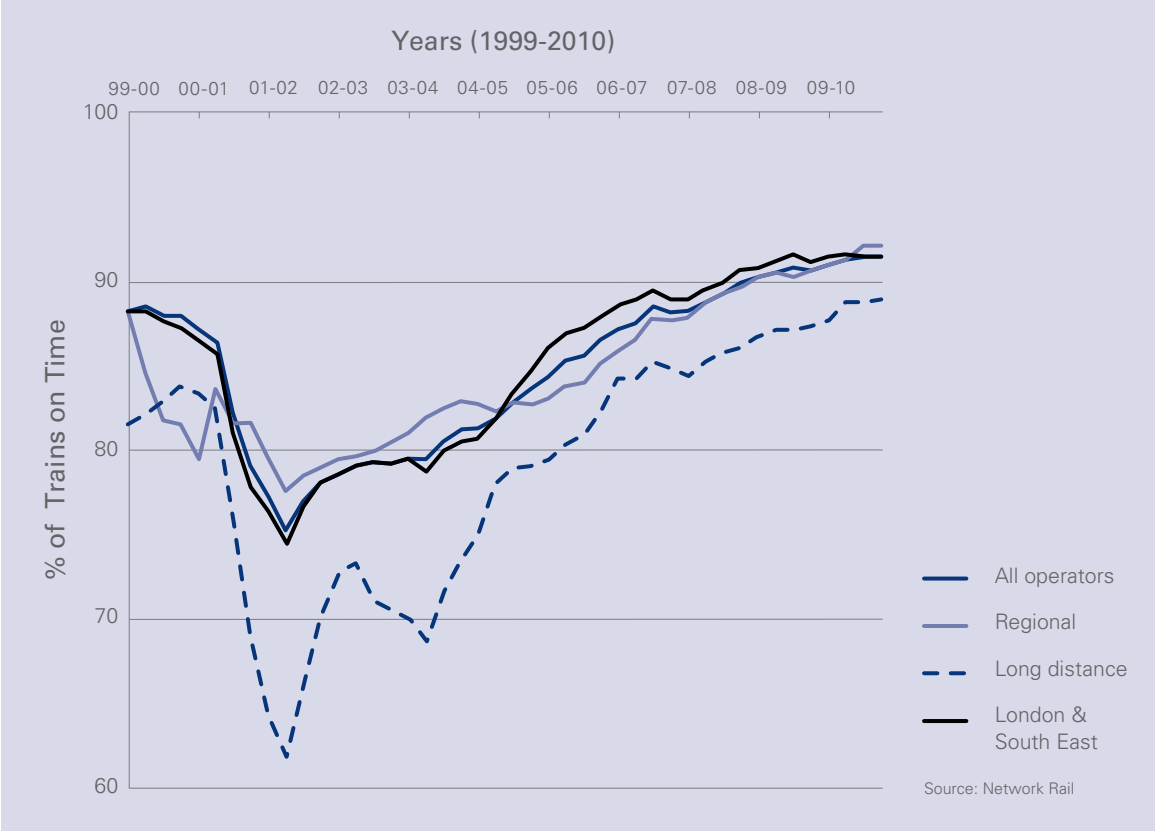
4.1.4 Franchising Benefits, Costs and Lessons

The result of privatisation and franchising in the United Kingdom has been mixed. Improvements in rail services have been achieved, but at higher than anticipated costs to the taxpayer.

Key Benefits

- A 59 per cent increase in passenger journeys to 1.3 billion per year. Increased patronage, coupled in recent years with RPI+1 per cent fare regulation, have increased revenue. Since 1996-97 annual passenger rail revenue has increased by 75 per cent from £2.6 billion to £6 billion in 2008-09 prices[61].
- Capacity has increased dramatically as a result of privatisation through the delivery of new trains – as legacy rolling stock was replaced between 2001 and 2006 the average age of carriages across the network fell by 35 per cent[62]. TOC's have commissioned over 5000 new rail coaches since franchising[63].
- Infrastructure enhancements since 1996-97 have contributed to a 24 per cent increase in passenger train kilometres[64].
- Since protracted disruption that followed the Hatfield derailment in 2000 – which also exposed significant historical infrastructure under-investment[65] – reliability and on-time performance has consistently

FIGURE 15 On-time running for United Kingdom TOC's[66]



Source: Office Rail Regulation National Rail Trends Yearbook 2009-2010

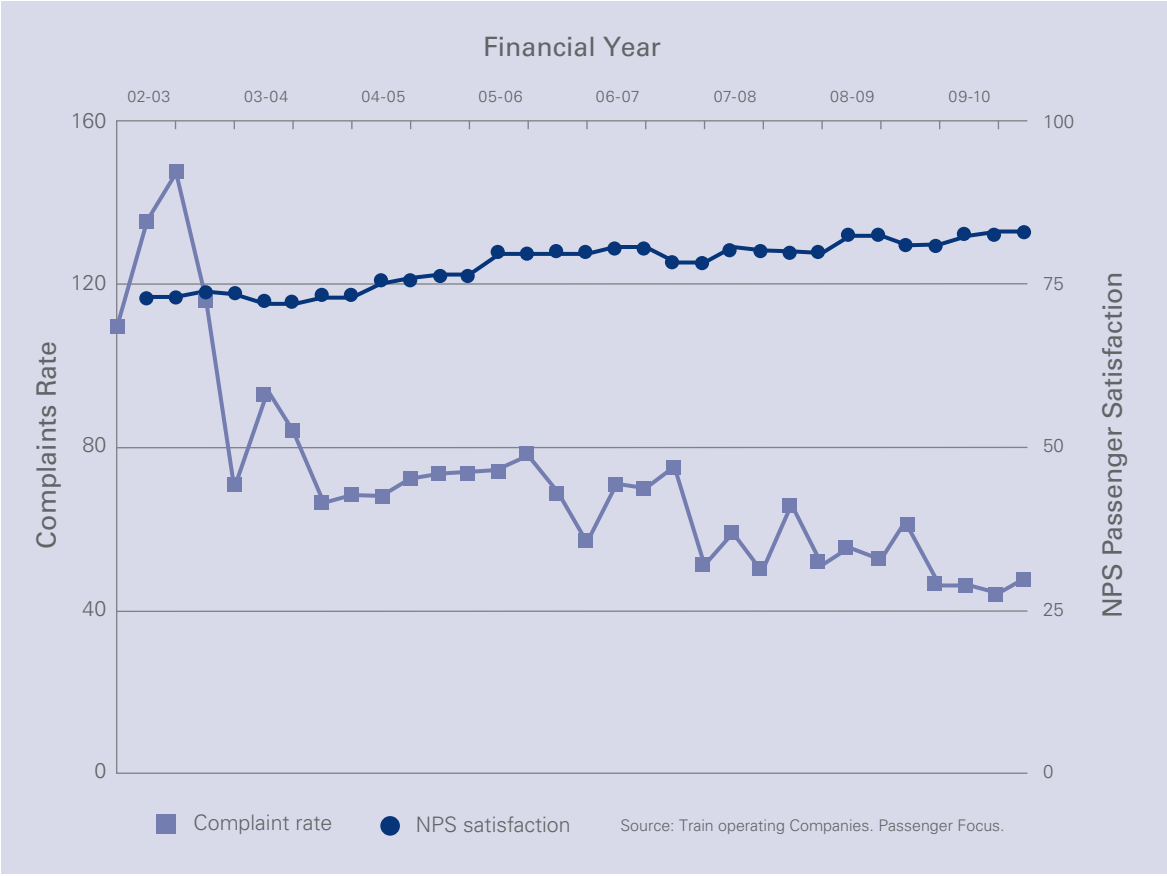
61 DfT/ORR Rail Value for Money Study, 31 March 2010.
62 Table 6.1, Page 58, Office Rail Regulation National Rail Trends Yearbook 2009-2010.
63 ATOC, Franchising policy Brief, April 2010 (http://www.atoc.org/clientfiles/File/Policydocuments/Franchising2010.pdf - accessed 12/07/2012).
64 DfT/ORR Rail Value for Money Study, 31 March 2010.
65 Ibid.
66 Table 2.1a, Page 23, Office Rail Regulation National Rail Trends Yearbook 2009-2010.

and steadily improved[67]. The Moving Annual Average for on time train arrival for 2011-Period 1 stood at nearly 91 per cent[68]. See Figure 15 which shows the on-time running trends for all services broken down by service type – the Long Distance sector saw the largest impact from post-Hatfield restrictions.

- Since 2002-03 complaint rates have consistently fallen as customer satisfaction rates have seen a steady increase to the Q2 2011 level of 84 per cent of customers satisfied with the overall rail service[69]. Figure 16 shows complaint rate and customer satisfaction trends across the network.

- With 19 franchised operators and one concession across the network, there are variations in performance and customer satisfaction across the franchises and between routes[70]. The highest performers for overall satisfaction included First Hull Trains (95 per cent), Heathrow Express (95 per cent), Merseyrail (91 per cent), c2c (91 per cent) and Virgin Trains (90 per cent) while the lowest performers were First Capital Connect (78 per cent), National Express East Anglia (78 per cent), First Great Western (82 per cent), Southeastern (82 per cent) and Southern (82 per cent)[71].

FIGURE 16 Customer Complaint Rate and Customer Satisfaction Trends for all United Kingdom TOC's[72]



Source: Office Rail Regulation National Rail Trends Yearbook 2009-2010

67 DfT/ORR Rail Value for Money Study, 31 March 2010.
68 Network Rail Performance Figures (01 April 2011 to 30 April 2011) accessed 11/07/2011 (http://www.networkrail.co.uk/aspx/742.aspx).
69 Passenger Focus National Passenger Survey main Report, Spring 2011.
70 The UK Association of Train Operating Companies placed the number of TOC's at 19 on 20th July 2011 but notes it is a number that moves regularly with changes to franchises, ownership and consortia participants. The Department for Transport's public register of TOC's listed 16 operating in the UK (some across more than one franchise) on the 21st July 2011.
71 Ibid.
72 Table 2.2a, Page 27, Office Rail Regulation National Rail Trends Yearbook 2009-2010.

Costs

Following privatisation the real cost of providing passenger rail service had increased by 72 per cent from £5 billion in 1996-97 to about £12 billion in 2008-09 (in 2008-09 prices).

These costs[73] are attributable to:

- Train operating costs have increased in real terms – between 1997 and 2009 train operating costs increased by £1.4 billion as a result of staff costs (part of which is attributable to increased service provision) and increased train-kilometres (i.e. extra services). These additional costs are broadly connected to expanded services and increased patronage;

- Increases in Network Rail operating and maintenance expenditure to ensure system reliability and safety – a significant component of this increased cost relates to under-investment, maintenance backlogs and deficient work practices exposed by the Hatfield incident which required remedial investment[74]; and

- Increases in rolling stock charges. These increases are a result of higher numbers of trains being leased to meet consumer demand and increased train services per kilometre. These costs are also a natural part of expanded services and service levels.

Because costs have increased faster than revenues, costs per passenger train kilometre are 40 per cent higher than in 1996-97 and Network Rail's real-terms operating costs also remain above 1996-97 levels.

Continued Need for Government Funding

The government subsidies built into franchises, government's obligations to fund Network Rail and much higher than expected patronage has led to a higher than anticipated call on government funding. Overall government funding for the rail system has increased by almost 45 per cent from £2.3 billion in 1993-94 to £5.2 billion in 2008-09 (in 2008-09 prices)[75].

73 All figures and cost comparisons are in real terms, expressed in 2008-09 prices.
74 DfT/ORR Rail Value for Money Study, 31 March 2010.
75 Ibid.

4.2 Swedish Experience with Tendered and Network Concessions

Sweden was the first European nation to implement off-track competition. Vertical separation of infrastructure and services occurred in 1988 leading to competition being introduced on some passenger services, on most freight services and in supporting functions such as cleaning and maintenance[76]. Unlike many other countries, the push toward this approach was largely driven by the publicly owned monopoly passenger rail provider, Swedish State Railways (Statens Janvagar SJ). SJ sought to come to terms with recurrent financial difficulties and develop a profitable operation by adopting a bottom line approach. SJ demanded change and political action, instigating a series of deregulatory measures from the Central Government[77].

4.2.1 History

The Transport Policy Act 1979

In the late 1970s SJ became increasingly concerned about operating on unprofitable regional and local rail lines and pressed the central Swedish government to allow it to cease services on these lines. In response the Government introduced the Transport Policy Act (1979) which transferred the responsibility for some unprofitable bus and rail services to local governments. As a result each of Sweden's 24 local governments established a County Public Transport Authority (CPTA). This represented a first step in shifting the financial burden of commuter rail services to the counties and away from central Government. The move established a platform for competitively tendered franchises in the future[78].

The Railway Act 1985

The introduction of the Railway Act (1985) was triggered by the failure of the Transport Policy Act 1979 to improve the financial performance of the State Railways. The Act gave SJ the power to re-organise itself internally and instructed SJ to divest non-core activities. The legislation expanded the State's responsibility for railway infrastructure investment, 80 per cent of the total infrastructure costs would

76 Nilsson, Restructuring Sweden's railways: The unintentional deregulation, 2002 and OECD and ITF (Preston), Competition for Long Distance Passenger Rail Services: The Emerging Evidence, Discussion Paper 2009-23, December 2009.

77 Hulten, Opening Up the Pandora Box of Deregulation – the Deregulation process of the Swedish Railway System, Stockholm School of Economics, 2000 and Alexandersson and Hulten, Competitive Tendering of Regional and Interregional Rail Services in Sweden, Stockholm School of Economics, 2007.

78 Hulten, Opening Up the Pandora Box of Deregulation – the Deregulation process of the Swedish Railway System, Stockholm School of Economics, 2000.

now be added to SJ's capital base with the balance (20 per cent) treated as a grant from the Central Government[79]. The Act entrenched within SJ, the need to act profitability and thereby reduce its provision of services considered to be community service obligations.

The Transport Policy Act 1988

Despite the deregulation of the late 1970s and the 1980s, reform of the Swedish Railway sector effectively began with the amendment of Transport Policy Act (1988). This Act transformed the Swedish railway system from a vertically integrated monopoly, to a decentralised market, with intra-modal competition through separation of railway infrastructure from operations[80].

The Act resulted in the State taking full responsibility for railway infrastructure investment and maintenance (establishing a new authority – Banverket), while SJ would be transformed into a train operating company, paying charges for using the tracks[81]. The Act confirmed SJ as the primary provider of profitable rail services and required it to operate on a commercial basis. SJ committed itself to cut costs and increase revenue to increase profits. A new regime of access charges was introduced to help fund infrastructure upgrades, renewals and maintenance while central government retained responsibility for subsidising unprofitable rail lines run by CPTA's[82].

The amended legislation resulted in SJ losing sole control of infrastructure planning and sole provision of local and regional rail services, but retaining a legislated monopoly on inter-regional services[83].

Following the separation of railway infrastructure and operations, the newly formed State authority, Banverket, invested heavily in rail infrastructure to improve reliability and safety and create a platform for new services, such as high speed rail. A total of 32 billion SEK was invested over the 1994-2003 period – well beyond the 1 billion SEK annual investment suggested by the Transport Policy Act 1988[84]. This large-scale investment also benefited SJ, which simultaneously invested in rolling

79 Hulten, Opening Up the Pandora Box of Deregulation – the Deregulation process of the Swedish Railway System, Stockholm School of Economics, 2000.
80 Alexandersson and Hulten, Competitive Tendering of Regional and Interregional Rail Services in Sweden, Stockholm School of Economics, 2007.
81 Hulten, Opening Up the Pandora Box of Deregulation – the Deregulation process of the Swedish Railway System, Stockholm School of Economics, 2000.
82 Ibid.
83 Ibid.
84 Ibid.

stock through lease back arrangements with financial institutions, leading to improvements in services and the overall image of Swedish rail[85].

More reforms were introduced in 1996, following a change of central Government. A bill coming into effect in July 1996, meant allocation of track capacity and train traffic control were transferred from SJ to Banverket, while other common facilities were to be available for other train operators under commercial terms. The CPTAs' rights were extended, making it easier for them to replace reductions in SJ's supply of inter-regional trains with regional CPTA-managed services. Consequently, the practice of competitive tendering became available for more parts of the railway network[86].

In 1996, SJ reported a significant loss[87] and this prompted further debate about the appropriate structure of the railway system. Some groups argued that the economies of scale in Sweden demanded that rail remain a public sector monopoly, while others advocated the introduction of competitive tendering for all services[88]. Further regulatory reforms in 1998 maintained SJ as a monopoly provider of inter-regional services and confirmed the capacity of CTPA's to tender for unprofitable rail lines under their control[89]. Track access fees were lowered to increase competition, some fringe railway lines that had remained in SJ's hands were transferred to Banverket and a new national coordinating authority, Rikstrafiken, was established[90].

An inflow of new entrants to the competitive market in 2001 prompted further reform of SJ, in 2001 – restructuring the business into several state-owned corporations. The passenger division formed one company (SJ Ltd – initially known as SJ AB), the freight division another (Green Cargo), and so on for real estate (Jernhusen), maintenance (EuroMaint) and other businesses. Two divisions, TraffiCare (cleaning services) and Unigrid (computer information systems), were fully privatised a few months later. SJ Ltd retained the exclusive rights to operate the profitable inter-regional services and was the only part of the sector to retain monopoly powers[91].

These structural and regulatory arrangements largely remain in place today. Under the current framework of the Swedish railway Banverket is the primary rail infrastructure holder, owning and maintaining 80 per cent of all railway lines. About 20 train operating companies use the state's rail infrastructure, most of them being very small single service operations to regional areas. On passenger services, the state-owned company SJ Ltd is still the dominant operator, but private firms like Connex, Citypendeln and Tagkompaniet are important competitors[92].

The CPTA's still play a large role in the current system, accounting for much of the procurement of railway services. They also provide rolling stock for contracted operators on the services in their regions[93].

The basic competitive model employed in the Swedish passenger rail market is "off-track competition". Once a contract has been won in a tender, the winning firm becomes the sole provider of the specified services during the contract period[94]. The bidding process is generally a reverse closed auction in which the low bid wins but the bidder also has to meet other criteria, showing that it conforms to standards on competence and is prepared to work with quality-related performance indicators[95].

For the CPTA-managed services, gross-cost contracts are dominant. The operators bid for the lowest amount of subsidy needed to cover the costs, including a profit, of operating the services. The CPTAs retain responsibility for planning and marketing of the services, set ticket prices and take all the revenues from fares during the contract period. A system of bonuses, in the form of revenue sharing, and penalties is in place to maintain service standards. Contract periods vary between 3-5 years, with contract extensions of 1-3 years available upon successful service providers[96].

85 Hulten, Opening Up the Pandora Box of Deregulation – the Deregulation process of the Swedish Railway System, Stockholm School of Economics, 2000.
86 Alexandersson and Hulten, Competitive Tendering of Regional and Interregional Rail Services in Sweden, Stockholm School of Economics, 2007.
87 Hulten, Opening Up the Pandora Box of Deregulation – the Deregulation process of the Swedish Railway System, Stockholm School of Economics, 2000
88 Ibid.
89 Ibid.
90 Alexandersson and Hulten, Competitive Tendering of Regional and Interregional Rail Services in Sweden, Stockholm School of Economics, 2007.
91 Nilsson, Restructuring Sweden's railways: The unintentional deregulation, 2002 and Alexandersson and Hulten, Competitive Tendering of Regional and Interregional Rail Services in Sweden, Stockholm School of Economics, 2007.
92 Ibid.
93 Ibid.
94 Ibid.
95 Ibid.
96 Ibid.

The Stockholm metropolitan area rail and bus services are franchised by Stockholm Local Transport (SL), the CTPA of Stockholm County Council, to a number of companies under a single network and fare structure[97].

The SL franchises are normally for 5 year terms with a 5 year option to renew. Train capacity is determined by SL, but the operating timetable is the responsibility of operators. Agreements include performance objectives with bonus or penalty payments of 1 to 2 per cent of the contract value.

Net-cost contracts are deployed by Rikstrafiken for inter-regional services. The bidding firm has to project both the costs and the revenues from fares during the contract period, bidding for the minimum amount of subsidy needed to cover the deficit. During the contract period, the operator sells tickets and collects fares, and generally has more freedom to influence the services than under a gross-cost contract. However, price levels, minimum supply, and quality requirements are still stipulated in the contract. Contract periods are currently 5 years[98].

4.2.2 Franchising Benefits, Costs and Lessons

The combined use of a tendered concessions (off-track competition) model and a public monopoly model has been used to pressure SJ to operate more commercially and profitably, while also reducing the obligation of the central government to manage and fund uncommercial rail lines. This has had mixed results.

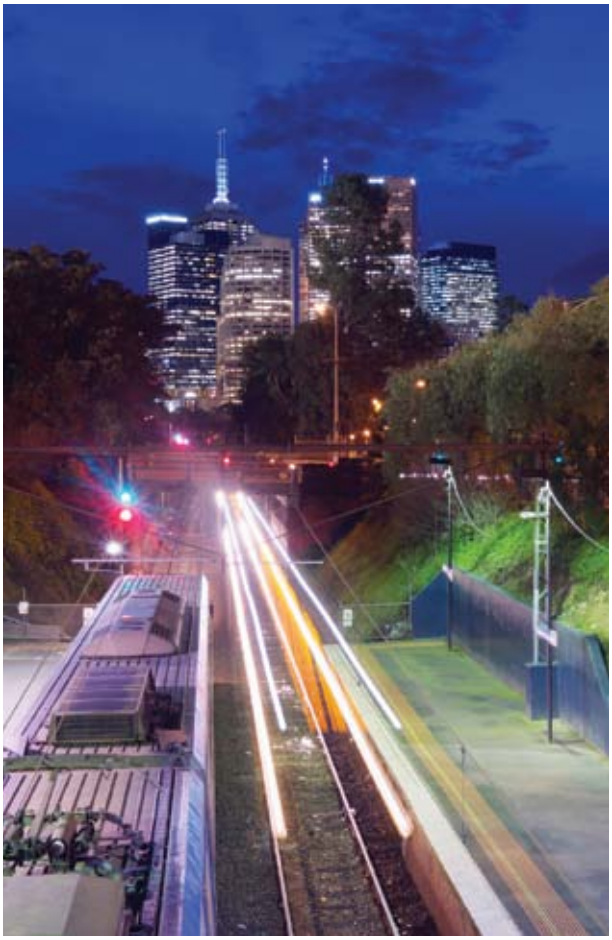
In terms of efficiency and productivity the results have been positive. Franchising unprofitable rail lines has reduced train operating costs by between 20 and 30 per cent[99]. Other improvements include innovations in rolling stock, management, and ticket systems, some of which may be directly related to the introduction of tendering and the entry of new firms into the market[100]. At the same time, the infrastructure owner (Banverket) has the second highest productivity (measured in train kilometres per employee) in Europe, after the Netherlands[101].

While acknowledging the improvements of rail reform, studies of the Swedish experience have identified some limitations. These include a shallow market for competition with tenders generally receiving no more than three bidders, and the development of a system of unrealistic or predatory bids that led to financial difficulties[102].

The Swedish Rail Agency, the rail regulator, reports that significant barriers to entry remain because:

- SJ Ltd enjoys a legislated exclusive right to operate inter-regional services and this enables it to dominate the entire rail market. Its whole of rail market share in 2006/07 was 52 per cent while the remaining 48 per cent market share was split between 6 other companies;
- SJ Ltd has been in the market a long time and this, together with its continuing public ownership, means it enjoys a special relationship with government[103];
- Tendering for uncommercial rail lines only preserves SJ AB's dominance and discourages private sector investment; and
- Exclusive contracts provided to franchisees on tendered rail lines entrenches their position and reduces future competition.

97 Productivity Commission, Report on Public Infrastructure Financing, Australian Government, 2009, p196.
98 Alexandersson and Hulten, Competitive Tendering of Regional and Interregional Rail Services in Sweden, Stockholm School of Economics, 2007.
99 Ibid.
100 Ibid.
101 Jansson, Pricing and Financing of the Railway in a Competitive Environment, Department of Economics, University of Stockholm.
102 Alexandersson and Hulten, Competitive Tendering of Regional and Interregional Rail Services in Sweden, Stockholm School of Economics, 2007.
103 Swedish Rail Agency, Sector Analysis of Railway Undertakings 2006/07.



4.3 Victorian Experience with Rail and Tram Franchising[104]

Victoria has undergone three distinct rounds of passenger rail franchising relevant to this paper – each round covering both heavy rail and Melbourne's iconic tram system. The second round of franchising sought to address issues exposed by flaws in the original concession model. The initial franchise model adopted in Victoria was a tendered concession with the latest evolution in 2009 structured as a network concession.

As with the development of the United Kingdom and Swedish models, the Victorian experience holds a number of valuable lessons for NSW, particularly from the modifications made to later evolutions of the franchising structure. Victoria had already privatised its electricity and gas assets and viewed rail franchising as an opportunity to reduce its exposure to financial and other risks[105].

4.3.1 History

In the early 1990's the Victorian Government created the state-owned Public Transport Commission and corporatised the State's public transport rail and tram operations into five separate entities – two metropolitan rail, two tram and one regional rail business[106].

In 1999 the Victorian Governments five heavy rail and tram businesses were separately tendered to the private sector. The Government retained ownership of rail track, signals and related infrastructure which was vested in a government corporation, VicTrack – however, franchisees leased infrastructure and assumed responsibility for maintenance and specific investment tasks on the network over the term of the concession[107].

Contracts to operate the tram and rail services were competitively tendered as part of a franchising regime. The Government awarded 5 contracts to 3 private companies – National Express, Melbourne Transport Enterprises and MetroLink (Trams) – over 15 year concession periods[108].

104 Information in this section has been drawn from Victorian Department of Infrastructure, An Overview of Passenger Rail Franchising in Victoria, 2005; Productivity Commission, Report on Public Infrastructure Financing, Australian Government, 2009; Bureau of Transport and Regional Economics (BTRE) (Kain), The Pitfalls in Competitive Tendering; Addressing the Risks Revealed by Experience in Australia and Britain, January 2006.

105 Williams, Greig, Wallis, Results of Railway Privatization in Australia and New Zealand, The World Bank, 2005.

106 Stanley, Franchising of Melbourne's rail services: assessment after six years, European Transport/Trasporti Europei n. 33 (2006): 54-68.

107 Bureau of Transport and Regional Economics (BTRE) (Kain), The Pitfalls in Competitive Tendering; Addressing the Risks Revealed by Experience in Australia and Britain, January 2006.

108 Williams, Greig, Wallis, Results of Railway Privatization in Australia and New Zealand, The World Bank, 2005.

By 2001/02, it became clear that franchisees could not be financially sustainable under the prevailing contracts. This occurred for a range of reasons including:

- Unrealistic assumptions by the franchisees at the time they bid for contracts about patronage growth and cost savings. Across all the franchised contracts bidders assumed average patronage growth of 71 per cent. This was the most significant of all the factors contributing to financial distress and is a common risk in the competitive tendering of former public services;

- Contractual disputes and flaws. For example, revenue from all public transport services was pooled and distributed to franchisees on the basis of patronage on their service. The patronage figures (and revenue share) was based on quarterly usage surveys. These surveys had disputed methodology flaws which led to revenue share disputes;

- Franchisees were incentivised by government payments to maintain the infrastructure they used in accordance with asset management plans and condition indicators. This was an output based approach. However, the surveys used to assess asset conditions were flawed to an extent that prevented franchisees and government from accurately identifying whether maintenance works contributed to the condition of assets;

- Poor performance of the ticketing system. Integrated ticketing which was designed to support interconnectivity and convenience for users was delivered three years behind schedule and continued to suffer severe operational limitations; and

- With the introduction of the GST, bidders were asked to accept tax risk and a risk of a GST of 5 per cent. Base contract payments from government included a GST and CPI multiplier to neutralise the GST impact on franchisees and permit fare increases. The methodology underpinning this failed to consider that fare increases would drive consumers away and create a risk to revenue.

In 2002 one of the franchisees (National Express) relinquished its three franchise contracts because of financial difficulty.

This led the Government to review the franchising contracts and arrangements. The Government chose to re-negotiate contracts with remaining operators rather than tender again. This decision was made because of concern about the depth of market interest; the chance of further instability in the rail industry; and, a lack of appetite by government to resume responsibility for rail services.

In 2004 new contracts were agreed with existing franchisees. The National Express V/Line service was retained by the Government and the remaining four metropolitan franchises were replaced by two five year concessions – one for trains and one for trams. Franchises relinquished by National Express on the remaining train network (not V/Line) were transferred to Connex – albeit under substantially renegotiated terms (See Table 14)[109]. The modified model altered the risk sharing profile, reallocating and returning a greater share of the risk back to the Victorian Government. The new risk profile included top-up payments for severe revenue falls and profit sharing for above expectation revenue rises – this offered franchisees greater comfort

TABLE 14 Franchisees operating rail services in Melbourne

Original Service	Operator in 1999	Operator in 2004	Operator in 2009
Bayside Trains	National Express	Connex (rebranded from MET)	Metro Trains Melbourne - operating as MTM
Hillside Trains	Melbourne Transport Enterprises (MET)	Connex (rebranded from MET)	Metro Trains Melbourne - operating as MTM
Yarra Trams	MetroLink (Metlink)	TransdevTSL	KDR (Keolis & Downer EDI) - operating as Yarra Trams
Swanston Trams	National Express	TransdevTSL	KDR (Keolis & Downer EDI) - operating as Yarra Trams
V/Line Passenger	National Express	V/Line (government owned)	V/Line (government owned)

Source: Aegis

109 Stanley, Franchising of Melbourne's rail services: assessment after six years, European Transport/Trasporti Europei n. 33 (2006): 54-68.

around factors they could not influence, such as traffic congestion and broader economic conditions. The changes also gave Government enhanced security as they reduced the likelihood of a franchise defaulting[110].

2009 Refranchising

In August 2007, the Victorian Government announced it would run a worldwide tender for the operation of Melbourne's train and tram networks.

This announcement followed an Auditor-General's review of the 2004 modified franchising process that found that it had delivered "*reasonable value-for-money*", considering the Government had negotiated the contracts without a competitive tendering process.

The 2009 franchising process saw a return to the competitive tendering model used in the original 1999 process. The reason to continue with private operators was based on the relative success of the model.

Patronage had increased and significant improvements in punctuality and reliability had been achieved. The EOI brief for the 2009 franchises summarised the Government's position "*the State considers that continued private sector operation of Melbourne's tram and train networks will provide further operating improvements, innovation and value for money and it remains committed to the franchising model.*"

110 Williams, Greig, Wallis, Results of Railway Privatization in Australia and New Zealand, The World Bank, 2005.

The structure and regulatory basis of the franchise agreements remained relatively unchanged from the 2004 model. Reallocation of the revenue risks would be the major change to the make-up of the franchise agreement. The new franchise has a cap and collar risk sharing mechanism and a three year reset to deal with the potential volatility in the operating environment. The three year evaluations are based on the potential operator's forecasts, as part of their franchise bid. Other changes included the capping of performance bonuses and penalties to $1 million per month for trains and $500,000 for trams, introduction of service quality performance regime (such as cleanliness, graffiti removal and signage) and a greater focus on project delivery for capital investments.

In the 2009 refranchising, the Victorian Government invested around $10 million in due diligence transaction costs for the rail network across many disciplines, such as asset condition (both above and below rail), operations, financial, legal and human resources. This work delivered an electronic data room with more than 10,000 documents available to tenderers.

This approach meant tenderers could generally make informed decisions about their bid, as opposed to making assumptions and estimates. As a result, bidders were reasonably consistent across cost components, could make decisions about possible efficiencies and also saved on their own total bidding costs – removing a potential barrier to entry. As a result of the due diligence, the Government was able to gain confidence around bid sustainability and mitigate the 'winner's curse' scenario.

4.3.2 Patronage Growth

The Victorian Department of Transport have acknowledged that unprecedented patronage growth since 2005 – 50 per cent growth over four years – has played a significant part in the dramatic decline of on-time running performance. *"The underlying driver of operational performance (cancellations and on-time running) has been the growth in patronage, which causes increasing congestion and delays*[111]*."*

The increased patronage has resulted in over-crowding that has increased the length and variability of 'dwell times' at stations. In addition, as more trains are added to the network, there is less spare capacity in the system and therefore less opportunity to recover from service interruptions. The number of incidents causing delays has remained relatively constant but as the system reaches its capacity, the accumulated length of delays has almost doubled even as the frequency has remained stable[112]. The impact of this phenomenon can be seen in Figure 17.

A series of operational reforms and infrastructure investments have been implemented by the Victorian Government to increase the capacity of the network and allow the operator to run a more consistent and reliable service. Operational changes include timetable improvements, removing points of conflict and maximising the utilisation of rolling stock. Investment has been targeted at improving rail infrastructure, modernising more sections of the network to allow metro trains to replace V/Line services and the separation of regional and metropolitan trains (Regional Rail Link)[113].

In light of the rising patronage levels and in response to the recent under-performance of passenger services, Metro and the Victorian Government, introduced a series of operational changes to improve performance. These changes included a rescheduled timetable introduced in May 2011, the lifting of speed restrictions and the deployment of customer service staff at key locations.

FIGURE 17 Patronage Growth vs. on-time Running 1989 to 2010

Source: Victorian Department of Transport and IPA calculations

111 Victorian Department of Transport 2009 - Victorian Government Submission : Select Committee on Train Services.
112 Ibid.
113 Ibid.

In July 2011 results suggest these measures have contributed to Metro significantly improving both the punctuality and service delivery. Recording a punctuality result of 91.9 per cent – the best result since Metro took over the franchise in 2009 and the highest in five years. The service delivery also exceeded target with a result of 98.7 per cent.

4.3.3 Franchising Benefits, Costs and Lessons

Despite the issues that led to modified franchising arrangements in 2004, franchising delivered a range of benefits from 1999 to 2004 and from 2004 to the 2009 refranchising and beyond. These included[114]:

- Patronage growth between 1999 and 2004 was 3 per cent annually and experienced a clear spike from 2005 onwards with 50 per cent growth in the four years to 2009;
- During the first round of franchising the reliability of train services had improved by an average of 35 per cent;
- A 46 per cent growth in spending on rail maintenance between 2005 and 2009;
- Customer satisfaction had increased from 61 per cent before 1999 to an average of 68 per cent in 2003 across all franchisees;
- To keep pace with the increased demand an extra 928 weekly services were added, or 7.7 per cent growth in service provision between 2004 and 2009;
- By 2011 the number of weekly services has increased by 17 per cent to 14,000 and annual patronage has risen 44 per cent from 161.8 million in 2006 to a record 232.5 million trips;
- In July 2011 Metro achieved punctuality results of 91.9 per cent and service delivery of 98.7 per cent;
- More cost-efficient usage of existing rolling stock was achieved by increasing the average annual kilometres travelled by over 20 per cent between 2004 and 2009 and spending approximately $143 million on refurbishment; and
- New rolling stock worth about $1.1 billion had been delivered into service within the agreed timeframes from the initial franchising. This included National Express delivering 36 six-car sets of Siemens Nexas units and Connex delivering 29 six-car sets of Alstom X'trapolis trains on time and on budget.

The costs and lessons from Melbourne's three rounds of franchising include:

- Between 1999 and 2004 government subsidies to franchisees grew from about $300 million to $560 million. The increase between 1999 and 2004 was basically the variation between the over optimistic original bids (high revenue growth and cost savings) and the actual cost to run the services;
- An appreciation of the investment, legal and service uncertainty caused by the failure of the 1999 regime and a case study for governments and franchisees on the pitfalls to avoid in public transport franchising;
- An awareness of the policy and fallout risk to government caused by the failure of the 1999 arrangements;
- Lessons from the 1999-2004 period informed policy makers in the 2004 modification and 2009 refranchising which delivered more sustainable franchise models with more pragmatic risk sharing;
- The 2009 refranchising process included significant Government due diligence that was made available to all bidders, reducing cost of entry into the market and ensuring comfort between all parties about the infrastructure investment task;
- Victoria's rail infrastructure approached operating capacity following 50 per cent patronage in the four years to 2009 – this resulted in severe adverse impacts on franchise operating performance, in large-part attributable to a variable beyond the control of the train operators; and
- The consistent increases in patronage were not suitably matched with investment in infrastructure to provide additional capacity, resulting in a magnified deterioration in reliability and customer satisfaction.

Table 15 compares 1999, 2004 and 2009 franchising evolutions.

114 These observed benefits are for trains and trams collectively.

TABLE 15 Comparison of key features of 1999, 2004 and 2009 franchising contracts

Contract Features	1999	2004	2009
Term (years)	12-15 to give support franchisees obligations to invest in infrastructure maintenance and new rolling stock.	5, with option for 6-18 month renewal.	8 with an option for a further 7 years.
Fares	Increases capped to CPI.	Increases capped to CPI.	Fares increase by CPI, with Government able to make above CPI rises and recoup/compensate accordingly.
Sources of revenue	• Indexed subsidy payments from the State. • Fixed rolling stock lease payments • Variable share of pooled revenue from all public transport services. Shares determined on quarterly usage surveys. • Bonus/Penalties from government for key performance indicators.	• Indexed subsidy payments from the State. • Fixed rolling stock lease payments • Variable share of pooled revenue from all public transport services. Shares determined on quarterly usage surveys. • Bonus/Penalties from government for key performance indicators. • Fixed 40 per cent share of fare revenue. This reduced revenue risk for franchisees from 86 to 80 per cent.	• An indexed subsidy payment from the State • A fixed allocation (retained from '04 model) proportion of fare-box revenue – now set at 40% for Trains, 30% for Trams and 30% for the State. • Bonus/Penalties from government for key performance indicators. • Income from retail and advertising opportunities
Type of competition	Contracts split between 2 tram and 3 train services to encourage competition by comparison (yardstick). The purpose of this is to incentivise the poorest performer to improve.	Contracts reduced from five to three with two being offered to existing franchisees and government resuming control of one (V/Line). Competition by comparison objective superseded by objectives for better innovation, integration and customer service.	Two contracts (one train and one tram) awarded after an open competitive tender process.
Vertical integration of franchisee	Franchisees able to vertically integrate because they were responsible for service delivery and infrastructure maintenance.	Retained.	Retained.
Franchisee obligations	• Meet minimum service levels and requirements. • Develop asset management plans, undertake 3 year asset condition surveys and undertake infrastructure maintenance works (output approach). • Replace oldest rolling stock and refurbish all other stock. Purchase government rolling stock at a nominal rate, but sell this stock to leasing companies and lease it back. • Assume all fare box revenue risk and escalation costs in rolling stock investment.	• Meet minimum service levels and requirements. • Develop asset management plans that detail planned maintenance and renewal and how it will be delivered and annual work plans (input approach). • Lease old rolling stock from government.	• Meet minimum service levels and requirements. • Franchisees will be responsible for the maintenance of rolling stock in accordance with prescribed overhaul standards and preventative maintenance schedules. • Maintain infrastrastructure based on 3 year asset management plans and annual works plan.
Government obligations	• Lease infrastructure to franchisees for a nominal charge. • Provide base payments to subsidise operating costs and offer a premium to franchisees for assuming revenue risk. It was expected that these subsidies could be phased out by 2009 when franchisees were anticipated to be self-sustaining. • Pay franchisees for infrastructure maintenance works when satisfied with the condition of the asset. • Fund new and refurbished rolling stock on a fixed price basis.	• Lease infrastructure to franchisees for a nominal charge. • Provide base payments to subsidise operating costs, rolling stock lease costs and capital costs. • Pay franchisees for infrastructure maintenance works when satisfied with the condition of the asset. • Assume ownership of all old rolling stock and lease back to franchisee. • Fund new and refurbished rolling stock on a fixed price basis to underpin finance from leasing companies. • Reimburse operators for infrastructure maintenance and renewal works performed to the satisfaction for State - retained in 2009.	• Lease infrastructure to franchisees for a nominal charge. • Reimburse operators for infrastructure maintenance and renewal works performed to the satisfaction of the State.

Source: Compiled by Aegis

COULD FRANCHISING WORK IN NSW?

5 COULD FRANCHISING WORK IN NSW?

Three threshold questions when considering the relevance of franchising to NSW are:

- Does franchising offer solutions to any intractable policy issues?
- Can franchising be practically applied in NSW for the benefit of rail users and taxpayers without creating significant risks to the safe and reliable operation of the rail system?
- What are the best ways for government to consider franchising of passenger rail services in NSW?

In this section we have explored these questions in more detail.

5.1 Is Franchising an Answer to Policy Problems?

5.1.1 The Public Versus Private Debate[115]

There are three economic principles that motivate governments to consider using the private sector to deliver public services, including public transport. These are:

- **Efficiency.** Private companies are typically more efficient and capable of delivering greater productivity because they are driven by a profit motive, have more flexibility in relation to managing labour and can access and deploy different sources of capital;
- **Cost Savings.** The efficiency of the private sector reduces the operational costs of service provision; and
- **Regulation by contract.** Using a contractual relationship helps to deliver more innovative, customer responsive services that are consistent with market outcomes and policy objectives.

These outcomes are attractive to government because they have the potential to reduce public subsidies for services, increase the quantity and quality of services, redirect savings to maintain, renew and upgrade government assets and expand the capacity of infrastructure to meet market demand.

The growing spending demands in the health and welfare sectors have placed increased pressure on government balance sheets, leading policy-makers to seek more efficient outcomes from tradeable sectors like transport, electricity and water. Delivery models which return cost savings will help governments to ensure the sustainability of future budgets, reduce or avoid deficits, and limit inter-generational inequities. In this context governments are keen to make the most efficient investment decisions possible and extract maximum value for money for their spending.

To achieve efficiency through franchising, governments can employ:

- **Competitive tendering for service provision across a whole network** where relatively short term contracts are used to encourage franchisees to deliver high quality services in order to increase their opportunities for contract renewal. Unless the entire network is tendered as a single concession, this relies on the creation of competitive sub-markets and thus network efficiencies can be lost.
- **Competitive tendering for separate and discrete parts of a network** to enable the comparison of service provider performance. This is sometimes called yardstick competition or competition by comparison. It is a virtual competition designed to identify how underperforming parts of a network can be improved[116].

In the scenarios examined in this study, where franchising is applied to deliver public services, the infrastructure by which those services are provided is owned and managed by government. In most cases government is solely or primarily responsible for funding and managing infrastructure upgrades and maintenance – either directly or via operating subsidies to private, independent or quasi-independent entities. This is because it has been recognised that the profit motive that drives efficient delivery of services can also dissuade franchisees from investing adequately in infrastructure until customer service levels are adversely affected by its deteriorating condition. This scenario was evident to some degree

115 Productivity Commission, Report on Public Infrastructure Financing, Australian Government, 2009; Bureau of Transport and Regional Economics (BTRE) (Kain), The Pitfalls in Competitive Tendering; Addressing the Risks Revealed by Experience in Australia and Britain, January 2006.

116 Productivity Commission, Report on Public Infrastructure Financing, Australian Government, 2009.

in the United Kingdom example where Railtrack, the privatised infrastructure owner, was subsequently renationalised and its infrastructure assets eventually vested in the 'not-for-profit' entity Network Rail.

However, an arrangement in which the service operator is required to maintain the network and has a sufficiently long contract term will naturally create incentives to improve the network, potentially delivering efficiency dividends. This situation would see operators 'bidding up' project proposals to government, because they have an incentive to improve the network on which they operate.

In addition to owning infrastructure, in the case studies this paper has assessed, governments have also set prices, service levels and performance standards that govern franchise contracts for the delivery of public services. This is a natural way for governments to manage the political and policy risks associated with delivering public services.

Government control of these service and price elements can reduce competition and efficiency even where franchising is being deployed. One of the clear ways to reduce this risk is by using periodic competitive tendering because this continues to focus government and franchisees on achieving new operational savings and efficiencies.

In the cases we have examined of rail franchising in the United Kingdom, Sweden and Victoria it is clear that significant benefits have been achieved in terms of improvements in service reliability, volume of services, passenger growth rates, customer satisfaction and increased investment in rail infrastructure and rolling stock. The case studies have also identified costs to government and the community and the lessons that might be employed to mitigate those risks.

It is clear that RailCorp has improved its performance over the last four years in terms of on-time running and levels of customer satisfaction. Spending on asset renewal, maintenance and upgrades has also increased, improving safety and reliability while achieving the sectorisation of the railway.

5.2 How (and why) would franchising be applied in NSW?[117]

Given the benefits, costs and lessons of franchising discussed in this report it is considered that government should take an incremental approach to the application of franchising to rail in NSW. Consideration of franchising should not be driven by ideology, but by a realistic view of what franchising may be able to achieve to improve rail service delivery in the State.

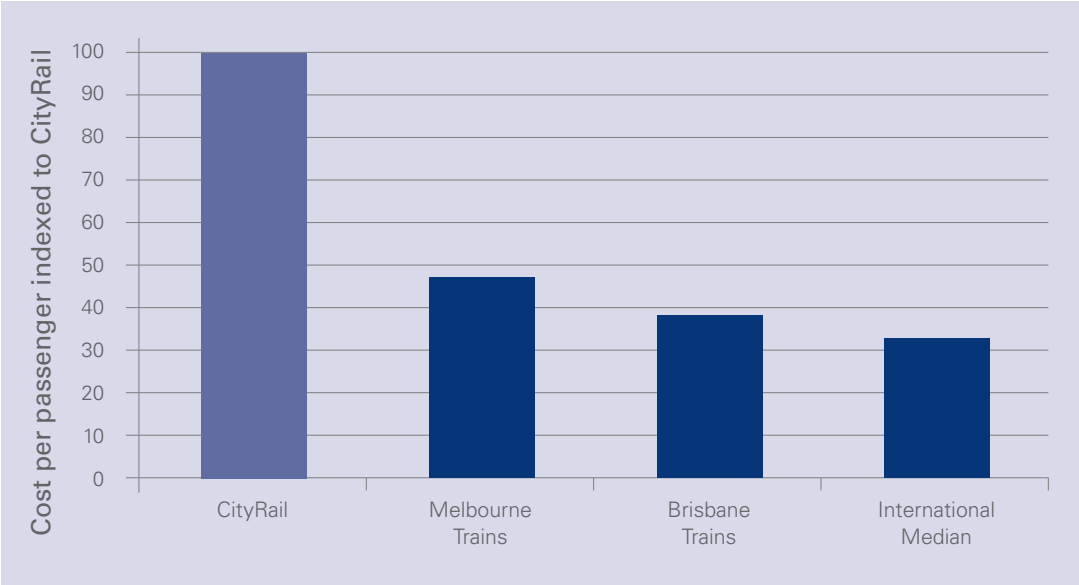
Simultaneously, RailCorp's operating costs have consistently risen faster than passenger fare revenue as it delivers more services to meet patronage growth. The operating loss it makes now on delivering services is larger than it was in 2004, and cost-recovery in 2009-10 was just over 20 per cent. A significant contributing factor in this equation however is the fact that government limits fare increases to CPI only as part of its objective to ensure the affordability of public transport. This restricts the capacity of RailCorp to recover costs from users of its services.

A *Special Commission of Inquiry* on improving rail service delivery in NSW could have the scope to look in greater detail at what benefits franchising may be able to achieve for rail operations in the State - looking more closely at the costs of the current model and the costs of alternatives, including franchising, to determine the best outcome for the State. The Special Commission should look at both the successes and failures of franchising – and other delivery models – to determine the best structure for NSW that draws on lessons learned from a broad array of experiences.

Figure 18 shows a comparison of RailCorp's service cost per passenger, with the CityRail costs indexed at 100. As is shown in the graph, the service cost per passenger in Melbourne is less than half that of Sydney, while international operators average around a third of CityRail's costs. These costs place a significant and potentially unnecessary burden on the public purse – a millstone which could be lightened by a change in the delivery structure of rail operations in NSW.

117 Information in this section is drawn from Aegis Consulting and RailCorp.

FIGURE 18 Comparison cost per passenger



Source: L.E.K Consulting, Cost Review of CityRail's Regular Passenger Services, 2008

More detailed work would need to be undertaken to identify whether franchising could produce sufficient operating savings and additional efficiencies that RailCorp cannot achieve under the current delivery structure – international experience has shown that these efficiency dividends are significant and achievable.

A more detailed examination would also be required of the relative losses that RailCorp incurs on CityRail suburban, CityRail inter-city and CountryLink regional services to identify the opportunities for franchising in any one or a combination of these service areas. Given the experience in other jurisdictions it is highly likely that franchising can deliver significant operating efficiencies and cost savings.

A significant barrier to an open access or open market regime is the complexity and interconnectivity of the rail system itself. The degree of inter-connectivity of signalling, services, rolling stock and other features would be likely to limit the possibility of trains being operated safely and reliably under an open access regime without considerable additional government co-ordination and monitoring.

A more immediate, practical and achievable option is the use of virtual or 'yardstick' competition to establish some comparators between RailCorp and the private provision of passenger rail services. The existing Eastern Suburbs Railway (ESR) and Illawarra Line are already sufficiently operationally distinct from the broader rail network to support a franchised operation – without causing undue disruption to rail service co-ordination or loss of existing network efficiencies. Implementing a franchised model on the ESR and Illawarra Line would allow NSW Government to make an informed assessment of the models' viability for wider application; while simultaneously testing and fostering public acceptance of the delivery structure.

Yardstick competition may also be appropriate for some regional services currently operated by CountryLink, particularly because regional rail lines are not as aggregated and interconnected as those in urban areas. Thus, some CountryLink services may be able to support stand-alone franchises.

5.3 What are the Best Ways for Government to Consider Franchising?

Franchising rail services in New South Wales could present an opportunity to provide higher quality services, with renewed innovation at better value to the taxpayer. Detailed investigation of the options available is crucial – a *Special Commission of Inquiry* on improving the quality and efficiency of passenger rail in NSW would provide that comprehensive examination.

A *Special Commission of Inquiry* would be incomplete without a demonstration of passenger rail franchising in New South Wales. This paper recommends a demonstration project to franchise Sector One of the network, on a short-term basis, to inform the *Commission of Inquiry*. A limited franchise will ensure options remain open for either a whole of network or a sector franchise approach in the future whilst determining what opportunities exist for gains in productivity, efficiency and accountability.

The case studies identified and assessed in this paper confirm that franchising of passenger rail services can have a dramatic impact on lifting service quality, driving innovation and enhancing cost efficiency. Each case study points to both the benefits and the challenges that have accompanied each model. Those challenges should not be ignored, rather they mean that New South Wales has the opportunity to learn from the experiences – positive and negative – in each of these jurisdictions and harness the benefits of competition to deliver a 21st century passenger rail service.

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