IPART
New South Wales

Independent Pricing and Regulatory Tribunal

Determining CityRail's revenue requirement and how it should be funded

Discussion Paper

Transport — Discussion Paper
June 2008

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Invitation for submissions

IPART invites written comment on this document and encourages all interested parties to provide submissions addressing the matters discussed.

Submissions are due by 18 July 2008.

We would prefer to receive them by email <ipart@ipart.nsw.gov.au>.

You can also send comments by fax to (02) 9290 2061, or by mail to:

Review of CityRail Regulatory Framework
Independent Pricing and Regulatory Tribunal
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Our normal practice is to make submissions publicly available on our website <www.ipart.nsw.gov.au>. If you wish to view copies of submissions but do not have access to the website, you can make alternative arrangements by telephoning one of the staff members listed on the previous page.

We may choose not to publish a submission—for example, if it contains confidential or commercially sensitive information. If your submission contains information that you do not wish to be publicly disclosed, please indicate this clearly at the time of making the submission. IPART will then make every effort to protect that information, but it could be subject to appeal under freedom of information legislation.

If you would like further information on making a submission, IPART's submission policy is available on our website.

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1 Introduction

The Independent Pricing and Regulatory Tribunal of NSW (IPART) regulates the fares CityRail can charge for the passenger rail services it provides within the Greater Sydney region. IPART has previously indicated that it is time to implement a more comprehensive and robust framework for regulating those fares. In response, the NSW Government has asked IPART to review and recommend a new economic regulatory framework that will create better incentives for CityRail to provide passenger rail services at efficient cost levels.[1] At the same time, IPART is to review CityRail's current fares and determine new fares to apply from the start of 2009. (Box 1.1 explains the relationship between these reviews.)

IPART is now part way through both these two reviews. It released an issues paper in October 2007, which identified and explained the key issues it plans to consider in relation to both the economic regulatory framework and fare reviews. This paper also sought submissions from the Government and other stakeholders by 30 January 2008. The Government sought an extension to this deadline, to enable it to incorporate preliminary results from the CityRail Customer Service Improvement Program in its submission. It provided its submission on 9 May 2008.

In addition, IPART engaged two consultants to examine and advise it on specific aspects of the reviews:

- L.E.K. Consulting (LEK) has provided advice on the efficient costs of providing CityRail's passenger rail services
- CRA International (CRAI) has provided advice on the appropriate shares of these costs to be funded by CityRail passengers (through fares) and by taxpayers (through government subsidies), taking into account the value of the external benefits generated by these services.

IPART has begun to consider the findings and recommendations of these consultants, as well as the other issues raised in the issues paper and the submissions made by the Government and other stakeholders.

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1 IPART has been asked to review the CityRail regulatory framework under Section 12A of the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act). Appendix A provides the terms of reference for this review.

Box 1.1 Relationship between IPART's review of CityRail's regulatory framework and the 2009 fare review

One of the key elements of CityRail's economic regulatory framework is the approach IPART uses to set fares. Therefore, as part of its review of the framework, IPART is considering this approach and is likely to revise several aspects of it. IPART intends to use the revised approach in making its draft determination on CityRail fares from 2009.

However, CityRail's regulatory framework also includes other important elements, which are outside IPART's control. For example, these elements include:

- The specification of the level of service CityRail is expected to provide. This is currently set out in the Rail Performance Agreement negotiated between the Government and RailCorp
- The subsidy that is provided by government as 'purchaser' of rail services in recognition of the fact that farebox revenue is not sufficient to cover CityRail's revenue requirement
- the relationship between CityRail and its shareholder and the bearing of risks if CityRail fails to live within its required budget

IPART is currently considering these elements, and will provide its draft and final reports and recommendations to the Government later this year. The Government will then decide whether it will implement these recommendations.

However, it is important to understand that to in order to achieve the Government's objectives for this review – particularly, to provide CityRail with effective incentives to provide its services at efficient costs – all the elements of the economic regulatory framework need to be consistent and aligned. IPART cannot create sufficiently strong incentives through the regulation of fares alone.

A major reason for this is that, unlike service providers in other regulated industries (such as water and energy), CityRail does not generate enough revenue from fares to recover its costs and so relies on substantial government subsidies. Because fare regulation only influences the portion of CityRail's revenue generated by fares, it is not possible for IPART to create effective incentives for efficiency on its own. For example, setting fares to cap this revenue in line with efficient costs will not be effective unless the government subsidies are also capped. IPART considers that any incentives set through the fare determination will not work effectively unless shareholder governance, the Rail Purchase Agreement (RPA) and the fare determination are aligned, for example through:

- explicit definition of expected service standards
- the setting of the government subsidy plus forecast farebox plus concession funding equal to the allowed revenue requirements as determined by IPART
- setting out the expectations of CityRail living within its required revenue and the appropriate bearing of risks if CityRail failures to do this.

Given this, IPART has formed its preliminary views on the new approach it will use to set fares on the basis that they will be supported by complementary changes to the broader economic regulatory framework.

1.1 Purpose of this discussion paper

IPART has not made any firm decisions about its recommendations on the economic regulatory framework (including the approach it will use to set fares) or the 2009 fare determination at this stage. But it has completed some preliminary analysis and identified some options on which it would like stakeholder views before it formulates its draft recommendations and draft determination. The purpose of this discussion paper is to explain IPART's preliminary analysis and views on some of the issues related to its approach to fare setting and the 2009 fare determination. These issues include:

1. which passenger services, government policies and other obligations should be taken into account in determining the efficient costs of providing CityRail's services for the purpose of setting fares
2. how long should the determination period be
3. what approach should be used to determine CityRail's annual revenue requirement
4. what are the efficient costs of providing CityRail's services over the determination period
5. given these costs, what is CityRail's revenue requirement over the determination period
6. what shares of the revenue requirement should be funded by passengers (through fares) and by taxpayers (through government subsidies)
7. what are the potential impacts of IPART's preliminary views on the above issues on average fares and the level of government subsidy?

This discussion paper also explains the advice IPART has received from its consultants on issues 4 and 6, and explains its preliminary views on how it will use that advice in setting fares. The discussion paper seeks stakeholder comments on its preliminary views, which it will consider before making its draft determination (expected to be released by 12 September 2008).

Please note that this paper does not address **all** the issues identified in the issues paper. Issues related to CityRail's fare structure and patronage levels are addressed in a separate discussion paper, *Deciding on the structure and level of CityRail fares*, which is available on IPART's website. Further issues will be discussed in IPART's draft report to the Government on its recommendations for the broader economic regulatory framework, and its draft report and fare determination. (See Box 1.2 for an overview of IPART's review process and timetable.)

Box 1.2 IPART's review process

IPART is undertaking extensive public consultation for these reviews. As noted above, it has already released an issues paper and received submissions on that paper from the Government and other stakeholders. It has also released this discussion paper, as well as a complementary discussion paper, *Deciding on the structure and level of CityRail fares*, and now invites interested parties to make submissions on the preliminary views outlined in both these papers.

To help stakeholders manage the additional work involved in this extra round of consultation, IPART is seeking comments on the two discussion papers in one submission. The closing date for submissions is 18 July 2008. Details on how to make a submission can be found on page iii (before the Table of Contents).

IPART invites stakeholder submissions by 18 July 2008.

It will also hold a public roundtable discussion on Wednesday 30 July, to provide stakeholders with a further opportunity to provide their views on the Government's submission to the review, and the issues raised in the two discussion papers.

IPART will release its draft fare determination and its draft report and recommendations on the economic regulatory framework in September 2008, and invite submissions. It will release its final report and recommendations on the economic regulatory framework in November 2008, and its final fare determination on 12 December 2008. The proposed timetable for the review is provided on the table below.

Table 1.1 Timetable for review

Action	Timetable
Release issues paper and invite submissions	October 2007
Receive submissions from the Government and other stakeholders	Jan to May 2008
Release discussion papers and invite submissions	June 2008
Submissions on discussion paper and government submission due	18 July 2008
Hold public roundtable discussion	30 July 2008
Release draft fare determination and report and invite submissions	12 September 2008
Provide draft report and recommendation to Government on the regulatory framework and invite submissions	12 September 2008
Submission on draft reports due	30 October 2008
Provide final report and recommendation to Government on the regulatory framework	November 2008
Release final fare determination and report	12 December 2008

1.2 Assessment criteria for the review

In its Issues Paper, IPART outlined a set of criteria which it proposed to use to support its analysis and guide its decision-making in reviewing CityRail's economic regulatory framework and fares. The criteria were developed to reflect the terms of reference for these reviews (particularly the Government's objectives for the reviews), as well as IPART's requirements under section 15 of the IPART Act and the principles of good regulation.

In its submission on the Issues paper the Government suggests that the regulatory options should be assessed in terms of ability to provide a framework that encourages efficient provision of services and efficient allocation of services (for example by taking account of the role of pricing in rationing limited capacity and ameliorating excessive congestion). The Government also suggests it is appropriate for IPART to also consider consumer protection, environmental protection and financial viability.[2]

Western Sydney Regional Organisation of Councils (WSROC) argued for the strengthening of the criterion relating to government policy and suggested several additional criteria including environmental sustainability, equitable distribution of CityRail services and the contribution of rail services to the economic efficiency of the city[3].

After considering stakeholder comments on the criteria, IPART has refined the wording of the criteria to clarify their meaning (see Box 1.3). IPART has used these criteria in assessing the options related to its approach to fare setting and its fare determination discussed in this paper.

2 NSW Ministry of Transport, submission to IPART Review of CityRail regulatory framework, May 2008, p 9.

3 Western Sydney Regional Organisation of Councils Ltd, submission to IPART Review of CityRail Regulatory Framework, March 2008, p 3.

Box 1.3 IPART's assessment criteria

1. **Encourages CityRail to be more disciplined in its spending,** for example, by:
   - making the full economic costs of providing its services more transparent (including policy-related costs)
   - facilitating greater accountability for decisions that affect costs and services
   - providing incentives to make efficiency savings
2. **Encourages CityRail to reduce the costs of providing its services while also improving the quality, reliability and safety of these service***s,* for example by:
   - Identifying the efficient costs of providing passenger train services
   - Making the costs associated with service quality transparent
3. **Promotes economic efficiency of rail services**, for example by:
   - Promoting the supply of services at least cost
   - Facilitating sound investment decisions
   - Providing economic pricing signals, through fare outcomes that reflect the cost of providing CityRail's services
4. **Is consistent with government policy objectives**, for example by:
   - Encouraging increased patronage
   - Taking account of the social impact of decisions
   - Being consistent with and supporting government policy on public transport fares
5. **Is targeted to and proportionate with the problem**
6. **Promotes clear and appropriate accountabilities**
7. **Increases transparency of decisions**
8. **Is internally consistent, and consistent with regulatory approaches used in other industries**
9. **Is practical, pragmatic and feasible**
10. **Is simple and understandable**

1.3 Overview of preliminary views and matters on which IPART seeks further comment

IPART has formed preliminary views on several key aspects of the approach to fare setting. In relation to the determination period, IPART's preliminary view is that a longer determination period of four years is appropriate for CityRail. This would mean that the 2009 determination period would be 2008/09 to 2011/12. In addition, its preliminary view is that fares should be adjusted annually at the start of each calendar year within the determination period (i.e. in January each year).

In relation to determining the revenue to be recovered through fares, IPART's preliminary view is that a building block approach should be used to determine CityRail's annual revenue requirement over the determination period. In determining the share of this revenue to be funded by passengers (through fares) and by taxpayers (through government subsidies) IPART should take account of reasonably robust estimates of the value of the external benefits generated by CityRail's services, the impact of fare increases on the affordability of fares and patronage levels, and other matters considered relevant.

IPART has also undertaken some preliminary analysis and formed preliminary views on some of the key inputs for determining CityRail's annual revenue requirement over the 2009 determination period, using a building block approach. This includes consideration of the efficient operating and capital expenditure required to provide CityRail services. CityRail operating costs are forecast to grow at a rate significantly higher than inflation until 2011/12. In this context, IPART has considered whether CityRail can deliver a similar or improved level of service at lower cost by making efficiency savings similar to those achieved by other comparable rail operators in Australia. IPART has also developed two scenarios related to the value of the Epping Chatswood Rail Link (ECRL) which shows how its decision on the value of this investment impacts on the future revenue requirements.

This revenue requirement must be funded either by passengers through fares or by taxpayers through government funding. Currently passengers pay approximately 26 per cent of CityRail's costs.[4] As Chapter 7 discusses, IPART's preliminary view is that a reasonable estimate of the value of the external benefits of CityRail services over the period 2008/09 to 2011/12 is $1.7 - 2.0 billion, which is equivalent to approximately 70 per cent of CityRail's annual revenue requirement over the period. Based on this view, IPART's preliminary view is that it may be appropriate for passengers to fund around 30 per cent.

These shares imply that if government invests an addition $1 billion in the CityRail network (for example on a South West Rail Link) an additional $300 million (in Net Present Value terms[5]) would need to be recovered from passengers over the life of the asset.[6] IPART considers that this broad 'rule of thumb' cost sharing ratio and the associated impact on passengers should be considered when new infrastructure investments are being evaluated. IPART would expect that proposals for future pricing decisions would apply this 30 per cent ratio, unless it were established that

4 This cost recovery ratio is an estimate of user revenue share in 2007/08 based on the building block methodology. However, caution should be used when interpreting this figure as it is only an approximation which reflects a number of modelling assumptions on capital expenditure and depreciation. The 2007/08 farebox cost recovery level is also estimated to be 26 per cent. Farebox cost recovery is farebox revenue as a percentage of operating costs (including depreciation), it is the measure of the user share listed in previous IPART fare determinations.

5 Net present value (NPV) reflects the present value of cash flows recovered over the life the asset taking into account the time value of money.

6 This includes recovery of both the return of capital (depreciation) and the return on capital (opportunity cost of capital).

the new investment justified a higher ratio of taxpayer funding because of its exceptionally high external benefits.

IPART has not made a decision on how fares should change over the next four years, its draft fare determination which be provided in September will set out its draft decision. When it makes this draft decision, IPART will consider responses to the discussion papers, stakeholder's views and impacts on rail patronage and more importantly affordability of rail use. IPART's preliminary view is that users should fund around 30 per cent of the revenue requirement, assuming the ECRL is valued at $2.3 billion. This implies real fare increases of 20-30 per cent before the effects of inflation.

IPART particularly seeks stakeholder comment on the following issues discussed in this paper:

1.4 Structure of this discussion paper

The rest of this discussion paper discusses IPART's preliminary analysis and views on the issues outlined above in detail. In particular:

- Chapter 2 discusses the services, service standards, policies and other obligations that should be taken into account in setting fares.
- Chapter 3 discusses the appropriate length of the determination period and when annual fare adjustments should occur within this period.
- Chapter 4 outlines IPART's preliminary views the approach for determining CityRail's annual revenue requirements.

- Chapter 5 sets out IPART's preliminary thinking on the total efficient costs of providing CityRail's services for the 2009 determination period, including LEK's advice on this matter and IPART's views on how it expects to use this advice.
- Chapter 6 discusses IPART's preliminary views on CityRail's annual revenue requirements for the 2009 determination period.
- Chapter 7 discusses the external benefits generated by the provision of CityRail services, and the estimated value of these benefits.
- Chapter 8 outlines IPART's preliminary thinking on the appropriate share of the revenue requirement to be recovered from CityRail passengers through fares, and the implications for the level of fares and government contribution.

2 The services, standards, policies and other obligations to be taken into account in setting fares

CityRail is a business of RailCorp, which was established by the NSW Government as a Statutory State Owned Corporation (SSOC). CityRail provides passenger rail services within the Greater Sydney region on its suburban, inter-city and regional networks. IPART regulates the maximum fares RailCorp can charge for some, but not all, of its services.

Several other NSW Government agencies also influence CityRail's operations through the regulation of safety and service standards and other obligations. The need to comply with these standards and obligations influences CityRail's costs. In addition, NSW Government policy on public transport and other matters also influence CityRail's operations and costs.

To make its recommendations on the economic regulatory framework for CityRail and its determination of fares from 2009, IPART needs to consider and define the services, safety and service standards, government policies and other obligations to be taken into account in setting fares, particularly in determining the CityRail's revenue requirement. The sections below outline IPART's current approach on each of these matters, and its preliminary views on its approach for the 2009 determination.

2.1 CityRail Services

CityRail provides passenger rail services within the Greater Sydney region on its suburban, inter-city and regional networks. These networks stretch from Goulburn and Nowra in the south, to Lithgow in the west, and Newcastle, Scone and Dungog in the north.

IPART regulates the fares CityRail can charge for most of these services, using its powers under Section 11(1) of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act).[7] IPART sets the maximum fares for all railway passenger services supplied by RailCorp under the name "CityRail" except the services supplied in

7 Section 11 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act) provides IPART with a standing reference to conduct investigations and make reports to the Minister on the determination of the pricing for a government monopoly service supplied by a government agency specified in schedule 1 of the IPART Act.

accordance with the ticket known as the "SydneyPass".[8] It does not set fares for CountryLink services or other services provided by RailCorp.

The fares that IPART regulates include:

- CityRail tickets including TravelPass tickets
- FlexiPass tickets
- CityHopper tickets
- DayTripper tickets
- Link tickets and Intermodal Destination tickets such as Olympic Park tickets, Blue Mountains ExplorerLink ticket and Moore Park tickets.

In determining maximum fares for these CityRail services, IPART only considers the costs that CityRail incurs in providing these services. That is, IPART does not consider the costs incurred by RailCorp in providing CountryLink services, or any other services.

In addition to determining maximum fares, IPART may also monitor the performance of RailCorp for the purposes of establishing and reporting on the level of compliance by RailCorp with its fare determination.

2.2 Safety and service standards

To ensure that CityRail does not have an incentive to lower the level the service it provides, the safety and service standards it is required to meet are regulated by a range of instruments.

CityRail's target service standards are established in the Rail Performance Agreement (RPA), which is a commercial-in-confidence agreement between the Minster for Transport and RailCorp under the Transport Administration Act. CityRail is also publicly committed to some performance benchmarks through the NSW State Plan and CityRail's customer service commitment. CityRail's safety obligations are set in the *Rail Safety Act 2002*.

IPART takes account of the safety and service levels CityRail is required to provide in determining maximum fares. This is because these service levels affect its costs. Increases in these service levels — whether in the mix of services to be provided, the service schedule or the level of customer service — may increase the cost of providing the service.

8 By section 18(2) of the IPART Act, RailCorp may not fix a price below that determined by IPART without the approval of the Treasurer.

One of the matters the Government asked IPART to consider in recommending a new economic regulatory framework for CityRail is how service standards can be better incorporated into this framework. This will require IPART to decide which aspects of service should be monitored and considered for the purpose of setting fares, and which of these aspects can feasibly be incorporated into the regulatory approach. Ideally, service standards should represent the drivers of CityRail's costs, reflect the customers' views of what is important, be quantifiable and, for benchmarking purposes, comparable with other jurisdictions. In its forthcoming draft report to Government on the new economic regulatory framework, IPART intends to recommend the Government adopt a range of key performance indicators reflecting aspects of service quality and recommend that the government publicly specify in advance the level of service it expects CityRail to provide in terms of the indicators. IPART expects there would be an obligation for CityRail to monitor and regularly report on its performance against these indicators.

For the 2009 determination, IPART will take account of the current service standards as set out in the RPA in determining the total cost of providing CityRail services. That is, in determining the efficient cost of providing CityRail services, it will assume that CityRail will continue to provide services that meet the current safety and service standards as set out in this agreement and the *Rail Safety Act 2002*. As discussed in Chapter 5, IPART's investigation into the efficient cost of providing CityRail services was not intended to identify opportunities to cut costs by reducing the level of service that CityRail provides; rather it was to investigate whether CityRail could deliver a similar or improved level of service at lower cost for the benefit of both CityRail passengers, government and ultimately the taxpayer.

2.3 NSW Government policy that relates to CityRail

The terms of reference for this review require IPART to consider NSW government policy on passenger rail services and public transport. To reflect this, the assessment criteria IPART has developed to guide its analysis and decision-making for its review include consistency with government policy objectives.

The NSW Government's public transport policy features prominently in several recent strategic plans and statements, including:

- the Premier's Urban Transport Statement
- the State Plan
- the Transport Strategy for Sydney (part of the Metropolitan Strategy)
- the State Infrastructure Strategy.

These policies clearly establish that improving the standard of public transport and increasing the patronage of public transport to replace other forms of transport are important policy objectives. For instance, the Transport Strategy for Sydney indicates that one of the government's transport objectives is to 'influence travel choices to encourage more sustainable travel'.[9] The Urban Transport Statement indicates that 'increasing the number of daily trips on public transport is a priority'[10] while recognising that 'maintaining public transport systems at high levels of reliability'[11] is a precondition for greater patronage. The State Plan sets the following definitive public transport targets:

- to increase the share of trips made by public transport to and from the Sydney CBD during peak hours to 75 per cent (currently 72 per cent) by 2016
- to increase the proportion of total journeys to work by public transport in the Sydney metropolitan region to 25 per cent by 2016 (currently 20 - 22 per cent)
- to consistently meet public transport reliability targets.[12]

Other government objectives include improving transport between Sydney's centres, improving the existing transport system and improving transport decision-making (including planning, evaluation and funding).

As the Government notes in its submission CityRail is integral to the NSW Government's public transport policy. Several strategies focus on investment that will directly impact CityRail's network, including:

- completing the Epping to Chatswood Rail Line
- completing the Rail Clearways Program
- implementing the Metropolitan Rail Expansion Program, now modified with the South West Rail Link and the SydLink 'North West' metro
- the acquisition of $3.6 billion of new rolling stock between 2010 – 2013 from Reliance Rail.[13]
- upgrading a number of stations
- the introduction of electronic ticketing.

The State Infrastructure Strategy foreshadows NSW Government capital expenditure of $5.4 billion on rail-related infrastructure between 2006/07 and 2009/10.[14]

9 NSW Department of Planning, *City of cities: A plan for Sydney's future*, December 2005, p 160.
10 Iemma, M, Urban transport statement: Responding to the challenges of travel and transport within and across Sydney, November 2006, p 2.
11 Ibid.
12 NSW Government 2006, State Plan, November, p 58.
13 CityRail Media Release, *$3.6billion new airconditioned carriages for CityRail*, 10 November 2006.
14 NSW Treasury, State infrastructure strategy: New South Wales 2006-07 to 2015-16, 2006, p 36.

In making its 2009 fare determination, IPART will consider the NSW Government's policies on passenger rail services and public transport. In particular, in determining the total cost of providing CityRail services IPART will consider the capital investment that CityRail will undertake between 2008/09 – 2011/12 such as the Rail Clearways Program and the acquisition of new rolling stock (as set out in the Urban Transport Statement and the State Plan). As is discussed further in Chapter 3, future policy initiatives that benefit passengers will have implications for CityRail's future revenue requirement and consequently future CityRail fares. IPART will also consider the patronage objectives of the NSW Government (as set out in the State Plan and the Transport Strategy for Sydney). IPART's preliminary views regarding likely growth in patronage for CityRail services are discussed in Chapter 6.

2.4 Other obligations that relate to CityRail

IPART noted in its Issues Paper that a relatively large number of government agencies affect CityRail's operating environment. Understanding the different roles of these government agencies and their impact on CityRail's operations will help to improve the effectiveness of any incentive-based regulatory framework considered by IPART.

In particular, CityRail have a number of obligations relating to train, station and maintenance operations. IPART is interested in gaining a greater understanding of these obligations and exploring the extent to which these obligations have implications for fare outcomes. As Chapter 5 will discuss, IPART is interested in the extent to which passengers benefit from these obligations in terms of service improvements. Passengers should contribute to the efficient costs of providing services from which they benefit. To the extent that passengers do not benefit from these additional obligations, they should not be recovered from passengers, but instead from the shareholder.

3 Length of determination period

In considering its approach to setting CityRail fares, IPART needs to decide how long the determination period should be, and when fares should be adjusted within this period. IPART's preliminary view is that multi-year determinations are preferable, and a four-year period is appropriate for the 2009 determination. In addition, its preliminary view is that fares should be adjusted at the start of each calendar year within the determination period. The sections below discuss these preliminary views, and identify the issues on which IPART seeks comment.

3.1 How long should the determination period be?

In its Issues Paper, IPART noted that in general, the appropriate length of the determination period depends on several factors such as the status of the industry and the broader environment. Therefore, in deciding on the length of CityRail's determination period, IPART needs to consider the capital-intensive nature of the rail industry, and the need for long-term planning, strategic decision-making and budget funding.

In its submission, the Blue Mountains Commuter and Transport Users Association supported a longer determination period, of between two and three years.[15] The Government also supported a longer determination period and price path, on the grounds that it will allow CityRail to assess its capital investment decisions and associated changes in operating and maintenance costs in a more integrated way. In addition, the Government put the view that a longer term price path will provide greater funding certainty for RailCorp's management and support a greater focus on longer term strategic decision-making and planning.[16]

15 Blue Mountains Commuter and Transport Users Association submission to CityRail Regulatory Framework Review, February 2008, pp 10-11.

16 NSW Ministry of Transport, submission to IPART Review of the CityRail regulatory framework, May 2008, p 12.

IPART's preliminary view is that a longer determination period is preferable, and consistent with the assessment criteria for this review. Specifically, IPART considers that a longer determination period would:

- Facilitate long-term planning and greater budget certainty, which would allow for better integration of operating and capital expenditure. LEK indicated that the current shorter determination periods (and therefore short-term funding cycles) are not conducive to efficient capital planning, which results in a focus on short-term fixes rather than long-term strategic decisions with delayed but sustainable returns.[17] This is unlikely to result in an optimal mix of operating and capital expenditure and would not encourage the supply of services at least cost. However IPART recognises that even a longer determination for 4 – 5 years is not long when compared to the CityRail's assets lives.
- Provide greater opportunity to encourage CityRail to pursue efficiency improvements. A longer determination period would allow CityRail time to establish management programs that can deliver on any efficiency targets implied by the fare determination. It would also provide a realistic timeframe over which CityRail's performance in achieving efficiency savings can be measured.
- Provide government and taxpayers with greater certainty about the extent to which the provision of rail services will require government funding over time.
- Provide CityRail users with a better indication of how their funding contributions to the provision of rail services (through fares) are likely to change over time. This may assist passengers in making future housing and employment decisions.

IPART notes that these arguments are consistent with the Government's and other stakeholders' views, as well as the recommendations of the Parry Inquiry into public transport.

In other industries such as water and energy, IPART has set determination periods of between one and five years. IPART's preliminary view is that a determination period of four years is the upper limit for CityRail, given the organisation's difficulty at present in making robust expenditure estimates further into the future. A period of more than four years may also be difficult if the value of external benefits is expected to change significantly through time.

IPART considers that a determination period of four years is sufficiently long to provide better long-term strategic decision-making and planning, and for management to initiate programs to deliver on targeted efficiency savings. It is also a reasonable timeframe over which performance can be measured.

A determination period of four years implies analysing CityRail's costs, including potential efficiency savings and setting fares over the period 2008/09 - 2011/12. As Chapter 4 will discuss, IPART is disposed towards setting the initial capital base for CityRail as at 1 July 2008. This capital base would be rolled forward to include prudent capital expenditure over the period to 30 June 2012.

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17 LEK, Cost Review of CityRail's Regular Passenger Services, report to IPART May 2007, p 10.

IPART seeks comments on the following:

1 Is a multi-term fare determination of four years optimal?

3.2 On what date should fares be increased?

IPART considers that within a determination period, fares should be adjusted on a consistent date so that passengers are aware of when the next fare increase will occur. Currently, fares are not adjusted on any consistent basis. However, the earliest start date for the 2009 determination is likely to be 1 January 2009. This means the first fare increase of the new determination would not occur until next year, mid-way through the 2008/09 financial year.

IPART's preliminary view is that its determination should allow for the following year fare increases to continue to be on a calendar years basis (fare increases in January of each year). This would be consistent with other public transport fare increases determined by IPART such as buses.

However, IPART could also transition to a financial year basis with fare increases occurring on 1 July of each year. This would be consistent with financial year data kept by businesses and would be consistent with the fare increase dates of other industries regulated by IPART such as energy and water. But it would involve two fare increases in the first year of the determination (one in January and one in July 2008). IPART has scope to manage the size of any fare increases as part of its determination to potentially offset any customer impacts as a result of moving towards a financial year basis.

IPART seeks comments on the following:

2 Are there benefits of having rail fare changes implemented on a calendar years basis (fare increases in January of each year) so that the fare change date is consistent with other public transport modes?

4 Approach to determining CityRail's revenue requirements

An important element of IPART's approach to fare setting is the methodology it uses to determine CityRail's annual revenue requirements over the determination period. IPART is disposed to adopting a two stage approach when determining CityRail fares. The first step is to determine CityRail's revenue requirement and is the focus of this chapter. The second step is to determine the share of CityRail's revenue requirement to be funded by passenger fares. Currently, CityRail's farebox revenue is substantially less than its costs. The resulting revenue shortfall is made up by taxpayers through government funding. IPART's approach to determining who should pay is discussed in Chapter 8.

IPART is considering three options for this methodology, including:

1. the building block approach, which IPART currently uses in setting prices for other industries, such as energy networks and water
2. the operating and maintenance cost approach, which some overseas regulators use in setting fares for passenger rail services
3. a long run marginal cost (LRMC) approach, which some regulators in Australia and abroad use for utility pricing.

IPART has assessed each option against the assessment criteria outlined in Box 1.3, placing most weight on the criteria it considers to be most relevant to the approach for determining the revenue requirement. These criteria include:

- Encourages CityRail to be more disciplined in its spending, for example, by:
  - making the costs of providing its services more transparent (including policy-related costs)
  - facilitating greater accountability for decisions that affect costs and services
  - providing incentives to make efficiency savings.
- Promotes economic efficiency of rail services, for example by:
  - promoting the supply of services at least cost
  - facilitating sound investment decisions
  - providing economic pricing signals, through fare outcomes that reflect the cost of providing CityRail's services.

IPART has also considered the comments related to the approach for determining the revenue requirement in stakeholder submissions.

IPART's preliminary view is that the building block approach is the most appropriate methodology for determining CityRail's revenue requirement, because it can be used to encourage CityRail to be more disciplined in its spending and promote economic efficiency. IPART considers that the building block approach involves a more rigorous analysis of CityRail's full economic costs than the other options, and will lead to improved transparency and public scrutiny of CityRail's performance. This will encourage CityRail to more accurately forecast its operating and capital costs, and better manage its expenditure in line with these costs, and increase its accountability. In addition, the building block approach can be used to create incentives for CityRail to achieve both operating and capital efficiency savings.

However, it is important to note that the benefits of adopting the building block approach will only be realised if the Government makes complementary improvements to the broader economic regulatory framework, to support and strengthen any incentives created through fare regulation. As Box 1.1 discussed, CityRail's fares recover only a small portion of its revenue requirement, therefore fare regulation cannot create sufficient incentives for economic efficiency on its own. Rather, all the key elements of the economic regulatory framework – such as the arrangements for shareholder governance, the Rail Purchase Agreement, and the approach to fare setting – must be consistent and aligned.

For example, IPART can create incentives for CityRail to improve its cost efficiency by:

- using the building block approach to determine annual revenue requirements that are based a robust assessment of its total efficient costs and include reasonable efficiency savings targets
- establishing the appropriate share of these revenue requirements to be recovered through fares (discussed Chapters 7 and 8), then
- setting fares to recover this share of the revenue requirement, which effectively caps fare revenue at a level that reflects efficient costs.

But these incentives will not be effective unless government subsidies are also capped at a level consistent with the efficient revenue requirement as determined by IPART.

IPART is still formulating its draft recommendations to the Government on improvements to the broader economic regulatory framework. However, it will ensure that these recommendations are consistent with the approach it uses in making its draft determination on fares. IPART's preliminary view is that the building block approach methodology for determining the revenue requirement is the most appropriate for this review.

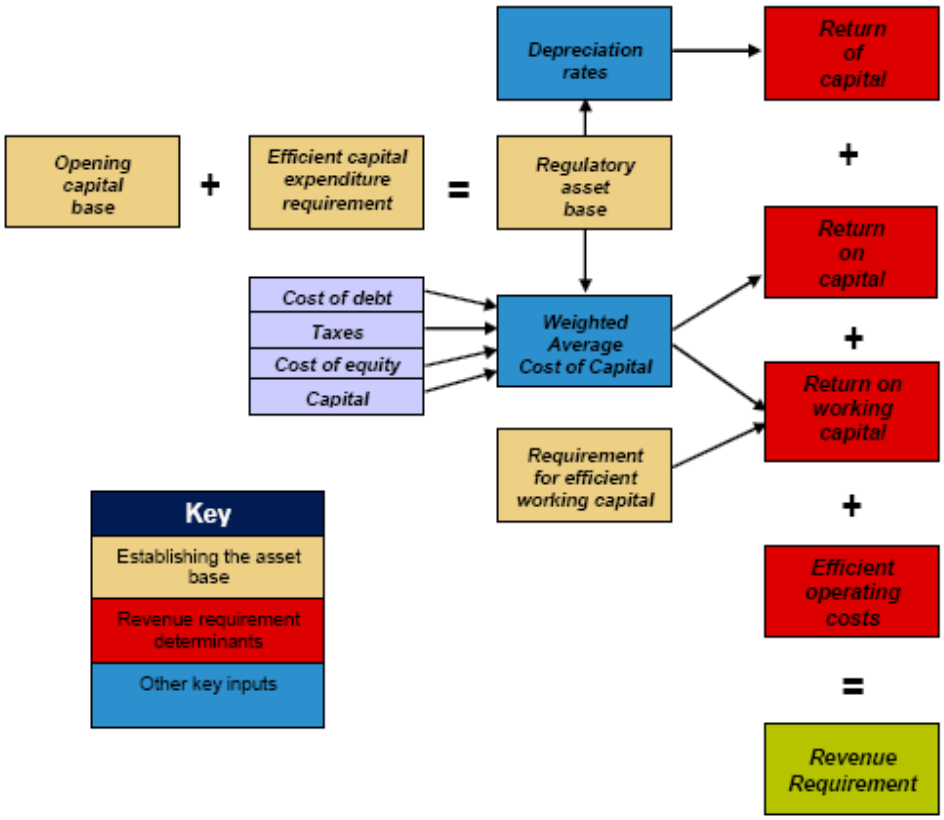
The sections below provide an overview of each option for determining the revenue requirement, and summarise IPART's assessment of its performance against the assessment criteria.

4.1 The building block approach

IPART and other Australian regulators currently use the building block approach to set prices in a range of other regulated industries (such as energy, water and telecommunications). This approach 'builds up' the revenue required by the regulated business to cover the costs of providing a defined level of services over the determination period by calculating a range of cost 'blocks'. These blocks reflect the full economic cost of providing the regulated services, and include:

- forecast efficient operating and maintenance costs
- an allowance for a return of capital (or depreciation), which takes account of the capital invested in the business and enables these investments to be recovered over the life of the assets
- an allowance for a return on capital, which takes account of the opportunity cost of capital invested in the business, recognising that capital invested by shareholders in the business has alternative uses
- an allowance for a return on working capital (see Box 4.1).

Box 4.1 Building block approach to determining revenue requirement



The building block approach is the only option that takes account of the full economic cost of the providing the regulated services. It also ensures that these costs are measured and monitored in a way that is rigorous and transparent. In addition, it ensures that these costs (and the impact of changes in them on fares) are transparently disclosed. These characteristics mean that the building block approach can be effectively used to encourage greater discipline in CityRail's spending and promote economic efficiency. For example, the building block approach can be used to encourage greater discipline in spending by:

- Improving transparency and public scrutiny of CityRail's performance. This should encourage CityRail to better forecast its operating and capital costs and manage its expenditure in line with these forecast costs, and increase its accountability for decisions that affect its costs.

- Providing an opportunity for IPART to create incentives for CityRail to improve its cost efficiency by incorporating efficiency savings targets when it calculates the cost blocks. These incentives could be strengthened by allowing CityRail to retain for the period of the determination the benefits of any efficiency savings it achieves in excess of these targets.

The building block approach can be used to promote economic efficiency of rail services by:

- Increasing transparency and accountability for the cost impacts of capital programs largely outside CityRail's (such as the Epping Chatswood Rail Link), which should facilitate sound investment decisions.
- Encouraging CityRail to be more disciplined in its spending and investment decisions within its control.
- Creating a transparent link between the size of CityRail's revenue requirement and the level of fares. For example, once IPART decides what share of the revenue requirement is to be funded through fares, any increase in this revenue requirement due to an increase in operating or capital expenditure by CityRail will lead to an increase in fares.[18] This link should signal to stakeholders that service improvements involving significant capital investment (such as extending the network or upgrading rolling-stock) are likely to entail significant fare increases. As a result any proposed improvements can then be judged accordingly before the projects are committed.

The building block approach also meets several other assessment criteria, and has other benefits. For example:

- it provides the flexibility to implement a range of pricing methodologies, which means it can take account of government policy on public transport fares
- it is consistent with the approach IPART uses in regulating other network industries
- it enables comparisons of financial ratios to be made on a like-for-like basis over time and against other regulated utilities, so providing a better indication of financial sustainability.

IPART has considered stakeholder comments on the building block option. The Blue Mountains Commuter and Transport Users Association saw there could be value in the building block approach[19] and the Government recognised that this approach provides stronger incentives for CityRail to operate in an accountable and

[18] For example, if the Tribunal determines that it is appropriate that passengers contribute to around one-third of CityRail's revenue requirement then if government invests $1bn on the South West Link, an additional $300m would need to be recovered from users over the life of asset in NPV terms.

[19] Blue Mountains Commuter and Transport Users Association submission to CityRail Regulatory Framework Review, February 2008, p 8.

transparent way. However, the Government also expressed several concerns about the building block approach.[20]

For example, the Government noted that the building block approach may require CityRail to acquire additional borrowings or additional funding from government to match the lumpy nature of capital investment and consequently CityRail's cash requirements with the revenue requirement[21]. IPART notes that this kind of 'mismatch' between the revenue requirement based on economic costs and cash costs exists across a range of industries, including other utilities such as energy and water providers. IPART considers that borrowing capital, through debt markets for example, to fund capital investment may provide CityRail with external debt market discipline. This is likely to promote prudent capital investment decisions.

The Government also noted that the building block approach will require more RailCorp and IPART resources than the operation and maintenance costs approach and so will impose greater regulatory costs[22]. IPART acknowledges this, but considers that longer determination periods will reduce these costs, by reducing the need for regular reviews of CityRail's revenue requirement. It notes that the current annual reviews are likely to involve similar resource requirements when viewed over the longer term, even though they are less rigorous than the building block approach.

On balance, IPART considers that the benefits of using a building block approach to determine CityRail's revenue requirement, such as improved transparency of the full economic costs of providing CityRail services, greater accountability for capital investment decisions and greater incentives for capital efficiency are likely to outweigh the costs associated with implementing a more intensive approach to establishing the revenue requirement.

4.2 The operating and maintenance cost approach

The operating and maintenance cost approach is currently used to set passenger rail fares in Melbourne and Singapore. In contrast to the building block approach, this approach to determining the revenue requirement only takes account of the operating and maintenance costs involved in providing the regulated services over the determination period. It does not include the capital costs, as these costs are assumed to be funded by the Government (in recognition of the external environmental or social benefits of passenger rail services). The government submission observes that under this approach regulated revenues would be targeted at costs over which CityRail has day to day control[23].

20 NSW Ministry of Transport, submission to IPART Review of the CityRail regulatory framework, May 2008, pp 10-12.
21 Ibid, p 11.
22 Ibid, p 10.
23 NSW Ministry of Transport, submission to IPART Review of CityRail regulatory framework, May 2008, p 11.

If IPART were to adopt this approach, it would need to establish the efficient operating and maintenance costs of providing CityRail services over the determination period, then decide what share of these costs should be recovered from passengers through fares. In Singapore, fares are set to recover the entire operating costs of providing rail services. In Melbourne, fares recover only a share of operating costs. Either way there is no attempt to systematically equate the implicit government subsidy with the value of external benefits.

IPART considers that the operating and maintenance cost approach does not effectively meet the assessment criteria that are most relevant to the methodology for determining the revenue requirement. In particular, this approach does not take account of the full economic costs of providing CityRail services, nor ensure that the capital costs of providing CityRail services are measured and monitored in a rigorous, transparent way. As a result, it likely to be less effective than the building block approach in encouraging CityRail and Government to be more disciplined in its capital spending, and promoting the economic efficiency of rail services. It is also unlikely to encourage sound decisions about capital investments beyond CityRail's control, as it will not lead to greater transparency and accountability for these decisions. As such this approach cannot signal to stakeholders (especially passengers) the cost of achieving significant service improvements, as there is no link between capital costs and fares.

IPART has also identified a number of problems associated with setting fares to recover all efficient operating costs, as is done in Singapore. Under this approach, the return on and of the $1 billion annual CityRail capital program would be assumed to be equivalent to the value of the external benefits of rail. This approach is very simple, but there is no underlying rigour. There is no reason to believe that currently the capital program is equivalent to the value of the external benefits; nor is there reason to believe the relative value of the capital program and the external benefits will remain the same over time.

In addition, recovering all operating costs from users and all capital costs from government may discourage the optimal mix of operating and capital costs associated with the supply of services at least cost. That is, the approach may encourage the overuse of operating expenditure when major capital refurbishment is needed during times of reduced budget funding. Further, recovering the entire operating costs from users would require significant fare increases with adverse consequences for patronage. IPART does not consider such an outcome to be realistic, or consistent with assessment criteria for this review.

The alternative would be to set fares to recover only a portion of operating costs, as is done in Melbourne. However, this approach also has shortcomings. IPART would need to consider the value of positive externalities generated by CityRail services to determine an appropriate government contribution, just as it would if it adopted the building block approach. This would reduce the simplicity of the approach, without providing any of the advantages of the building block approach.

IPART considered the Government's comments on the operating maintenance approach, including the view that this approach will result in more stability in the revenue requirement over time, and impose less regulatory costs than the building block approach. It also considered WSROC's support for this approach. However, on balance, it considers the benefits of the building block approach in terms of encouraging CityRail to be more disciplined in its spending and promoting the economic efficiency of rail services to be important, while the operating and maintenance costs approach involves a number of unsubstantiated assumptions regarding the level of external benefits.

4.3 The LRMC approach

The long run marginal cost approach to pricing is a forward-looking concept in that it takes into account the future costs of production, rather than the 'sunk' costs that have already been incurred (for example, the cost of putting in place the existing network). 'Marginal cost' refers to the change in total costs that occurs from a small change in output. In the context of CityRail, the marginal cost can be thought of as the additional cost incurred by CityRail for providing one additional passenger journey. Marginal costs may vary significantly across the network due to customer type, geographic location or the time (for example, peak or off-peak).

Marginal costs can be considered from both a short-run and a long-run perspective. The Long-Run Marginal Cost (LRMC) includes the additional cost associated with changes in demand over the long run (20 to 25 years), including variations in labour, capital and other factors of production required to meet that demand.

If IPART were to use the LRMC approach to determine CityRail's revenue requirement it would calculate the cost of delivering rail services in the long run, and set prices in line with this calculation. This would involve making long-term forecasts of patronage levels, capacity-related capital expenditure, other capital expenditure and operating expenditure.

In general, the LRMC approach to pricing is intended to encourage efficiency in the **use of the network** by ensuring that passengers receive price signals about the additional resources required to produce the service, including the costs of additional capacity. While there is considerable literature that questions whether marginal cost pricing in one sector of the economy (such as passenger rail services) necessarily leads to an optimal outcome,[24] IPART considers that marginal cost pricing provides signals to users of the additional costs of providing additional passenger rail services. This is consistent with promoting economic efficiency of rail services.

[24] For example, Crozet notes that when there are non-optimal outcomes in other sectors of the economy (eg, such as in the road sector), marginal cost pricing only in one sector such as rail does not necessarily lead to an optimum in that sector. Crozet, Y, "European railway infrastructure: towards a convergence of infrastructure charging?", *International Journal of Transport Management*, Volume 2, Issue 1, 2004.

However, IPART considers that while a LRMC analysis may be useful in determining fares (as well as potentially the level of the optimal government subsidy)[25], a number of other elements of the LRMC approach do not make it suitable as an approach to setting the revenue requirement. For example, the LRMC approach does not provide for the transparent measurement and disclosure of the full economic costs of providing passenger rail services, and therefore cannot be used as effectively to encourage CityRail to be more disciplined in its spending. The marginal or additional cost of providing an additional unit of production does not provide any indication of the fixed costs involved with production. In network industries like rail, there are significant fixed costs associated with production. If these fixed costs aren't considered when establishing the revenue requirement, there will be a significant mismatch between the total costs of production and price if set on a marginal cost basis. This mismatch may be larger than the external environmental and social benefits of rail.

If IPART were to adopt the LRMC approach for determining CityRail's revenue requirement, this problem could be addressed either by the Government funding all the fixed costs (based on the assumption that the value of the fixed cost is equivalent to the value of the external benefits of rail), or by IPART determining the portion of these costs to be funded by users through fares (taking into account an estimate of the value of the external benefits of rail).[26] This is essentially the same situation as would occur under the operating and maintenance approach, and suffers from the same disadvantages (see above).

There are also a number of practical difficulties when estimating marginal costs in practice. The LRMC approach requires long-term (20-25 years) forecasts of patronage, capacity-related capital expenditure, other capital expenditure and operating expenditure to determine prices. In the past, CityRail has had difficulty with planning capital expenditure more than four years ahead due to uncertainty surrounding budget funding. Determining costs 20 years ahead would be considerably more difficult. IPART considers that it would not be practical or feasible to expect CityRail to prepare a robust estimate of its long-run marginal costs, particularly an estimate that varied over a range of patronage levels and in terms of distance travelled by passengers. The Government submission on the issues paper also notes the practical difficulties associated with this approach, particularly in the context of CityRail's emerging capacity constraints and significant capital expenditure requirements[27].

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25 Chapter 8 discusses the approach adopted by CRAI to determining the level of the optimal government subsidy in the context of external benefits.

26 In other industries such as energy and water the Tribunal has typically used a two part tariff to take account of these additional fixed costs, with the fixed charge recovering the fixed costs (difference between average and marginal costs) and variable charge recovering the marginal or variable costs. However, in metropolitan water for example the Tribunal has not used a marginal cost approach to define the revenue requirement; rather the Tribunal firstly established the total economic cost of providing services using the building block methodology. It then used the marginal cost pricing rule to establish what the variable charge should recover, with the fixed charge covering the residual (difference between total cost and marginal cost).

27 NSW Ministry of Transport, submission to IPART Review of CityRail regulatory framework, May 2008, p 11.

IPART seeks comments on the following:

3 Is there any reason why IPART should not adopt the building block approach to determining CityRail's revenue requirement?

5 The total cost of providing CityRail's services

Whatever framework IPART uses to regulate CityRail fares, it will need to consider the efficient cost of providing the services over the determination period.

For all the methodologies IPART is considering, this will involve determining CityRail's current operating and maintenance costs for each year of the determination period, and the potential to reduce these costs through efficiency improvements. For the building block approach – which, as Chapter 4 discussed, IPART currently considers to be the most appropriate methodology – it will need to determine the total economic costs, which will also involve determining allowances for a return of capital (or depreciation), efficient working capital and a return on assets. Calculating these building block components involves determining:

- the efficient capital expenditure for each year of the determination period
- the opening value of the regulatory asset base (RAB), and the methodology that will be used to roll the RAB forward to the end of the determination period.

The sections below set out IPART's preliminary thinking on each of these costs and values for the purpose of making the fare determination, and identify the issues on which IPART particularly seeks comment. For the purpose of this discussion, the determination period is assumed to be 2008/09 to 2011/12. This is in line with IPART's preliminary view on the appropriate length of this period, as discussed in Chapter 3.

5.1 Efficient operating and maintenance costs

IPART noted in its 2007 determination that that the costs of providing CityRail have increased in recent years.[28] RailCorp forecasts the costs of providing CityRail services to increase significantly over the next four years driven by a range of factors such as the operation and maintenance of new assets such as the ECRL, additional rolling-stock and increases in costs of labour and electricity. RailCorp forecasts its operating and maintenance costs to increase by approximately $800m in nominal terms from around $1.8 billion in 2006/07 to around $2.6 billion in 2011/12. This represents a nominal increase of around 7.7 per cent per annum over the period, or 5.2 per cent above RailCorp's forecast of inflation.[29]

28 IPART, *CityRail Fares from 11 November 2007 – Final Report and Determination*, 2007, p 10.
29 Railcorp has incorporated a forecast of inflation of 2.5 per cent per annum over the period.

To assist it in determining the total or full economic cost of providing CityRail's services, IPART engaged L.E.K. Consulting (LEK) to estimate the efficient cost of providing CityRail's regular passenger services, taking into account the potential for CityRail to make efficiency improvements, for the years 2008/09 to 2011/12.

LEK's approach to estimating these efficient costs contained four stages:

- identifying the assets that relate to the provision of CityRail's regular passenger services and developing a methodology for allocating those assets to its different sub-networks (suburban, inter-city and regional)
- identifying CityRail's current and forecast total costs, including the drivers of any cost increases over the determination period
- evaluating CityRail's current level of cost efficiency and identifying opportunities to increase this efficiency by analysing its cost drivers and comparing its costs to external benchmarks (accounting for structural differences between networks)
- estimating the efficient costs by converting identified efficiency gaps into reasonable efficiency improvement objectives for each year of the determination period.

LEK found that CityRail's operating costs in 2007/08 are expected to increase significantly to $2.1 billion, up from $1.8 billion the previous year. It also found that these operating costs are forecast to increase over the next four years at a rate substantially greater than inflation. The drivers of the forecast cost increases include:

- infrastructure maintenance, including a backlog of maintenance spending and increases in input costs (eg, steel costs)
- rolling-stock maintenance
- maintenance of new assets, such as the Epping Chatswood Rail Link (ECRL) and new rolling-stock (PPP payments)
- the operation of the ECRL
- increases in electricity costs associated with the energy required for new rolling-stock
- general price movements in the economy (eg, increases in the CPI).

LEK then considered whether CityRail's costs could grow at a lower rate over the next four years if it could make efficiency savings similar to those achieved by other comparable rail operators in Australia and overseas.

LEK undertook extensive benchmarking of comparable operators to understand the potential for efficiency improvements in each area of CityRail's operations. The purpose of this benchmarking was not to identify opportunities to cut costs by reducing the level of service that CityRail provides; rather it was to investigate whether CityRail could deliver a similar or improved level of service at lower cost. As noted in Chapter 2, LEK has considered the current service standards as set out in the RPA in determining the total cost of providing CityRail services. This is

consistent with the terms of reference for the review of the regulatory framework for CityRail, the requirements of section 15 of the IPART Act, and IPART's own criteria for assessing the various regulatory framework options (set out in Chapter 2 of IPART's issues paper).

LEK's recommendations on CityRail's efficient level of operating and maintenance costs and opportunities for efficiency improvements, and IPART's preliminary views on these recommendations are summarised below. Full details of the scope of LEK's review, and its methodology and analysis can be found in its public report, which is available on the IPART website.[30]

5.1.1 LEK's recommendations on efficient operating and maintenance costs

LEK recommended that CityRail's efficient operating and maintenance costs for 2008/09 will be around $2.2 billion, and that these costs will remain around $2.2 billion in 2011/12 in nominal terms (Table 5.1). Relative to operating and maintenance costs of $1.8 billion in 2006/07, LEK's recommendations on efficient operating and maintenance costs implies a growth in costs of 3.5 per cent per annum between 2006/07 and 2011/12. That is, if CityRail can achieve the efficient operating cost targets as recommended by LEK, cost increases should broadly be in line with forecast inflation over the next four years.

Table 5.1 LEK's recommendations on CityRail's efficient operating costs, 2008/09 – 2011/12 ($m nominal)

	2008/09	2009/10	2010/11	2011/12
LEK recommendation	2,163	2,239	2,207	2,167

As noted above the efficient operating and maintenance costs recommended by LEK are significantly less than forecast by RailCorp under a business as usual scenario. The potential for efficiency improvements are discussed in Section 5.1.2 below.

5.1.2 LEK's recommendations on the potential for efficiency improvements

For CityRail to achieve LEK's recommended efficient costs, it will need to achieve efficiency improvements in each area of its operations. LEK determined the efficiency targets for each area of operations by:

- benchmarking CityRail's current costs against national and international comparators to identify the size of the 'efficiency gap' based on costs in 2006/07
- using these 'efficiency gaps' to determine targets for 2011/12 for each area of CityRail's operations

30 LEK, *Cost Review of CityRail's Regular Passenger Services*, Report to IPART May 2008, available at www.ipart.nsw.gov.au.

- determining how much of this gap CityRail could reasonably be expected to close in each year of the determination period.

Table 5.2 shows LEK's recommended efficiency improvement in each area of CityRail's operations for 2011/12, relative to CityRail's forecast costs.

Table 5.2 LEK's recommendations on efficiency improvements in CityRail's operating areas for 2011/12 ($m nominal)

Cost category	RailCorp's forecast cost	LEK's recommended efficient cost	Size of efficiency improvement	% saving
Infrastructure maintenance	941	876	65	6.9%
Rolling stock maintenance	380	324	56	14.8%
Train operations and crewing	494	328	166	33.5%
Customer interface (including station staffing)	480	394	86	17.9%
Revenue Collection	64	35	29	45.0%
Overhead and marketing	295	209	86	29.1%
Total	2655	2167	488	18.4%

Note: Totals may not add due to rounding.

Note: RailCorp forecasts provided to LEK.

LEK undertook extensive analysis to ensure that it compared CityRail's costs with those of similar rail operators, most of which were in Australia, by accounting for major structural/environmental and regulatory and safety factors. Consequently, LEK considers that its recommended efficiency improvement objectives are both reasonable and achievable over the determination period.

However the LEK recommendations on efficient operating costs assume that cost savings can be achieved in two areas of operations which involve a number of policy related issues including the presence of guards on trains and the staffing of stations with low patronage.[31] It is government's role as 'purchaser' of rail services to determine policy related to CityRail operations including train and station operations. However as Table 5.3 shows, LEK's recommendations imply savings in the areas of train guards and station staffing of approximately $160m in operating expenditure in 2011/12 and around $300m over the 2008/09 – 2011/12 period.[32]

[31] Currently the staffing of CityRail stations is determined by a number of factors such as passenger numbers, station size (number of platforms), proximity to other unmanned stations and community expectations.

[32] LEK has assumed that no cost savings in the areas of train and station operations are possible in 2008/09 (the first year of the determination) but that these savings will increase over time as management initiatives are put in place.

Table 5.3 CityRail operating and maintenance expenditure including policy on train and station operations 2008/09 – 2011/12 ($m nominal)

	2008/09	2009/10	2010/11	2011/12
LEK recommendation	2,163	2,239	2,207	2,167
Train guards savings	0	23	82	121
Station staffing threshold savings	-	19	20	37
Total	2,163	2,281	2,308	2,325

Note: As capital expenditure is required to achieve these operating cost savings, LEK has assumed these savings to be phased in over the period.

Totals may not add due to rounding.

IPART is interested in the extent to which passengers benefit from these policies in terms of service improvements, given that other Australian operators can provide similar levels of service at lower cost (for example through investing in additional capital expenditure on CCTV etc). Under an incentive approach to fare setting passengers contribute to the efficient costs of providing services from which they benefit. To the extent that passengers do not benefit from these additional costs, arguably they should not be recovered from passengers via fares, but instead these costs should then be recovered from the shareholder, and ultimately the taxpayer. IPART invites comments on the extent to which passengers benefit from the presence of guards on trains and the staffing of low patronage stations.

I PART seeks comments on the following:

4 To what extent do passengers benefit from the presence of guards on trains and the staffing of low patronage stations relative to the costs?

5.1.3 IPART's preliminary views on LEK's recommendations

In general, IPART is inclined to adopt LEK's recommendation on CityRail's efficient operating costs, subject to stakeholder comment, specifically on the extent to which passengers benefit from policy related to train and station operations. This would mean that if CityRail does not achieve the efficiency improvements discussed above, it's higher than expected costs will be borne by the Government (as shareholder) and ultimately by NSW taxpayers, rather than by users of CityRail services. IPART considers that this is appropriate because, under an incentive approach to fare setting, passengers should only contribute to the efficient costs of providing these services. This approach is also consistent with the terms of reference and IPART's assessment criteria for this review – that is, the approach would:

- promote economic efficiency of rail services, including promoting the supply of services at least cost
- provide incentives for CityRail to increase its cost efficiency
- reduce the costs and improve the quality of passenger rail services for the benefit of consumers and taxpayers.

IPART seeks comments on the following:

5 Are LEK's recommended efficient operating costs and the efficiency improvement objectives implicit in these recommended costs appropriate?

If the building block approach to fare setting were used, IPART considers that two adjustments would need to be made to LEK's recommendation on efficient operating costs. These adjustments would be necessary to ensure that the regulatory treatment of expenditure on major periodic maintenance, and of the borrowing costs associated with this expenditure, is consistent with the treatment in other industries IPART regulates using a building block approach.

Adjustment to major periodic maintenance expenditure

LEK included both 'routine maintenance' and 'major periodic maintenance' within the infrastructure cost category of operating expenditure. Major periodic maintenance includes expenditure on the replacement, enhancement and refurbishment of existing assets. However, it also includes expenditure on extending the overall life of these assets (such as laying new concrete sleepers under tracks, and refurbishing ageing rolling stock). Typically, regulators (including IPART) treat this latter expenditure as renewal capital expenditure.

Therefore, to ensure regulatory consistency, IPART's preliminary view is that the portion of major periodic maintenance expenditure related to extending the life of existing assets should be treated as renewal capital expenditure rather than operating expenditure. This would involve removing this expenditure as well as the efficiency saving from the efficient operating cost estimate and adding it to the efficient capital expenditure estimate. As a result, the costs associated with this expenditure would be recovered over the life of the assets rather than in the year the costs were incurred. The MPM expenditure totals $126m in each year.[33] This is shown in Table 5.4 below.

Adjustment to borrowing costs

LEK's recommended efficient operating costs also included the borrowing costs associated with expenditure on extending the life of existing assets. Typically, IPART does not include borrowing costs associated with capital expenditure in the efficient capital expenditure estimate. This is because the building block methodology provides for a return on invested capital over the life of the asset that takes into account the cost of debt. Therefore, IPART's preliminary view is that these borrowing costs should also be removed from the efficient operating cost estimate.

Table 5.4 shows LEK's recommended efficient operating costs after both these adjustments have been made relative to CityRail's business as usual forecast costs.

33 In 2011/12, only $117m has been subtracted from LEK's operating cost forecasts. This represents the removal of $126m for the MPM but excludes around $9m of efficiency savings on this MPM that have been included in LEK's forecasts.

The adjustments would mean that CityRail's efficient operating costs will grow by less than 2 per cent per annum over the 2006/07 – 2011/12 period.

Table 5.4 IPART-adjusted LEK recommendations on CityRail's efficient operating costs 2008/09 – 2011/12 ($m nominal)

	2008/09	2009/10	2010/11	2011/12
CityRail business as usual forecast	2222	2427	2517	2655
LEK recommended operating expenditure savings	-59	-187	-310	-488
Adjustment to major periodic maintenance expenditure	-126	-126	-126	-117
Adjustment to remove borrowing costs	-14	-30	-39	-34
Total	2,023	2,083	2,042	2,015

Note: Totals may not add due to rounding.

IPART seeks comments on the following:

6 Are IPART's preliminary views on adjusting LEK's recommended efficient operating costs appropriate?

5.2 Efficient capital expenditure

As in other network industries, capital expenditure is a significant part of the total cost of providing CityRail's services. CityRail has forecast an extensive capital program for the next five years. This program is primarily driven by the clearways project, rolling stock upgrades and infrastructure upgrades (such as power supply upgrades and station upgrades), which are intended to improve the standard and reliability of CityRail's services and address some of the capacity constraints resulting from peak period travel to and from the CBD (this is discussed further in IPART's discussion paper, *Deciding on the structure and level of CityRail fares,* CityRail's capital program excludes some major publicly announced programs, such as the Metropolitan Rail Expansion Program (MREP), which is not expected to be in operation until late 2012 (beyond the 2008/09 – 2011/12 determination period).[34] IPART's preliminary view is that expenditure related to major capital programs (such as the ECRL and MREP) would not be included in the revenue requirement until the service comes in operation. This is discussed further in section 5.3.2.

5.2.1 LEK's recommendations on efficient capital expenditure

LEK reviewed CityRail's forecast capital expenditure program over the determination period, and recommended the efficient capital expenditure for this period shown on Table 5.5.

[34] MREP includes the North West Rail Link and South West Rail Link. Both projects are being undertaken by TIDC. http://www.tidc.nsw.gov.au/Documents/1655_projupdate.pdf

Table 5.5 LEK's recommendations on CityRail's efficient capital expenditure ($m, nominal)

	2008/09	2009/10	2010/11	2011/12
Capital expenditure	951	1,034	910	763

LEK noted that projected decreases in capital expenditure in 2010/11 and 2011/12 should be treated with caution due to greater uncertainty in CityRail's capital funding in this later years. IPART recognises that ideally a more robust capital forecast would be available.

LEK also noted that unlike CityRail's operating and maintenance costs, there is little scope for efficiency improvements in the forecast capital expenditure program, because much of CityRail's capital expenditure is competitively outsourced. As a result, the level of expenditure is determined by the market.

However, there is typically scope for efficiency savings in infrastructure maintenance. As noted earlier in the chapter LEK has classified major periodic maintenance (MPM) as operating expenditure. The MPM expenditure was included in the 'infrastructure maintenance' category of operating costs had a target efficiency saving of 7 per cent. LEK's report indicates that a 7 per cent saving in this category is achievable over the determination period. This is discussed further below.

5.2.2 IPART's preliminary views on LEK's recommendations

IPART considers it appropriate to make two adjustments to LEK's recommendations on CityRail's capital expenditure:

- including LEK's estimates of the additional capital expenditure that CityRail will require to achieve efficiency improvements in its operating expenditure, and
- including the portion of major periodic maintenance expenditure associated with extending the life of existing assets (as discussed above).

Adjustment to include additional capital expenditure required to achieve efficiency improvements in operating expenditure

As section 5.1 discussed, LEK's recommendations on CityRail's efficient operating and maintenance expenditure imply efficiency improvements in this expenditure of around 19 per cent by 2011/12. LEK's report explains that to achieve these efficiency improvements (or cost savings) without reducing its overall level of service, CityRail will need to undertake significant capital investment. LEK notes that one of the central elements of promoting the supply of services at least cost is determining the most efficient mix of operating and capital expenditure. For example, some of the capital investments CityRail will need to make include:

- installing credit card/EFTPOS ticketing machines to allow ticket sales at smaller unmanned stations

- installing cameras for platform monitoring to allow a transition to driver-only trains
- refurbishing Tangaras to achieve rolling stock maintenance savings.

LEK provided an indicative range of the additional capital investment required to achieve its recommended efficiency improvements in operating expenditure. IPART sought additional information from RailCorp regarding the likely capital expenditure required and the period over which this expenditure would be incurred. IPART considers that capital expenditure to achieve the operating savings are likely to total between $630 - 930m. For modelling purposes in this discussion paper, IPART has assumed the mid-point of this range totalling $780m in additional capital expenditure. However IPART will further refine these estimates including the timing of this capex as part of its draft fare determination.

This is shown in Table 5.6 below.

Table 5.6 Additional capital expenditure required to achieve efficiency improvements in operating expenditure

Category $ million	2007/08	2008/09	2009/10	2010/11	2011/12
Rolling Stock			125	125	125
Infrastructure	10				
Stations	5	5	5	5	
Revenue Collection	5				
Overheads	18.5	18.5	18.5	18.5	
Guards			20	70	20
Train crew (such as sectorisation)			75	75	75
Total	38.5	23.5	243.5	293.5	220

IPART's preliminary view is that it is appropriate for this additional capital expenditure to be added to LEK's recommended efficient capital expenditure, given that this capital expenditure forms part of the total cost of providing CityRail's services over the determination period. However IPART seeks stakeholder comment on the additional capital investment required over the 2008/09 – 2011/12 determination period.

Adjustments to include maintenance expenditure to extend the life of assets

As section 5.1.3 discussed, IPART's preliminary view is that the portion of major periodic maintenance expenditure associated with extending the life of existing assets should be treated as renewal capital expenditure rather than operating expenditure. Therefore this expenditure should be removed from the efficient operating cost estimate and added to the efficient capital expenditure estimate. This would increase the efficient capital expenditure estimate by an average of $126 million per year over this period.

LEK's recommendation on the efficient level of operating expenditure within the 'infrastructure' cost category (including the portion associated with extending the life of existing assets) included an efficiency improvement of 7 per cent over the determination period (compared to CityRail's forecast level of expenditure). IPART notes that this level of efficiency improvement should still be achievable if the expenditure associated with extending the life of existing assets is included in the capital cost estimate. This saving has therefore been applied to the 2011/12 target in line with LEK's recommendation.

Table 5.7 shows LEK's recommendations on efficient capital expenditure after both the adjustments discussed above have been made.

Table 5.7 IPART adjusted LEK recommendations on efficient capital expenditure 2008/09 – 2011/12 ($ nominal)

	2008/09	2009/10	2010/11	2011/12
LEK recommendation on efficient capital expenditure	951	1,034	910	763
Adjustment to add capital investment required to achieve operating expenditure savings	23.5	243.5	293.5	220
Adjustment to add expenditure to extend life of assets	126	126	126	117
Total efficient capital expenditure	1,101	1,404	1,330	1,110

IPART seeks comments on the following:

7 Are LEK's recommended efficient capital expenditure and IPART's preliminary views on adjusting this expenditure appropriate?

5.3 Establishing and rolling forward the regulatory asset base

As discussed in chapter 3, the first step in IPART's approach to setting fares is to determine CityRail's revenue requirement using the building block methodology. Under a building block approach, the value of the regulatory asset base (RAB) is used to derive a return on and of assets. If this approach were part of the new approach for fare setting for CityRail, IPART would need to determine an opening value for CityRail's RAB, and a methodology for rolling this RAB forward to maintain its value in real terms over time.

The sections below discuss IPART's preliminary view on the appropriate approach for determining the opening value of the RAB and rolling the RAB forward. It has used this approach for determining the preliminary estimates of the building block allowances for depreciation (return of capital) and return on capital discussed in Chapter 4.

5.3.1 Establishing the opening value of the RAB

The opening value of the RAB, which is known as the initial capital base (ICB), represents a valuation of the existing assets required to provide services at a certain point in time. To set the value of the ICB, regulators typically 'draw a line in the sand' to differentiate the capital expenditures incurred in the past (which should be considered in setting the ICB) and future capital expenditures (which should be considered when rolling the RAB forward).

A range of approaches can be used to set the ICB for an existing business, including estimating:

- The opportunity cost (or scrap value) of the assets.
- The historical or actual cost of the assets.
- The book value of the assets.
- The deprival value of the assets which is the lower of the optimised depreciated replacement cost (ODRC) or economic value.

Typically, the estimated value of the ICB varies widely, depending on which of these approaches is used. The lower band of the potential range for this value is zero. This would occur if all past capital expenditure was considered to be neither efficient nor prudent, and the existing assets were considered to be 'sunk assets' that have no scrap value or opportunity cost. The upper bound of the potential range is likely to be equal to the ODRC element of the deprival value of the assets.

IPART's preliminary view on the most appropriate approach for setting CityRail's ICB

One of the key considerations in deciding which of the above approaches is most appropriate for setting CityRail's ICB is the extent to which CityRail's past capital expenditure represents 'sunk assets', and how the inclusion of these assets in the ICB would affect economic efficiency, fare levels and patronage.

Sunk assets are those assets that have been incurred in the past and which cannot be recovered to any significant degree by selling the assets – typically because they are highly specialised, or because the cost of installing them represents a substantial portion of the cost of acquiring them.[35] In the case of rail service providers like CityRail, these sunk assets are typically long-lived assets (ie, non-replaceable assets) such as track, bridges and stations.

IPART considers that a significant proportion of the $11.3 billion written down book value of CityRail's assets represents sunk assets.[36] Economic theory suggests that these sunk assets should not be reflected in CityRail's future fares (and therefore should not be included in the ICB). For example, as IPART has noted in the past,

[35] Sunk costs should be distinguished from fixed costs. Sunk costs are costs that cannot be recovered once they are incurred. They have no ex-post opportunity cost.

[36] IPART calculated this value using an estimate of CityRail's book value provided by LEK.

allocative efficiency is promoted by setting fares to reflect the economic value of the resources currently used in providing the service, **not** to enable the recovery of past capital expenditure that has little or no opportunity cost (ie, sunk assets).[37]

IPART considers that the use of both the historical and actual cost approach to set CityRail's ICB is inappropriate, because they would lead to the inclusion of a significant amount of sunk assets in the ICB. The inclusion of these assets would lead to pricing outcomes that are significantly above the economically efficient level, which is likely to lead to significantly higher fares and lower patronage levels. Therefore using either of these approaches would not be consistent with the terms of reference for the review of the regulatory framework, or with IPART's assessment criteria for selecting this framework.

Of course, not all of CityRail's past capital investments can be considered sunk costs. Many of these investments – such as rolling stock – could be sold (ie, they have a scrap value). This means that there is an opportunity cost in continuing to use them in the provision of CityRail's services. Economic efficiency arguments suggest that, at a minimum, this opportunity cost should be included in the ICB so it can be reflected in fares. However, IPART considers that the difficulties of estimating the opportunity cost of CityRail's existing assets prohibit the use of this approach. For example, this estimation would require an expensive and time-consuming asset valuation process, which involved determining which assets have an opportunity cost and the value of these assets.

Given all the above, IPART considers that the use of a deprival approach to estimate the value of CityRail's ICB is the only appropriate and pragmatic option. The deprival value is equivalent to the lower of the economic value of the assets, or the optimised depreciated replacement cost (ODRC) of these assets. The deprival value takes account of revenue and cashflows, as well the cost of replacing assets at current prices and using current technology. IPART and other Australian regulators have used the deprival method to establish the ICB of regulated entities in the past. In addition, the COAG Agreement of 1994 stated deprival value as the preferred valuation rule for network assets.[38]

IPART's estimate of CityRail's ICB using the deprival value approach

IPART has estimated the value of CityRail's ICB as $1.4 billion, using the deprival value approach and 'drawing a line in the sand' at 30 June 2008. It estimated this value by determining the minimum of:

- the optimised depreciated replacement cost (ODRC) of CityRail's assets, and
- the economic value of these assets (being the discounted value of the cash flows generated by the assets).

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37 IPART, *Pricing for Electricity Networks and Retail Supply, Volume 1*, June 1999, pp 63-64.

38 Council of Australian Governments Communiqué, 19 August 1994, Attachment A - Report on Electricity Reform.

The ODRC represents the optimised value of the replacement cost of the assets, based on the cost of modern equivalent assets. The 'optimised value' means that the replacement cost of the assets is adjusted to remove the value associated with any excess capacity, over-engineering, poor design or poor location in the existing assets. In the case of CityRail, the optimised value of the replacement cost of the assets is likely to be significantly lower than the actual replacement cost. However, because replacing all the assets used to provide CityRail's services, including the entire network of tracks, bridges and stations, would be extremely costly, the ODRC is still likely to be considerably higher than the current economic or even the book value of the assets. Given this, IPART considers that, for practical purposes, it is the economic value that is relevant in setting the ICB.

The economic value of the assets represents the present value of the expected future net benefits flowing from the assets. IPART estimated the economic value of CityRail's assets using a discounted cash flow (DCF) analysis.[39] Using RailCorp financial statements from the period 2004/05 to 2006/07, IPART has forecast earnings before interest, tax, depreciation and amortisation (EBITDA) to 2011/12. This figure has been normalised net of capital contributions and the NPV of the future estimates of free cash flow calculated. CityRail's ICB has then been estimated as 90 per cent of this value based on the proportion of RailCorp's revenue and expenses that are attributable to CityRail.

Other relevant assumptions include:

- The approach assumes a 'contracting out' model where the operator earns revenue from passengers and the government for service delivery and concessions.
- All forward capital contributions are not included in the free cash flow calculation as they are based on government decisions and not business decisions. IPART will allow capex to be rolled into CityRail's RAB based on efficiency and prudency assessments in future regulatory determinations.
- Expenses are expected to grow/reduce based on historical rates and information obtained by LEK and RailCorp.
- Revenue has been forecast to grow based on RailCorp's patronage forecast and current patronage trends. The model assumes a passenger growth figure of 5 per cent for 2007/08 and 2008/09 and from then onwards 2.5 per cent which is consistent with the NSW State Plan.
- The terminal value is calculated using the 2011/12 free cash flow forecast and a growth rate of 2 per cent.
- WACC: 8.0 per cent real pre tax (11.7 per cent nominal pre tax).

39 Using RailCorp financial statements from the period 2004/05 to 2006/07, IPART has forecast earnings before interest, tax, depreciation and amortisation (EBITDA) to 2011/12 and the terminal value of the business. This figure has been normalised net of capital contributions and the NPV of the future estimates of free cash flow calculated. CityRail's ICB has then been estimated as 90 per cent of this value based on based on the proportion of RailCorp's revenue and expenses that are attributable to CityRail.

IPART considers that this approach is the most reasonable option for estimating the economic value of CityRail's assets because it:

- Is commonly used for valuing private and public companies.
- Is transparent, as it uses publicly available data and growth forecasts for revenue and expenses.
- Provides a value greater than zero, which implies that the opportunity cost of CityRail assets is positive, but is lower than the written-down book value of the assets. This result is primarily due to the fact that CityRail's prices and revenues are significantly lower then could be supported by the written-down book value of its assets. This appears reasonable, given the commonly held view that only some of CityRail's past capital expenditure was prudent and efficient.
- Provides a value greater than zero, but not large enough to compromise future cost recovery levels, or to lead to pricing outcomes that are likely to reduce patronage levels.

IPART recognises that using the economic value as part of a deprival approach to setting the ICB has some disadvantages – particularly, the 'circularity' in that the economic value used to set the ICB reflects current revenue, and then the value of ICB value is used as a basis for determining future revenue and prices. In this sense, the deprival value approach does not necessarily provide a basis for setting the 'right' price level, independently of current revenue levels.

However, IPART considers that this disadvantage is less important, because its main focus in drawing a 'line in the sand' and setting CityRail's ICB for regulatory purposes is providing the right incentives for future investment, and therefore providing users with the 'right' economic signals regarding the costs of future investment.[40] This focus is consistent with the assessment criteria for the review, such as:

- providing incentive and accountability for future costs and service decisions
- facilitating sound investment decisions
- providing economic pricing signals
- encouraging good regulatory practice such as being practical, pragmatic as well as simple and understandable.

IPART seeks comments on the following:

8 Are IPART's estimated value of CityRail's Initial Capital Base and the approach it used to determine this value appropriate?

40 This is important given the size of CityRail's future capital expenditure (more than $5bn over the next 5 years).

5.3.2 Methodology for rolling forward the RAB

As discussed above, the opening value of the RAB (or ICB) represents a valuation of the existing assets required to provide services at a certain point in time. IPART will need to roll the RAB forward to reflect any changes in the financial value of the RAB. For example, changes in this value can occur if new assets are acquired, efficient and prudent capital expenditure is incurred to improve or extend the life of existing assets, if existing assets are sold or become redundant, or due to the impact of general inflation. This rolling forward of the RAB is consistent with the approach IPART takes in regulating prices in other industries, such as electricity, gas and water.

If this approach were adopted as part of the approach to fare setting, IPART considers that a methodology or set of rules to guide the rolling forward process should be adopted. Establishing a clear methodology could simplify and improve the efficiency of the regulatory regime, by improving regulatory certainty and avoiding the subjectivity and cost of future revaluation exercises.

IPART's preliminary view is that for the purpose of making the 2009 fare determination, the following methodology is appropriate for rolling forward the RAB to 2011/12:

- Incorporating only new capital expenditure that is deemed to be prudent and efficient into the RAB. As part of the assessment for determining whether capital expenditure is prudent and efficient, a transparent benefit/cost assessment that considers the implications for fares would be undertaken.
- Where this capital expenditure is routine, it should be incorporated into the RAB in the year that it is incurred.
- Where this capital expenditure is associated with a major project, it may be incorporated into the RAB at the time the project comes on stream (which may involve capitalising any interest).
- 'Locking in' the value of the ICB, while recognising that IPART cannot make its decisions binding on any future regulator of CityRail. This would involve IPART recognising that it is not disposed towards revaluing the value of the ICB once established. However IPART considers that a revaluation of the RAB may be necessary if the benefits derived from CityRail's assets are not commensurate with the costs.
- Retaining the ability to remove assets from the RAB when those assets are no longer used to provide CityRail's services. However, IPART is not disposed towards removing assets from the RAB once incorporated.
- Using the movement in the CPI rather than an Asset Index to adjust the RAB for general economy-wide price increases, consistent with previous IPART decisions.

IPART seeks comments on the following:

9 Is IPART's preliminary view on the methodology for rolling forward the Regulatory Asset Base to 2011/12 appropriate?

IPART has also considered two further issues related to rolling forward of the RAB to 2011/12. These issues include the treatment of the Epping Chatswood Rail Link, and the potential for conducting an 'ex-post' review of the prudency of actual capital expenditure incurred by CityRail over the determination period.

Treatment of the Epping Chatswood Rail Link (ECRL)

The Epping Chatswood Rail Link (ECRL) is a new underground passenger rail service, connecting Epping to Chatswood via North Ryde/Macquarie Park, which is currently under construction. The link is designed to improve the capacity of the CityRail network and provide rail access to North Ryde/Macquarie Park with three new stations.

The development and construction of the ECRL is being managed by the Transport Infrastructure Development Corporation (TIDC).[41] The ECRL is expected to be in operation in late 2008, and when this occurs the assets will be transferred from TIDC's balance sheet to CityRail. IPART needs to consider how to account for the transfer of the assets associated with the ECRL to CityRail – or, more particularly, how to include the value of the ECRL assets in CityRail's RAB.

The value of the ECRL assets to be included into the RAB is likely to be defined by the following limits:

- A lower bound of zero, recognising that the ECRL assets could be considered sunk assets with little opportunity cost.
- An upper bound of around $2.3 billion[42], recognising that this value represents the contingent liability associated with the assets (but excludes some operating expenditure associated with the assets which has already accounted for in previous years).

As shown in Chapter 6 the value of the ECRL assets 'rolled in' to CityRail's RAB has a significant impact on CityRail's revenue requirement. For a given level of cost sharing the value of ECRL may have a significant impact on CityRail fares.

IPART seeks comments on the following:

10 What is the appropriate value of the ECRL assets to be included in CityRail's Regulatory Asset Base in light of the terms of reference and assessment criteria for this review?

41 Transport Infrastructure Development Corporation (TIDC) is a State owned corporation which operates under the *Transport Administration Act 1988*.

42 Based on RailCorp, *Annual Report 2006/07*, p 90 and correspondence with CityRail.

Potential for conducting an ex-post review of the prudency of CityRail's actual expenditure before incorporating this expenditure into the RAB

In other industries, IPART typically incorporates the actual capital expenditure incurred over the determination period into the RAB at the beginning of the determination period to determine the return on capital allowance. However capital expenditure incurred over the period is only 'locked into' the RAB subject to an ex-post review of the prudency of this expenditure. This ex-post review is intended to ensure that only the portion of actual capital expenditure deemed to be the prudent capital cost of providing the regulated services is reflected in prices.

IPART's preliminary view is to adopt this approach as part of its methodology for rolling forward CityRail's RAB. It considers this approach is appropriate because it:

- Will ensure that CityRail does not increase its short-term profitability by reducing actual capital investment below the efficient forecasts resulting in a decline in service standards. (That is, it will ensure that cost savings are not achieved at the expense of service quality.)
- Will ensure that users only contribute to prudent capital expenditure incurred in providing CityRail services.
- Will ensure that CityRail is not disadvantaged for undertaking unforeseen prudent expenditure.
- Is consistent with IPART's approach in other capital-intensive industries, such as energy and water.

IPART seeks comments on the following:

11 Is it appropriate to adopt an ex-post review of the prudency of actual expenditure incurred over the determination period, as part of the methodology for rolling forward the Regulatory Asset Base?

12 What should the ex-post review of capital expenditure consider?

5.4 Overview of IPART's preliminary views on the total efficient cost of providing CityRail's services

Table 5.8 provides an overview IPART's preliminary views on the total efficient cost of providing CityRail's services discussed in this chapter, including its views on the:

- level of efficient operating and maintenance costs
- level of efficient capital expenditure
- opening value of the regulatory asset base (the ICB).

Table 5.8 Overview of IPART's preliminary views on the total costs of providing CityRail's services ($m nominal)

	2008/09	2009/10	2010/11	2011/12
Efficient operating costs	2,023	2,083	2,041	2,015
Efficient capital expenditure	1,101	1,404	1,330	1,110
ECRL	2,300			
Opening value of the RAB	$1,400			

6 The revenue requirement

As Chapter 4 discussed, IPART's preliminary view is that it should use the building block approach to determine CityRail's annual revenue requirements over the determination period. Under the building block approach, the revenue requirement is calculated as the sum of:

- the efficient operating and maintenance expenditures
- an allowance for a return on capital (calculated by applying an annual rate of return on the regulatory asset base (RAB))
- an allowance for a return of capital (or depreciation, calculated by applying an annual depreciation rate to the RAB)
- an allowance for working capital.

As Chapter 5 discussed, IPART has formed preliminary views on the efficient operating and maintenance expenditures for 2008/09 to 2011/12, and the opening value of the RAB. It has also formed preliminary views on the allowances for a return on capital and depreciation[43]. Based on these views, it has modelled annual revenue requirements over the determination period under two scenarios. The sections below summarise the inputs to and results of this modelling.

6.1 Inputs to IPART's preliminary modelling of CityRail's revenue requirement

For the 2009 determination, IPART's preliminary view is that it will use a building block approach to calculate the revenue requirement. Chapter 5 discussed its preliminary views on some of the key inputs to this calculation, including CityRail's efficient operating costs and efficient capital costs for each year of the determination period, and the opening value of the RAB (or the initial capital base (ICB)). Table 6.1 summarises these preliminary views.

[43] Allowance for working capital likely to be insignificant.

Table 6.1 Overview of IPART's preliminary views on the total costs of providing CityRail's services ($m nominal)

	2008/09	2009/10	2010/11	2011/12
Efficient operating costs	2,023	2,083	2,041	2,015
Efficient capital expenditure	1,101	1,404	1,330	1,109
Epping Chatswood Rail Link	2,300			
Opening value of the RAB	$1,400			

In addition, as Chapter 5 also discussed, the value of the new Epping Chatswood Rail Link (ECRL) that is currently under construction may need to be included in rolling forward the RAB during the determination period.

The decision about the value of the ECRL for the purpose of rolling forward the RAB is likely to have substantial impact on CityRail's revenue requirement. To illustrate the impact of this decision on both CityRail's revenue requirement and on average fare changes, IPART has modelled CityRail's annual revenue requirements over the determination period under two scenarios:

- The first assumes that the value of the ECRL is zero. IPART considers this is the lower bound for this value. It reflects the view that the ECRL assets could be considered sunk assets with little opportunity cost.
- The second assumes that the value of the ECRL is around $2.3 billion.[44] IPART considers this is the upper bound for this value. It represents the contingent liability associated with the assets.

IPART's preliminary views on other key inputs to the calculation of the revenue requirement, including the allowance for a return on assets, the allowance for a return of capital (or depreciation), and forecast growth in patronage levels are discussed below.

6.1.1 The allowance for return on capital

The allowance for a return on the capital invested by CityRail's shareholder (the NSW Government) represents a significant component of the cost of providing CityRail services. This allowance represents compensation to the shareholder for committing capital to the business and bearing the risks associated with the business.

Current regulatory practice is for the return on capital to be calculated by applying a rate of return that reflects the cost of capital to an asset base. This asset base is based on the opening RAB plus any additional efficient capital expenditure in any given year and minus the annual depreciation.

44 Based on RailCorp, *Annual Report 2006/07*, p 90 and correspondence with CityRail.

There are a number of approaches for calculating an appropriate rate of return on the RAB. IPART's preferred approach is to use the Weighted Average Cost of Capital (WACC) approach to determine an appropriate range for the rate of return. IPART's preliminary view is that a real pre-tax WACC which is commensurate with CityRail's is in the order of 8.0 per cent. This figure is based on IPART's initial assessment of the various input parameters used to calculate a WACC for CityRail.

Table 6.2 WACC parameters - IPART's preliminary views

Parameter	Value
Nominal risk free rate	6.2%
Real risk free rate	2.3%
Implied inflation forecast	3.8%
Debt margin	2.8 to 4.1%
Debt funding	50 to 40%
Gamma	0.5 to 0.3
Tax rate	30%
Equity beta	0.8 to 1.0
Cost of equity	10.6 to 12.7%
Cost of debt	9.0 to 10.3%
WACC (real pre tax)	6.9 to 9.8%
WACC (midpoint)	8.0%

Note: Input parameters as at April 2008, these will be revised prior to draft fare determination in September 2008.

IPART will need to determine values for the various parameters that inform the calculation of the WACC. These parameters relate among others to the cost of debt and the cost of equity (as determined by the CAPM). IPART's preliminary view of is to adopt a rate of return of 8 per cent. IPART will update the WACC parameters prior to its final decision.

IPART seeks comments on the following:

13 Is a rate of return of 8 per cent optimal to determine the return on capital element of the revenue requirement?

Table 6.3 shows IPART's preliminary view of the allowance for a return on capital, based on a rate of return of 8 per cent.

Table 6.3 Preliminary view on allowance for return on capital ($ nominal)

	2008/09	2009/10	2010/11	2011/12
ECRL valued at zero	251,604	363,631	484,692	583,210
ECRL valued at $2.3b	383,409	627,273	748,265	846,440

6.1.2 The allowance for depreciation

IPART is disposed to calculate an allowance for depreciation assuming straight line depreciation. The straight line method of depreciation takes an equal amount from the asset value in each year of the assets' economic life, so that the real written down value describes a straight line over time, from the initial value of the investment to zero at the expiry of the asset life.

IPART's preliminary view is that:

- the ICB should be depreciated at the average depreciation rate implicit in RailCorp's statutory accounts, and
- for efficient investments, the depreciation allowance should be based on a categorisation of assets and separate asset life assumptions for these categories. These categories are consistent with the asset categories used by LEK in its review of CityRail's total costs.

Depreciating the ICB

IPART's preliminary view is that the remaining asset live of the ICB is different from the remaining asset life of new assets. IPART is disposed to applying a different depreciation rate to the RAB. This depreciation rate would be based on the average annual depreciation rate (3.69 per cent) on the written down value of CityRail's assets. The average depreciation rate will apply until the full amount of asset value implicit in the ICB is fully depreciated.

Depreciating efficient investments

To apply straight line depreciation, IPART needs to estimate the economic lives of the assets being depreciated. RailCorp has provided the remaining asset lives for all of its assets in 6 separate asset categories (see Table 6.4) IPART compared RailCorp's submission to the average useful asset lives in RailCorp's annual report and found that the estimates provided by RailCorp's are in line with their statutory reporting. IPART also calculated the weighted average depreciation rate of 3.03 per cent. This depreciation rate is based on an average remaining asset live of 33 years.

Table 6.4 CityRail asset lives and depreciation rates

Asset class	Intangibles	Plant and equipment	Buildings	Rolling stock	Infrastr-ucture	Land[a]	Total
Asset life range (years)	-	3 – 30	15 – 200	20 – 35	10 – 100	-	-
Useful remaining asset life (years)	3.0	10.0	30.0	9.4	42.2	0.0	-
Average depreciation rate	33.0%	10.0%	3.3%	7.6%	2.4%	0.0%	-
Asset base proportion	0.3%	1.8%	18.4%	19.9%	26.1%	0.0%	-
Weighted average depreciation	0.11%	0.18%	0.61%	1.51%	0.62%		**3.03%**

[a] RailCorp does not depreciate land.

IPART's preliminary view is to apply the average depreciation rates for the six asset categories as depicted in Table 6.4 to forward efficient capex for the purpose of modelling annual revenue requirements for CityRail. This would result in the allowance for depreciation shown in Table 6.5.

Table 6.5 Preliminary view on allowance for depreciation, ($, nominal)

	2008/09	2009/10	2010/11	2011/12
ECRL valued at zero	81,033	114,570	151,732	184,055
ECRL valued at $2.3b	116,997	187,648	227,148	261,885

6.1.3 Forecast changes in patronage levels

IPART has estimated CityRail's likely patronage growth over the determination period. These estimates are shown on Table 6.6 below, and discussed in detail in the discussion paper, *Deciding on the structure and level of CityRail fares*.

Table 6.6 Forecast changes in CityRail patronage levels – IPART estimate

	2008/09	2009/10	2010/11	2011/12
Patronage change	5.0%	2.5%	2.5%	2.5%

The 2.5 per cent patronage growth assumption between 2009/10 and 2011/12 is consistent with RailCorp's forecast and the State Plan. IPART assumed a higher patronage growth for the 2008/09 financial year consistent with higher year to date patronage growth figures. A patronage growth rate of 2.5 per cent per annum is significantly higher than CityRail's historical growth rate of 1.3 per cent per annum.

IPART seeks comments on the following:

14 Is the patronage growth rate outlined in Table 6.6 appropriate for determining CityRail's revenue requirement?

6.2 Results of IPART's preliminary modelling of revenue requirements

IPART has used the inputs discussed above to model CityRail's annual revenue requirements for the period from 1 July 2008 to 30 June 2012 under the two scenarios outlined in section 6.1 above. Tables 6.5 and 6.6 summarise the results of this modelling. Note that that government concession payments (ie, the payments to compensate CityRail for providing concession and half fares to certain users in line with government policy) and CityRail's other revenue have been subtracted from sum of the cost blocks, to give the net revenue requirement.

Table 6.7 CityRail's revenue requirements under Scenario 1 (assuming value of ECRL equals zero)

	2007/08	2008/09	2009/10	2010/11	2011/12
	IPART determination – operating costs and depreciation only	**$000**	**$000**	**$000**	**$000**
Operating costs	2,006,100	2,023,264	2,082,757	2,041,466	2,014,583
Allowance for depreciation	399,000	81,033	114,570	151,732	184,055
Allowance for return on capital	-	251,604	363,631	484,692	583,210
Total revenue requirement	2,405,100	2,355,901	2,560,958	2,677,889	2,781,848
Govt concession payments	166,600	168,237	169,919	171,618	173,334
Other revenue	130,300	112,300	113,000	103,600	100,600
Net revenue requirement	2,108,200	2,075,364	2,278,039	2,402,671	2,507,914

Note: Totals may not add due to rounding

Table 6.8 CityRail's revenue requirement under Scenario 2 (assuming value of ECRL is $2.3 b)

	2007/08	2008/09	2009/10	2010/11	2011/12
	IPART determination – opex and depreciation only	$000	$000	$000	$000
Operating costs	2,006,100	2,023,264	2,082,757	2,041,466	2,014,583
Allowance for depreciation	399,000	116,997	187,648	227,148	261,885
Allowance for return on capital	-	383,409	627,273	748,265	846,440
Total revenue requirement	2,405,100	2,523,670	2,897,678	3,016,879	3,122,908
Govt concession payments	166,600	168,237	169,919	171,618	173,334
Other revenue	130,300	112,300	113,000	103,600	100,600
Net revenue requirement	2,108,200	2,243,133	2,614,759	2,741,661	2,848,974

Note: Totals may not add due to rounding.

IPART has also considered the effects of fare elasticities. IPART engaged Booz Allen Hamilton to estimate fare elasticities for CityRail tickets. Booz Allen Hamilton found that the own price elasticity for CityRail tickets is -0.29[45]. This implies that:

- for a change in fares of 5 per cent, passenger journeys will decrease by 1.5 per cent; and
- for a change in fares of 10 per cent, passenger journeys will decrease by 2.9 per cent.

Booz Allen Hamilton will provide IPART with a revenue model which takes into account the effects of fare elasticities and cross ticket elasticities on revenue.

6.2.1 Other revenues

CityRail currently owns assets that are not used directly to provide train services, but which generate a commercial revenue stream that is tied to rail patronage. These assets include the commercial properties adjacent to train stations, car parking, airspace above stations, and advertising signage areas near railway corridors or stations. In 2006/07, RailCorp earned over $150 million of revenue on these assets.

A dual till approach would be preferable for CityRail's commercial revenues. Under a dual till approach any revenue that RailCorp earns from activities outside the provision of regular passenger services would be accounted for as a reduction of the

45 Booz Allen Hamilton, *CityRail Fare Elasticities*, May 2008.

amount of revenue required from the farebox. This means that if RailCorp is able to grow revenue from say commercial rentals or advertising, rail passengers will be required to contribute less through fares. It's IPART's preliminary view that permitting RailCorp to keep that revenue would provide an incentive to increase patronage on the system generally.

IPART seeks comments on the following:

15 How should any commercial revenue earned by CityRail be treated for the purposes of determining fares?

7 External benefits of CityRail

Public transport services are crucial to improving people's access to work, education, health, recreation and other services. Public transport services are also crucial to providing an alternative to private car use, and thus to reducing road congestion, road accidents and greenhouse gas emissions due to road use. CityRail performs a substantial part of the public transport task in Sydney, by providing passenger rail services to the people in the Greater Sydney area served by the metropolitan, inter-city and regional networks.

Most people readily understand that these passenger rail services impose costs and provide benefits directly to the people who use them. However, these services also generate substantial **external costs and benefits** that accrue to the wider community. The indirect benefits include reduced road congestion, traffic accidents and greenhouse gas emissions. These benefits are also known as external benefits (because they are external to the users of the services).

One of the key factors IPART will consider in determining what share of CityRail's revenue requirement should be funded by users, and what should be funded by taxpayers (through government subsidies), is the estimated value of these external benefits. The sections below discuss the nature of the external benefits generated by CityRail services, the information IPART is considering on the estimated value of those benefits, and IPART's preliminary view on this estimated value.

7.1 The nature of the external benefits of CityRail services

The external benefits of any action are the positive impacts of that action that accrue to parties external to the action (ie, to people who were not involved in taking the action, or deciding to take the action). The external benefits associated with the provision of CityRail's services are the benefits that accrue to the community in general (rather than to the individuals who use those services). In general, these external benefits are equivalent to the external costs associated with private car use that are avoided when people choose to travel by train rather than private car.

When commuters decide to drive their own cars to work, their decision contributes to the level of congestion on the roads, and therefore imposes an external cost on other motorists (such as longer trip times). But if some commuters decide to take the train to work instead, then this external cost to other motorists is avoided. The same

applies to the other external costs associated with road use, including greenhouse gas emissions and local air pollution, traffic accidents, and traffic noise.

A number of stakeholders' submissions on the issues paper commented on the importance and difficulty of taking account of the external benefits of CityRail services.

- The Lower Hunter Councils Transport Group noted the benefits of increased use of public transport which accrue to the wider community through reduced emissions and congestions. The Group submitted that current policies distort the market in favour of car use as public transport is funded at a far lower level than private road-based transport, particularly if the full social costs of provision and use of cars are considered[46]
- The Blue Mountains Commuter and Transport Users Association noted the difficulties in quantifying external benefits of CityRail services, pointing out the difficulties in placing a value of a family outing, visiting a friend in hospital and use of the system for health, education and entertainment[47]. While these are benefits, IPART notes that they are enjoyed by the individual so are not external benefits to the wider community. The Association also argued that the economic benefit of the rail service to the community should be taken into account, citing the example of income brought into the area by people commuting to and from the Blue Mountains for work.
- The Western Sydney Regional Organisation of Councils submitted that consideration should also be given to the benefits of capital expenditure in the rail network that addresses government objectives (for example the Metropolitan Strategy) and infrastructure backlogs caused by historical under-investment in the system, the social environmental and economic consequences of withdrawing the subsidy, the indirect impacts of heavy car use including health impacts (eg, obesity) and heat island effects of road pavement and the social costs to people who are unable to use cars if subsidies for rail were reduced or removed[48].

There is general agreement in Australian and international literature that the external costs of road use, particularly urban road congestion, are significant and represent a serious problem — primarily because these costs significantly reduce the efficiency and liveability of a city. The most recent Australian study of road congestion costs was undertaken by the Bureau of Transport and Regional Economics (BTRE) as part of the Council of Australian Governments' (COAG) review of urban congestion. The BTRE's preliminary analysis suggests that the economic costs of congestion in

46 Lower Hunter Councils Transport Group submission to CityRail Regulatory Framework Review, March 2008, p 2.

47 Blue Mountains Commuter and Transport Users Association submission to CityRail Regulatory Framework Review, February 2008, p 8.

48 Western Sydney Regional Organisation of Councils submission to CityRail Regulatory Framework Review, March 2008, pp 9-10.

Australian capital cities was around $9.4 billion in 2005, and is likely to rise to $20.4 billion by 2020.[49]

There are a number of tools available to government to manage the external costs of road use. Economic theory suggests that the most effective and efficient tool is to signal to road users (through some sort of road use pricing) the value of the extra road congestion that their decision to make a trip by private car causes. In principle, the same approach can be used to signal the other external costs resulting from road use, such as greenhouse emissions and traffic accident costs. However, to date, there have been no attempts to introduce a comprehensive area-based road-use charging scheme in any Australian city for a range of reasons, including the complexity of such a task.

Another tool for managing the external costs of road use is the provision of reasonably priced public transport services that enable people to avoid imposing these external costs. In many cities throughout the world, public transport services are subsidised to differing degrees, as a second best solution to managing the external costs associated with road use.

In the Greater Sydney area, CityRail's provision of regular passenger services (and the Government's subsidisation of the fares for these services) undoubtedly leads some people who might otherwise travel by car to travel by rail instead. Therefore, the provision of CityRail's services does avoid some of the external costs of road use, such as greenhouse emissions, health related impacts and urban road congestion, particularly on traffic corridors to and from the CBD. However as discussed throughout this chapter, the extent to which CityRail services ease congestion on other routes around the greater Sydney region is not clear. That is, the costs associated with congestion in some parts of greater Sydney such as those not already served by the rail network are unlikely to be affected by the removal of CityRail services.

IPART notes that the Government's subsidisation of CityRail fares also generates internal benefits that accrue to the individuals who use CityRail services. These internal benefits are equal to the difference between the fares they currently pay for these services, and what they would be willing to pay if the Government did not subsidise the cost of the services. The optimisation approach which CRAI has used to recommend its optimal level of fares, patronage and Government subsidy takes into account both the internal and external benefits of CityRail (see Section 8.1.2).

7.2 Estimating the value of the external benefits of CityRail

Many studies have examined the external benefits associated with rail use, but there is little agreement on how these benefits should be quantified. This is largely

[49] Bureau of Transport and Regional Economics (2007), *Estimating urban traffic and congestion cost trends for Australian cities*, Working Paper No 71, p xv.

because quantifying the benefits associated with reduced road congestion, traffic accidents, greenhouse and other emissions is very complex.

As part of its review, IPART is considering estimates of the value of the external benefits of CityRail provided by RailCorp and by IPART's consultant, CRAI. It is also considering the available public literature on the external benefits of rail.

7.2.1 RailCorp's estimate

Last year, RailCorp published an estimate of the total value of the benefits provided by CityRail services as at 2006/07 and an average over the previous nine year period (including benefits to CityRail users and external benefits).[50] To estimate the value of the external benefits, RailCorp estimated the total social and environmental costs of replacing CityRail with alternative transport modes (buses and cars), and used this as a proxy for the 'true' external benefits. These costs included road congestion, air pollution, greenhouse gas emissions, noise pollution, accidents, and road damage costs.

RailCorp's estimate of CityRail's total external benefits in 2006/07 is approximately $1 billion (Table 7.1). The largest component of this value is avoided road congestion costs of around $740 million, which represents around 70 per cent of the total external benefits.

Table 7.1 RailCorp estimation of the external benefits of CityRail ($2006/07 million)

	2006/07	Average 1997/98 to 2006/07
Road congestion	740.5	726.4
Air pollution	71	69.6
Greenhouse gas emissions	52.1	51.1
Noise pollution	20.4	20.0
Accidents	114.6	112.4
Road damage	3.7	3.6
Total external benefits	**1002.3**	**983.1**

Source: RailCorp 2007.

7.2.2 CRAI's estimate

IPART engaged CRAI to assist it in estimating the external benefits of CityRail services and to provide advice on an appropriate range for the allocation of costs between CityRail passengers and government[51]. CRAI's report has been released in conjunction with this discussion paper, and is available on IPART's website.[52]

50 Railcorp, *The value of CityRail to the NSW community 1997-98 to 2006-07 (June 2007).*

51 CRAI International, *Value of CityRail externalities and optimal Government subsidy,* Report to IPART, May 2008.

52 http://www.ipart.nsw.gov.au

In contrast to RailCorp, CRAI used a marginal approach to estimate CityRail's external benefits. First, it used the Transport Data Centre's Sydney Strategic Travel Model (SSTM) output to calculate the external benefit per road vehicle kilometre. CRAI estimated that this benefit varies continuously with rail patronage: that is, as more commuters choose to take the train, roads become less congested, so the marginal external benefit falls as rail patronage increases. Second, CRAI calculated the total externality benefit of CityRail as the sum of the marginal external benefit every train user brings to the wider community in the form of avoided road congestion, air pollution and greenhouse gas emissions.

CRAI's estimate of CityRail's total external benefits in 2006/07 is slightly higher than RailCorp's, at approximately $1.06 billion (Table 7.2). CRAI's estimate of the value of reduced road congestion was substantially higher than RailCorp's (approximately $923 million compared with $741 million).

Table 7.2 Comparison of RailCorp's and CRAI's estimate of benefits of CityRail ($2006/07 million)

	RailCorp 2006/07	CRAI 2006/07
Road congestion	740.5	923.1
Air pollution	71	109.1
Greenhouse gas emissions	52.1	25.3
Noise pollution	20.4	-
Accidents	114.6	-
Road damage	3.7	-
Total external benefits	**1002.3**	**1057.5**

Source: RailCorp 2007 and CRAI 2008.

7.2.3 IPART's preliminary analysis

CRAI noted that its estimates of the external benefits of CityRail are sensitive to a number of key variables, particularly the assumptions about the level of patronage of CityRail services, and the 'value of time' to transport users.[53] In addition, it argued in its report that rail congestion costs associated with increased rail patronage (such as more crowded trains, longer loading and unloading times and longer trips) should be taken into account when higher levels of patronage are assumed. These rail congestion costs are estimated to be significant and are netted of the positive road congestion benefits in CRAI's estimates.

[53] The 'value of time' measures the value that passengers place on their time. This variable is important in estimating the costs associated with congestion and additional travel time.

IPART has undertaken preliminary analysis to gauge the sensitivity of the external benefit estimates to these two key variables. Tables 7.3 and 7.4 below show how CRAI's estimates of the total external benefits vary according to changes in these two assumptions:

- The level of patronage. The tables show the estimated value of the external benefits when patronage is assumed to be 294 million passenger trips per year (CityRail's 2007/08 forecast patronage), 316 million passenger trips per year (IPART's patronage forecast in 2009/10) and 332 million passenger trips per year (IPART's forecast patronage in 2011/12).
- The value of time. The tables show the estimated value of the external benefits when the value of time is assumed to be $9.10 per hour (the lower bound as determined by CRAI), $22.60 per hour (upper bound as determined by CRAI) and $15.80 per hour (IPART's estimate of an appropriate value of time within the feasible range determined by CRAI).

IPART's estimate of the value of time is greater than the estimate provided by CRAI but it is well within the range of the values it identifies. IPART considers that its estimate of the value of time more accurately reflects the income characteristics of the average CityRail passenger, in particular that most passengers are commuters who work in the CBD.

IPART has derived its estimate of the value of time using CRAI's report as follows:

- IPART has used CRAI's 2008 estimate of the NSW wage rate of $28.8 per hour
- It has multiplied this by a factor of 1.1. IPART considers that the estimate of the NSW wage rate should be inflated to make the value of time more consistent with the wage rate likely to be earned by the average CityRail passenger because:
  - IPART's analysis suggests that the average CityRail passenger's household income is greater than the average Sydney household income
  - Persons from the Sydney area tend to have higher incomes than those from other regions of Sydney.
- Multiply this 0.5 – this is an assumption which reflects the fact that most people value their time at less than their prevailing wage. It is consistent with range of values listed in CRAI's report.

Tables 7.3 and 7.4 also indicate how the estimates vary according to whether or not the congestion costs associated with increased rail patronage are included. Table 7.3 shows IPART estimates based on the CRAI report when these costs are included, and Table 7.4 shows the estimates when these congestion costs are excluded.

Table 7.3 IPART's estimate of CityRail's external benefits based under different assumptions, including the congestion costs of increased rail patronage ($ million)

	Value of time ($ per hour)		
Level of patronage (passenger trips per year, million)	**$9.1**	**$15.8**	**$22.6**
294 (2007/08)	821	1,306	1,809
332 (2011/12)	1,050	1,675	2,323

Table 7.4 IPART's estimate of CityRail's external benefits under different assumptions, excluding the congestion costs of increased rail patronage ($ million)

	Value of time ($ per hour)		
Level of patronage (passenger trips per year, million)	**$9.1**	**$15.8**	**$22.6**
294 (2007/08)	988	1,594	2,220
332 (2011/12)	1,234	1,990	2,772

While the estimated external benefits are substantial, in particular the external congestion benefits, they may not be as large as some assume them to be. There are a number of factors which explain why this may be the case, including:

- While CityRail plays an important part in meeting the transports needs of Sydney, the private motor vehicle is by far the most popular source of transportation in Sydney. While Sydney has a higher public transport mode share for work commuters than other Australian cities, over 70 per cent of work commuters still use private motor vehicles as their mode of transport. [54]

54 Transport Data Centre report, *2006 employment and commuting*, April 2008, p 6.

- The congestion benefits provided by CityRail are primarily associated with peak time commuting to the CBD. Outside of the CBD and major roads leading to and from the CBD during peak times, the external congestion benefits of CityRail services are likely to be small due to the lesser role that CityRail plays in Sydney's non-CBD transport task. For example, as Sydney has expanded and grown, the work and leisure activities undertaken by people has also drifted away from the CBD such that the majority of commuters do not work in the CBD. CityRail plays a lesser role in meeting this new transport task, particularly to these new growth areas of Sydney, such as the North West and South West areas of Sydney. This implies that the external benefits of CityRail in terms of avoided road use are of a lesser value in these areas.[55]

7.2.4 IPART's preliminary views

IPART considers that increases in overall rail patronage do not necessarily imply significant negative rail congestion costs. IPART considers that it is reasonable to expect that the level of rail investment will increase in response to increasing patronage so that similar service levels in terms of crowding and journey time are provided in the longer term. As discussed in IPART's discussion paper, *Deciding on the structure and level of CityRail fares,* CityRail's ability to manage patronage growth while maintaining service standards in the shorter term will depend on the nature and timing of passenger travel. Strong peak period growth is likely to require additional capacity on the network to maintain service standards, particularly capacity around the CBD. CityRail is undertaking investment over the next 5 years to provide additional capacity on the CityRail network. IPART also considers it relevant to consider that patronage growth may occur in the off-peak as a result of more cost reflective peak and off-peak pricing, more flexible working and leisure hours to obtain greater off-peak travel. Patronage growth may also occur in contra-peak direction travel as a result of non-CBD employment growth etc. That is, rail patronage does not necessarily imply negative rail congestion costs. Therefore, IPART considers the estimates excluding the congestion costs of increased rail patronage (shown on Table 7.4) provide a more appropriate range for the value of the external benefits of CityRail than the estimates that include these costs.

IPART's preliminary view is that CityRail's external benefits are around $1.6 billion in 2007/08. But as patronage grows over the course of the period 2008/09 – 2011/12 the value of the external benefits will also grow and is likely to be in the range of $1.7 – 2.0 billion over the period. In deriving this range IPART has also inflated the externality values by a combination of the wage price index (WPI) and CPI to maintain their value in nominal terms.

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55 This conclusion is borne by the results of the transport data centre modelling presented in CRAI's report which finds that under an extreme scenario of no rail, there would be profound changes in the way traffic into the CBD is orchestrated, however these changes would not be so drastic as to prevent Sydney from functioning. The majority of commuter journeys are not to or from the CBD, and rail's share of total passenger kilometres is only 11 per cent. See CRAI's report, *Value of CityRail externalities and optimal Government subsidy*, May 2008, p 91.

Subject to stakeholder comment, IPART will undertake additional analysis to refine the range of assumptions and thus the estimated value of these external benefits. This value will be a key input into IPART's decision on the appropriate allocation of CityRail's revenue requirement to be funded by passengers through fares and by taxpayers through government subsidies (discussed in Chapter 8).

IPART seeks comments on the following:

16 Is the range of $1.7 – 2.0 billion an appropriate estimate of the value of the external benefits of CityRail services?

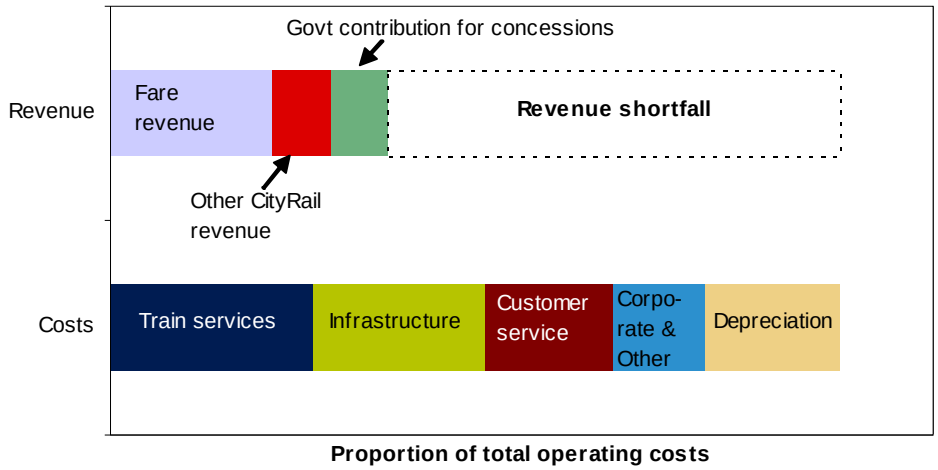
17 Are there any additional external benefits that should be considered in estimating the total value of the external benefits of CityRail?

18 If so, how might these additional externalities be quantified?

8 The share of CityRail's revenue requirement to be funded by passengers and taxpayers

Currently, CityRail's revenue from fares and other sources is substantially less than its revenue requirement (Figure 8.1). The resulting revenue shortfall is made up by taxpayers through government funding of CityRail. For example, in 2007/08, the level of government funding budgeted for RailCorp was $1.7 billion, which is equivalent to a subsidy of $15 per week for each household in NSW.[56] All the same, more than 70 per cent of Sydney's population either never use CityRail's services or use it less than once a month.[57]

Figure 8.1 CityRail's revenue relative to its total operating costs (2007/08)



Notes: Total costs do not include interest payments.

Data source: RailCorp, IPART.

Given the size of its revenue shortfall, it is likely that CityRail will need to rely on government subsidies as well as fare revenue for the foreseeable future. This means that before IPART can translate CityRail's revenue requirement (discussed in Chapter 6) into fares, it will need to determine what share of the revenue requirement is to be funded by passengers through fares and what share is to be funded by government.

56 RailCorp and ABS (Cat No. 2068.0).
57 RailCorp, *A Compendium of CityRail Statistics*, Fifth Edition, April 2006.

IPART considers that it in establishing the appropriate share of CityRail's revenue requirement to be funded by government subsidies going forward, it is also important to consider whether the value of the external benefits of CityRail's services is higher than the value of the benefits that could be generated by redirecting the funding elsewhere. Government funding for CityRail comes at the expense of increased funding for other government services, such as education and health. For example, in 2007/08, CityRail's subsidy ($1.7 billion) was equivalent to 16 per cent of the government's spending on education ($10.6 billion),[58] and 14 per cent of the government's spending on health ($12.5 billion).[59] Alternatively, this funding comes at the expense of a reduction in the State's level of taxation.

These broader economic considerations relate to the Government's fiscal policy and are outside the scope of IPART's review. However, if we assume that some government funding of CityRail's costs is justified, they highlight the importance of taking steps to ensure that the size of these costs (and therefore the government subsidy) does not continue to grow, as it has over the past several years. One of the ways the economic regulatory framework can help do this is by determining the efficient level of costs required to provide CityRail services and holding CityRail accountable to meeting the performance targets implied in these efficient cost estimates.

The sections below discuss IPART's preliminary views on the approach it should use to determine the appropriate shares of the revenue requirement to be funded by passengers and government, and explain its preliminary views on these shares and the implications for the average fare and the level of government funding.

8.1 What approach should IPART use to determine what share of the revenue requirement should be funded by passengers and government?

As Chapter 4 discussed, IPART's preliminary view is that a building block approach should be used to determine CityRail's revenue requirement because this approach is most consistent with the assessment criteria for this review. For example, the building block approach ensures that the costs of providing CityRail's services are measured and monitored in a rigorous and transparent way, which should encourage CityRail to be more disciplined in its spending and promote economic efficiency. To be consistent with this, the approach used to determine what share of the revenue requirement is to be funded by passengers and government also needs to be as rigorous and transparent as it can be.

58 NSW Treasury 2007, *Budget Statement 2007-08*, Budget Paper 2, Sydney, pp 2-13.
59 Ibid.

IPART considers that there are three options for this approach:

- using the estimated value of the external benefits of CityRail's services to determine the share to be funded by government
- using CRAI's proposed optimisation method
- making a judgement after considering a range of relevant factors, including the estimated value of the external benefits, CRAI's optimisation method, impacts on patronage and the impact on the affordability of fares.

IPART's preliminary view is that the third option is the most appropriate at this stage. The sections below discuss each option and explain why IPART prefers the third one.

8.1.1 Option 1: Using the estimated value of external benefits to determine government's share

IPART considers that government funding of CityRail's services can be justified on the grounds that the provision of these services generates social benefits that outweigh (or at least are broadly equivalent to) the cost of the funding. These social benefits include external benefits that accrue to the community in general. As Chapter 7 discussed, these external benefits mostly take form of avoided external costs of road use (such as road congestion, greenhouse gas emissions and road accidents), which improve the amenity and liveability of the city.

One approach for determining the share of CityRail's revenue requirement to be funded by passengers and government would be to make the Government's share equivalent to this value with the remaining share paid by passengers. IPART considers that this approach is relatively simple, transparent and broadly in line with promoting economic efficiency in rail services. While the value of the external benefits will be a key consideration in determining the revenue shares, IPART is also required to take a wide range of other matters into account in determining fares – such as the impact of its fare decisions on CityRail's passengers, the affordability of CityRail's services and patronage levels, and government policy objectives including those for patronage levels. Because the share of the revenue requirement to be funded by users will largely determine the level of fares, the approach used to determine this share also need to take account of these matters.

IPART's preliminary analysis indicates that equating the government share of the revenue requirement to the value of the external benefits over the period 2008/09 to 2011/12 would lead to substantial fare increases. If the value of the external benefits is within the range of $1.7 – 2.0 billion over the period 2008/09 to 2011/12, the appropriate sharing of the revenue requirement consistent with these values implies a user contribution to the revenue requirements of around 30 per cent by 2011/12.

This is more than the 26 per cent paid by users currently.[60] Real fare increases of 20 - 30 per cent over the period may be needed to attain a user cost share consistent with IPART's preliminary view.

8.1.2 Option 2: Using CRAI's proposed optimisation method

In its report, CRAI explored a method for determining the optimal shares of CityRail's costs to be funded by users and by government[61]. CRAI set out to develop a framework to estimate the social costs and benefits arising from CityRail's passenger services, and to use this framework to derive the appropriate share of CityRail's revenue requirement to be funded by government. CRAI's method and results are summarised below.

The social benefits from CityRail services depend on the extent to which passengers use CityRail's services, and the level of fares is an important determinant of this use. There is, in fact, a trade-off between these two factors: higher fares mean CityRail is less unprofitable and a lower Government subsidy is needed, but they also mean lower use of CityRail services and lower external benefit. There is likely to be an optimum level for fares at which total welfare is maximised. CRAI has attempted to develop a framework through which that optimum point can be determined.

According to CRAI, welfare is formally defined as the sum of what are known as consumer surplus, producer surplus,[62] and externalities[63] less the welfare costs of taxation.[64] It depends on CityRail patronage in a subtle way that reflects the trade-off between producer surplus on one hand, and the combination of consumer surplus and externalities on the other. Low fares mean highly negative producer surplus and significant tax distortions, but high patronage, consumer surplus, and external benefit. High fares mean lower patronage, consumer surplus and external benefit, but less negative producer surplus and less tax distortion. At some intermediate

60 This cost recovery ratio is an estimate of user revenue share in 2007/08 based on the building block methodology. However, caution should be used when interpreting this figure as at is only an approximation which reflects a number of modelling assumptions on capital expenditure and depreciation. The 2007/08 farebox cost recovery level is also estimated to be 26 per cent. Farebox cost recovery is farebox revenue as a percentage of operating costs (including depreciation), it is the measure of the user share listed in previous IPART fare determinations.

61 CRAI International, *Value of CityRail externalities and optimal Government subsidy*, Report to IPART, May 2008.

62 Consumer surplus is the difference between the value that a consumer places on a rail journey and the price paid for that journey. If this difference is less than zero, then the consumer won't make that journey. Producer surplus is the difference between the ticket price and the marginal cost of supplying a passenger journey. When Government subsidies are available, the producer surplus could be less than zero. The sum of consumer and producer surplus is the difference between the value a consumer places on a rail journey and the marginal cost of supplying it.

63 Externalities are benefits to parties other than rail users and CityRail that arise from rail patronage. Reduced road congestion, air pollution, and greenhouse gas emissions are some of the most important externalities. Benefits of reduced congestion are experienced by motorists. Benefits of reduced air pollution are experienced by all residents of Sydney. Benefits of reduced greenhouse gas emissions are experienced by all people.

64 Welfare costs of taxation arise from the distortion to individual purchasing decisions imposed by sales taxes and to individual employment choices imposed by income taxes.

point, any increase in fares would lead to a greater loss of consumer surplus and external benefit than the gain in producer surplus and reduction in tax distortion. And at the same point, any decrease in fares would lead to a greater loss of producer surplus and increase in tax distortion than the gain in consumer surplus and external benefit. That point is the optimum, and there will be a specific level of government support that corresponds to that point.

In order to find this optimum point, CRAI has tried to understand, in a quantitative way, the relationship between fares and patronage, between patronage and consumer surplus, between patronage and producer surplus, and between patronage and external benefit. The bulk of the analytical work presented in CRAI's report has been directed to obtaining the quantitative understanding of these relationships.

Using this approach, CRAI has calculated:

- If the impact of any distorting effects of taxation is considered, the optimal welfare outcome[65] is achieved with an average fare of $2.17 ($2005/06) per passenger journey, and a government subsidy to CityRail of $1,214 million per year ($2005/06). This implies a nominal increase in average fares of around 21 per cent, and a reduction in the government subsidy of approximately of 11 per cent or $150 million per year.
- If the impact of any distorting effects of taxation is ignored, the optimum welfare outcome is achieved with an average fare of $1.93 ($2005/06) per passenger journey, and a government subsidy to CityRail of $1,310 million per year ($2005/06). This implies a nominal increase in average fares of around a 7 per cent and a reduction in the government subsidy of around 4 per cent or $54 million per year.
- The above two points highlight the central case conclusions found by CRAI. However CRAI's report highlights that its net welfare function exhibits very broad and flat peaks. This finding is significant because it means that the selection of a precisely optimal value of fare, Government subsidy and patronage is not necessary to achieve a nearly optimal outcome in net welfare terms. In other words, the net welfare function is relatively forgiving of policy miscalculations.

For more details on CRAI's methodology, please refer to its report which is available on IPART's website.[66]

IPART considers that CRAI's approach offers the potential to be an innovative approach for determining the shares of CityRail's revenue requirement to be funded by users and government. However, considerably more work would be required to fully implement this approach — particularly on the estimates of the marginal cost of CityRail's services and the external benefits of those services.

65 Based on a negative exponential functional form.
66 www.ipart.nsw.gov.au

CRAI's analysis implies that if IPART were to determine the government contribution consistent with its optimal welfare outcome, the government subsidy should be reduced, fares should be increased (in some cases by a substantial amount), and patronage should be below current levels.

8.1.3 Option 3: Making a judgement after considering key relevant factors

IPART's preliminary view is that the most appropriate option for determining the share of CityRail's revenue requirement to be funded by passengers and government is for IPART to consider the most important factors relevant to this decision, and then make a judgement about what shares are appropriate.

IPART considers that the most relevant factors include:

- Reasonably robust estimates of the value of the external benefits of providing CityRail services. IPART's preliminary view is that a reasonable estimate of the external benefits over the period 2008/09 to 2011/12 is a range from $1.7 – 2.0 million.
- The results of CRAI's optimisation approach.
- Impacts on passengers, general affordability of public transport and patronage levels and government policies regarding such matters.

This approach to determining the shares of the revenue requirement to be funded by passengers and government ensures that IPART considers the factors it is required to consider under the IPART Act, and is the most feasible option at this time. It is also consistent with the terms of reference for the review which required IPART to consider an appropriate range for the allocation of costs between the government and users, taking into consideration the positive environmental, economic and social benefits for the community generated by CityRail's services.

8.2 IPART's preliminary analysis of the appropriate shares to be funded by users and government

As explained in the previous chapters, IPART has formed a preliminary view on CityRail's revenue requirement over the period 2008/09 to 2011/12, based on forecast efficient costs under two scenarios (the first is that, for the purpose of rolling forward the RAB, the value of the Epping Chatswood Rail Link (ECRL) is zero; the second is that the value of the ECRL is around $2.3 billion).

This revenue requirement must be funded either by passengers through fares or by taxpayers through government funding. Currently passengers pay approximately 26 per cent of CityRail's' costs[67]. As Chapter 7 discussed, IPART's preliminary view is that a reasonable estimate of the value of the external benefits of CityRail services over the period 2008/09 to 2011/12 is $1.7 – 2.0 billion, which is equivalent to approximately 70 per cent of CityRail's annual revenue requirement over the period. Based on this view, IPART's preliminary view is that it may be appropriate for passengers to fund around 30 per cent.

These shares imply that if government invests an addition $1 billion in the CityRail network (for example on a South West Rail Link) an additional $300 million (in Net Present Value terms[68]) would need to be recovered from passengers over the life of the asset.[69] IPART considers that this broad 'rule of thumb' cost sharing ratio and the associated impact on passengers should be considered when new infrastructure investments are being evaluated. IPART would expect that proposals for future pricing decisions would apply this 30 per cent ratio, unless it were established that the new investment justified a higher ratio of taxpayer funding because of its exceptionally high external benefits.

However, it is important to note that this is IPART's preliminary view. Once it receives submissions on this discussion paper, IPART will undertake further analysis to refine the range of external benefits and the appropriate allocations of costs between government and users.

Assuming the ECRL is valued at $2.3 billion, IPART's preliminary view that users should fund around 30 per cent of the revenue requirement implies real fare increases of 20-30 per cent before the effects of inflation. Tables 8.1 and 8.2, and Figure 8.1 show information in nominal terms (ie, after allowing for expected inflation). They show the possible increases in the average fare and the level of government funding, assuming different shares of the revenue requirement are funded through fares. Depending on the level of inflation, nominal increases of 32 to 42 per cent may be needed over the period from 2008/09 – 2011/12 to achieve IPART's current views on reasonable level of cost recovery.

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67 This cost recovery ratio is an estimate of user revenue share in 2007/08 based on the building block methodology. However, caution should be used when interpreting this figure as it is only an approximation which reflects a number of modelling assumptions on capital expenditure and depreciation. The 2007/08 farebox cost recovery level is also estimated to be 26 per cent. Farebox cost recovery is farebox revenue as a percentage of operating costs (including depreciation), it is the measure of the user share listed in previous IPART fare determinations.

68 Net present value (NPV) reflects the present value of cash flows recovered over the life the asset taking into account the time value of money.

69 This includes recovery of both the return of capital (depreciation) and the return on capital (opportunity cost of capital).

Table 8.1 Impact on average fare increase and level of government funding under scenario 1 (assuming that ECRL is valued at zero)

Share of net revenue requirement funded by users %	Average nominal annual fare increase to 2011/12 %	Government funding in 2011/12[a] $million
20	-12.8	2,000
25	-3.6	1,875
30	4.2	1,750
35	11.0	1,625
40	17.1	1,500

a Excluding concession payments and other revenue – total revenue requirement of $2.5 billion.

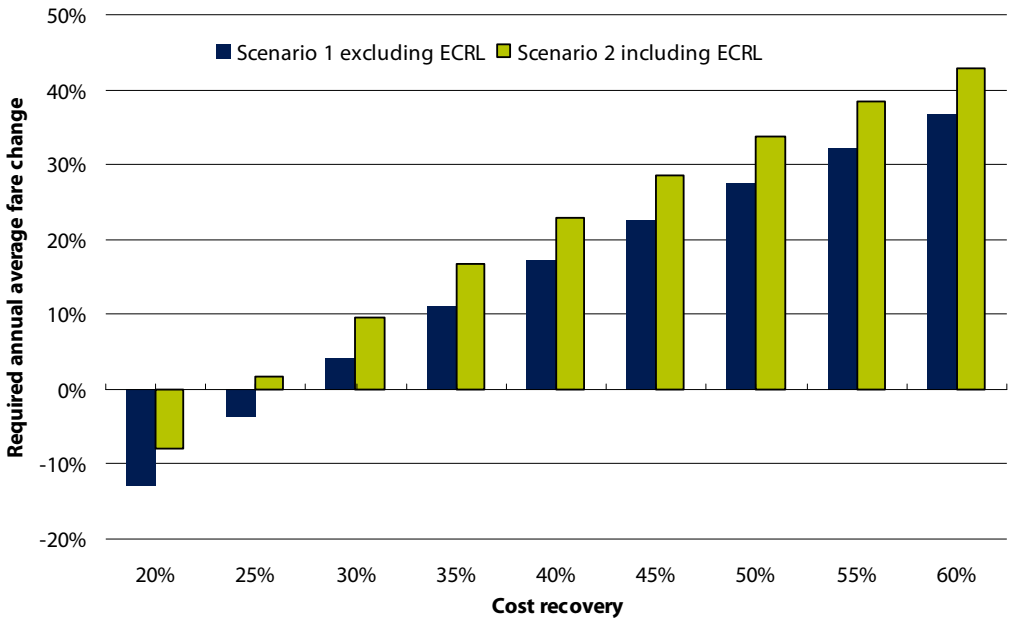
Table 8.2 Impact on the average fare and government funding under scenario 2 (assuming that the ECRL is valued at $2.3b)

Share of net revenue requirement funded by users %	Average nominal annual fare increase to 2011/12 %	Government funding n 2011/12[a] $ million
20	-8.0	2,273
25	1.4	2,131
30	9.4	1,989
35	16.4	1,847
40	22.7	1,705

a Excluding concession payments and other revenue – total revenue requirement of $2.8 billion.

Figure 8.1 shows (for each scenario) the annual change in the average fare required to achieve different levels of cost recovery from fares.

Figure 8.1 Annual nominal average fare changes required to achieve different levels of cost recovery from fares



IPART seeks comments on:

19 Should the government share of the revenue requirement be equal to the external benefits calculated by IPART?

20 Is it appropriate for CityRail passengers to contribute around 30 per cent of CityRail's revenue requirement by 2011/12?

21 What weight should be given to affordability issues in determining the shares of the revenue requirement to be funded by passengers and government?

22 What weight should be given to the estimated value of the external benefits of CityRail services in determining these shares?

23 What weight should be given to the State's other spending priorities when determining these shares?

24 To what extent should any increases in future government contributions be tied to demonstrated efficiency gains by CityRail?

25 Do fare increases over 4 years of around 20-30 per cent before the effects of inflation, provide the appropriate balance between passengers and taxpayers?

A Terms of Reference

Review of CityRail regulatory framework

I, Morris Iemma, Premier of New South Wales, under Section 12A of the *Independent Pricing and Regulatory Tribunal Act 1992* ('the Act'), refer to the Independent Pricing and Regulatory Tribunal (Tribunal) for investigation and report the following matter:

The Tribunal is to recommend a regulatory framework which will provide CityRail with the incentives to provide efficient passenger rail services.

In conducting this review, the Tribunal is to consider the matters listed under Section 15 of the Act, in particular the need for greater efficiency and reliability in the supply of services so as to reduce costs and improve quality, safety and reliability for the benefit of consumers and taxpayers.

Other issues the Tribunal is to consider in undertaking this review are:

1. the appropriate regulatory period for the Tribunal's fare decisions;
2. the efficient costs of providing CityRail's services and the scope for greater efficiency in the supply of these services;
3. NSW Government policy on passenger rail services and public transport, including the future investment in CityRail set out in the *Urban Transport Statement*, and the *State Plan*;
4. an appropriate range for the allocation of costs between government and users, taking into consideration the positive environmental, economic and social benefits for the community generated by CityRail's services;
5. how service standards can be incorporated into the regulatory approach;
6. appropriate fares for CityRail which take into account the cost of providing CityRail's services, the capacity of users to pay and current and future government policy on public transport fares; and
7. if necessary, transitional arrangements from the current form of regulation to the new regulatory approach.

A draft report is to be publicly released by 12 September 2008, with a final report due by 12 December 2008.

The Tribunal has indicated that it intends to conduct this review in conjunction with the 2008 determination of fares for CityRail services, conducted in accordance with the Tribunal's standing reference under Section 11 of the Act. This reference under Section 12A of the Act is in addition to, and does not replace, the Tribunal's standing reference under Section 11 of the Act.