IPART
New South Wales

Independent Pricing and Regulatory Tribunal

Review of maximum fares for private ferry services and the Stockton ferry service for 2015

Transport — Final Report
December 2014

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1 Executive summary

The Independent Pricing and Regulatory Tribunal of New South Wales (IPART) is currently reviewing the maximum fares for seven private ferry operators that provide regular passenger ferry services[1] under contract to Transport for NSW (TfNSW) in the Sydney, Central Coast and North Coast areas of NSW. We are also reviewing the maximum fares for the Stockton Ferry, which is operated by Newcastle Buses and Ferries, a division of the State Transit Authority.

For the private ferry operators, we have made final recommendations on maximum fares for 2015.[2] The Director-General of TfNSW is responsible for deciding on these fares. For the Stockton Ferry, we have made a final determination[3] on the maximum fare for 2015.

This report explains our final recommendations and determination, including the fare outcomes and the decisions that led to those outcomes.

1.1 Overview of fare outcomes

Under our final recommendations, the maximum fares for private ferry services will change as follows, from January 2015:

- Central Coast Ferries fares **increase** by 30 cents (to $7.80)
- Clarence River Ferries fares **increase** by 40 cents (to $7.70)
- Brooklyn Ferries fares **increase** by 30 cents (to $6.70)
- Church Point Ferry Service fares **increase** by 10 cents (to $7.70), and
- fares for Matilda Cruises, Palm Beach Ferry Service and the Cronulla and National Park Ferry Service **do not change** from 2014 levels (see Table 1.1).

For Church Point and Clarence River, our final recommendations on maximum fares are 10 cents higher than our draft recommendations. For all other private ferry operators our final recommendations are the same as our draft recommendations.

1 As defined in the *Passenger Transport Act 1990*.
2 Pursuant to section 9 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act).
3 Pursuant to section 11 of the IPART Act.

Table 1.1 Final recommendations on maximum fares for private ferry services from January 2015 (incl. GST)

Operator	Current maximum fare (rounded)	Final maximum fare (rounded)	Change in maximum fare
Central Coast Ferries	$7.50	$7.80	$0.30
Church Point Ferry Service	$7.60	$7.70	$0.10
Clarence River Ferries	$7.30	$7.70	$0.40
Cronulla and National Park Ferry Service	$6.40	$6.40	$0.00
Brooklyn Ferry Service	$6.40	$6.70	$0.30
Matilda Cruises (Circular Quay to Darling Harbour)	$7.40[a]	$7.40	$0.00
Matilda Cruises (Circular Quay to Lane Cove)	$7.40[a]	$7.40	$0.00
Palm Beach Ferry Service (Palm Beach to the Basin)	$7.70	$7.70	$0.00
Palm Beach Ferry Service (Palm Beach to Ettalong)	$11.20	$11.20	$0.00

a These services currently charge less than the maximum fare.

Note: Current maximum fares are the fares recommended and implemented as part of the 2013 annual fare review.

Under our final determination, the maximum fare for the Stockton Ferry **does not change** (see Table 1.2). This is consistent with our draft determination.

Table 1.2 Final determination on maximum fare for Stockton Ferry from January 2015 (incl. GST)

Operator	Current maximum fare (rounded)	Final maximum fare (rounded)	Change in maximum fare
Newcastle Buses and Ferries (owned by the State Transit Authority)	$2.60	$2.60	$0.00

On 19 November 2014, the NSW Government announced that Opal ticketing will be rolled out on the Stockton Ferry by mid-December.[4] The Stockton Ferry adult fare under Opal will be $2.10.

4 See http://www.transport.nsw.gov.au/media-releases/opal-card-rolling-out-11-paper-tickets-newcastle-retired.

1.2 How we reached our final recommendations and determination

For several years we have recommended or determined how much the current maximum fares for these ferry services can change based on the amount by which operators' costs have changed. We measured this amount using industry-specific cost indices (ie, slow ferry and fast ferry cost indices).

However, for this review, we have gone back to first principles to estimate an 'efficient fare' for each operator – with the exception of Matilda Cruises (see Section 1.3 below) – in 2015. We used a building block approach for this analysis, which is the approach we use in reviewing Sydney Ferries and other public transport fares.

An 'efficient fare' is one that will allow the ferry operator to:

- recover the operating costs of running its business efficiently
- earn a fair return on the capital it has invested in that business (and regulatory depreciation on this capital), and
- undertake prudent capital expenditure (for example, to replace an old ferry).

We think it is timely to assess the efficiency of current maximum fares, to help ensure passengers pay fair prices to use ferry services, and these prices enable ferry operators to sustain their business over the long term.

Since the draft decision we revised our assessment of efficient fares to take account of updated information and comments in stakeholder submissions. The main change that had an impact on efficient fares was including in our analysis discounted multi-trip tickets offered by private ferry operators. This, along with other changes since our draft decision, is discussed in Chapter 4.

1.2.1 Findings on efficiency of current maximum fares

We compared our estimated efficient fare in 2015 with each ferry operator's current maximum fare. We found that the current maximum fares for Central Coast Ferries, Church Point Ferry Service, Clarence River Ferries and Brooklyn Ferries were below the efficient level. For all other ferry services, including the Stockton Ferry, we found the current maximum fare was at or above the efficient level.

We are not able to provide details of our estimated efficient fare for each operator, or the difference between this fare and the current maximum fare, as our analysis relied on confidential information provided by the ferry operators. Nevertheless, we have conducted thorough analysis of this information in making our decisions.

1.2.2 Deciding on the change in current fares

To make our final decisions on the change in maximum fares for 2015, we considered the above findings, their implications for fare levels and ferry operator revenue, and stakeholder submissions. Where we found a difference between the current and efficient maximum fare, we took a conservative approach, so fares will transition towards the efficient level over an appropriate time. We used the following framework to guide our final decisions:

- if the current maximum fare is the same or higher than the 2015 efficient fare, we made a final decision to freeze the current maximum fare (in nominal terms)
- if the current maximum fare is lower than the 2015 efficient fare, then we made a final decision to increase the current maximum fare to the lesser of:
  - the 2015 efficient fare from our building block model, or
  - the current maximum fare, plus the change in the operator's costs since our last review measured using our ferry cost index, plus an additional 10 cents.

We consider this conservative approach is appropriate, to minimise price shocks for passengers as well as revenue shocks for operators.

Two fare outcomes changed since our draft decision. For Church Point, our final recommendation is that maximum fares should increase by 10 cents (instead of remaining unchanged), mainly as the result of taking account of discounted multi-trip ticket sales. For Clarence River, our final recommendation is that maximum fares should increase by 40 cents (instead of 30 cents) as the result of an increase in the slow ferry cost index.

It is important to note that we only recommend the maximum fare, or in the case of Stockton Ferry determine the maximum fare. Operators can choose to set their fare below the maximum fare.[5] Ferry operators are in the best position to decide whether to set their fares below the maximum.

Private ferry operators are commercial businesses with an incentive to be efficient and profitable. Private ferry operators earn revenue from ticket sales and this is at risk from other forms of transport. For the most part, we found that ferry operators are operating their businesses efficiently. In the case of Stockton Ferry, we found opportunities for it to improve the efficiency of its service, for example using smaller ferries. This is discussed in Chapter 3.

[5] Newcastle Buses and Ferries may charge less than the determined maximum fare for Stockton Ferry with the permission of the NSW Treasurer.

1.3 Findings and recommendation for Matilda Cruises

As noted above, we used a different approach for reaching our final recommendation for Matilda Cruises. As our information paper and draft report outlined, compared to other operators covered in this review, Matilda Cruises faces more competition for passengers from other ferry services and other modes of transport. We consider that competition provides the best protection for consumers, including protection from higher than efficient prices.

Given this, we compared Matilda Cruises' current fares to the maximum fare we recommended in our 2014 review. As the current fares have been determined by the market, we consider they are likely to reflect efficient levels. We found that the current adult fares for the Circular Quay to Lane Cove service and the Circular Quay to Darling Harbour service were both $7.00; 40 cents lower than our recommended maximum fare. We note that these fares have increased since our draft decision.[6]

In its submission to our draft report, Matilda Cruises agreed that it faces more competition for passengers from other ferry services and other modes of transport, and that competition provides the best protection for customers.[7]

While Matilda Cruises increased its fares in the market since our draft decision, these are still below the current maximum fares. Therefore, our final decision is to freeze the recommended maximum fares (in nominal terms) for these services in 2015.

We also formed the view that price regulation is not necessary for the Matilda Cruises services covered by this review. In general, price regulation is only required in a monopoly market – where lack of competition can lead to higher prices and poorer service. However, in our view competition is delivering Matilda Cruises passengers benefits beyond those that can be achieved through fare regulation. This view was supported by Matilda Cruises.[8]

Recommendation

1 Matilda Cruises' two ferry services should not be subject to price regulation, as they are provided in a competitive market and the market-determined fares are below IPART's recommended maximum fare.

6 Current fares for Matilda Cruises obtained from http://www.matilda.com.au/, 1 December 2015. When we made our draft decision, the fare for the Circular Quay to Lane Cove service was $5.70 and the fare for the Circular Quay to Darling Harbour service was $6.50.

7 Captain Cook (Matilda) Cruises submission, October 2014.

8 Ibid, p 1.

1.4 How we propose to approach future reviews

Mid-year fuel cost review

We will continue undertaking the mid-year fuel cost review for private ferry operators. If the mid-year review indicates that fuel costs have increased or decreased by more than 10% in the six months after our final fare decision is made, we may recommend an adjustment to the maximum fares.

Efficiency reviews every five years

As in other industries we regulate using a building block approach, we do not propose to conduct an efficiency review of maximum fares every year. Instead, we propose to do it every five years.

In the interim years, we will consider whether we should resume using the relevant ferry cost index to adjust fares (including whether to increase fares by more than the change in the relevant cost index), or whether fares should remain frozen. To do this we will consider factors such as:

- changes to patronage and costs,
- changes to any viability payments, and
- developments in competition from other forms of transport on the relevant ferry route.

The potential for a weighted-average price cap

Under the building block model, the efficient fare allows an operator to earn enough revenue to recover the passengers' share of total efficient costs. The model takes account of both discounted and non-discounted fares. If more passengers travel under discounted fares, then (all else equal) the non-discounted fare needs to be higher to ensure the operator recovers its total efficient costs. In next year's review we propose to explore with stakeholders the potential for using a weighted-average price cap (WAPC) rather than recommending or determining (in the case of Stockton) the maximum fare.

Under a WAPC, a regulated business is free to adjust its individual prices as long as the weighted average price change remains within the cap. For example, if IPART recommended a maximum 3% change in fares, ferry operators would be able to change individual fares (including multi-trip tickets) by more or less than 3% as long as the weighted average change does not exceed 3%. In effect, the current approach of recommending the change in the maximum fare is like recommending the upper end of a WAPC.

Ferry operators know their market best, and using a WAPC would provide more flexibility to set individual fares to recover costs and maximise patronage. This can lead to more efficient outcomes that benefit all passengers.

As noted in Section 1.1, the Government announced that from December 2014 the Opal fare for the Stockton Ferry will be $2.10. This represents a discount of 50 cents per adult journey. If we were to incorporate a forecast of Opal patronage (using the discounted fare), then (all else equal) the non-discounted fare would need to be higher to ensure fare box revenue recovers the passengers' share of total efficient costs. Unlike the private ferry operators, the operator of Stockton Ferry does not keep its fare box revenue – instead it receives a contract payment to provide the service. We also do not have data on the likely take up rate of Opal on the Stockton Ferry. For these reasons we have not incorporated any Opal patronage in our determination. Instead, as part of our review next year we will consult with stakeholders both on the use of a weighted average price cap and incorporating Opal patronage into our determination.

External benefits

In next year's review of private ferry and Stockton Ferry fares we also propose to apply our revised approach for estimating the value of the external benefits of these services. We are currently reviewing this approach and expect to release our final report in May 2015.

We consider that estimating the value of the external benefits will help us determine the level, if any, of the government subsidy justified for these ferry services. For example, the external benefits might include lower road congestion and lower air pollution and greenhouse gas emissions than if ferry journeys had been taken by private vehicle. In general, external benefits justify a government subsidy of ferry operators if:

- the subsidy leads to increased ferry patronage, and
- the external benefits society receives as a result of increased ferry patronage exceeds the net cost of providing the subsidy.

We will also consider whether a government subsidy for these ferry services is justified in the context of viability payments that some operators already receive from the NSW Government.

1.5 How this report is structured

This report provides more detail on this review and our final recommendations and final determination:

- Chapter 2 explains our role in regulating private ferry and Stockton Ferry fares, our process for conducting this review and our responses to issues raised in submissions.

- Chapter 3 sets out our final recommendations on private ferry fares and our final determination of the Stockton Ferry fare and explains how we made these final decisions.
- Chapter 4 describes how we estimated efficient prices using the building block model, including key inputs into this model.
- Chapter 5 outlines our updated ferry cost indices and how these are used in making our final decisions.
- Chapter 6 summarises how we propose to approach future reviews.
- Chapter 7 examines other factors we considered in making our final decisions, including their impact on stakeholders.
- Appendices A to F contain our terms of reference and supporting information.

1.6 List of recommendations

2 IPART's role and process for the review

IPART makes **recommendations** to TfNSW on the maximum fares to be charged for regular private ferry services. Our role is limited to providing recommendations;[9] the Director-General of TfNSW will decide the date on which these changes, if accepted, will take effect. Operators may charge less than the recommended maximum fare if they wish.

We also **determine** the maximum fare for the Stockton Ferry, which is operated by Newcastle Buses and Ferries, and is a declared "government monopoly service" under the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act).[10] Newcastle Buses and Ferries may charge less than the determined maximum fare with the permission of the NSW Treasurer.

We are not reviewing the discount applied to concession tickets or the cost or availability of the Pensioner Excursion Ticket (PET).

This chapter provides an overview of the factors we have considered in undertaking this review and explains our review process. We have also responded to issues raised in submissions to our information paper released in August 2014 and our draft report released in October 2014.

2.1 Factors we consider in undertaking the review

We review private ferry fares under terms of reference from the Premier (see Appendix A). The terms of reference specify the factors that we must consider when making recommendations to TfNSW. We also had regard to the list of factors we are required to consider under section 15 of the IPART Act in making our recommendations for private ferry fares (see Appendix B).

IPART also determines the maximum fare Newcastle Buses and Ferries can charge for its Stockton Ferry service. In making the determination, we had regard to the list of factors we are required to consider under section 15 of the IPART Act (see Appendix B). More information on how we have considered these issues is provided in Chapter 7.

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9 Pursuant to section 9 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act).

10 For declared government monopoly services under the IPART Act we have independent powers to initiate reviews and determine, not just recommend, prices. Hence, we have the power to determine the Stockton Ferry fare under s11 of the IPART Act.

The ferry services covered by this review are listed in Table 2.1.

Table 2.1 Ferry services covered by this review and their current maximum fares as at 1 December 2014

Operator	Routes	Current maximum fare	Current fare charged
Central Coast Ferries	Woy Woy to Empire Bay	$7.50	$7.50
Church Point Ferry Service	Scotland Island and western foreshore of Pittwater	$7.60	$7.60
Clarence River Ferries	Iluka to Yamba	$7.30	$7.30
Cronulla and National Park Ferry Service	Cronulla to Bundeena	$6.40	$6.40
Brooklyn Ferry Service	Brooklyn to Dangar Island	$6.40	$6.40
Matilda Cruises	Circular Quay to Darling Harbour (fast ferry)	$7.40	$7.00[a]
	Circular Quay to Lane Cove (fast ferry)	$7.40	$7.00[a]
Palm Beach Ferry Service	Palm Beach to Mackerel Beach and the Basin	$7.70	$7.70
	Palm Beach to Ettalong and Wagstaffe (fast ferry)	$11.20	$11.20
Newcastle Buses and Ferries (owned by the State Transit Authority)	Newcastle to Stockton	$2.60	$2.60

[a] Current fares for Matilda Cruises obtained from http://www.matilda.com.au/, 1 December 2014.

2.2 Our review process this year

We commenced our review with the release of an information paper in August 2014. The information paper outlined how we proposed to approach the review, and called for stakeholder submissions on this approach. We received two submissions on the information paper which are available on our website.

Our draft report was released in October 2014. In reaching our draft decisions we considered matters raised in submissions to the information paper, the factors discussed in Section 2.1, and expert advice from Indec Consulting.[11]

We received six submissions on our draft report as well as confidential information on patronage and ticket sales from private ferry operators. We held a public forum on 4 November where stakeholders provided comment on our draft decisions. We have considered all the information outlined above in reaching our final decisions in this report.

[11] Indec Consulting's draft and final reports are available on our website, www.ipart.nsw.gov.au.

2.3 Our response to matters raised in submissions

We received two submissions to our information paper and six submissions to our draft report. In the section below we have summarised the main themes raised in these submissions and our response to these issues.

2.3.1 Financial viability of ferry operators

Brooklyn Ferry Service submitted in response to our information paper that the current fare-setting methodology does not provide private ferry operators with sufficient means to invest in necessary capital improvements and fleet upgrades. It submitted that capital investments have a major impact on long term profitability and that IPART should ensure that fares and other sources of funding provide for the financial viability of private ferry operators. It also submitted that other funding models could be considered, including arrangements that deliver a fare reduction to commuters while increasing ferry operators' revenues.[12]

In its submission to the draft report, Brooklyn Ferry Service noted that most ferry operators provide services to small markets where there is limited opportunity for patronage growth; therefore if higher prices negatively affect patronage it is difficult to replace these customers. It submitted that IPART and TfNSW should put in place a mechanism to support the financial viability of individual ferry operators.[13]

Other submissions also commented on prices and financial viability. Matilda Cruises (Captain Cook Cruises) noted that competition affects the fares that they can charge in the market, but these are not necessarily 'efficient' fares – competition can force prices lower than efficient levels affecting long term financial viability.[14] Dangar Island League noted that fare increases above CPI may see some price resistance from customers, and that new sources of revenue may be needed to ensure viability.[15]

IPART's role is limited to recommending or determining maximum fares. We consider that our approach to the review this year addresses concerns that current fares do not support the financial viability and sustainability of ferry operators. As discussed in Chapter 1, our approach involved estimating an efficient fare that would allow a ferry operator to:

- recover the operating costs of running its business efficiently
- earn a fair return on the capital it has invested in that business (and regulatory depreciation on this capital), and
- undertake prudent capital expenditure (for example, to replace an old ferry).

12 Brooklyn Ferry Service submission, August 2014.
13 Brooklyn Ferry Service submission, November 2014, p 2.
14 Captain Cook (Matilda) Cruises submission, October 2014.
15 Dangar Island League submission, November 2014.

If an operator is unable to charge up to the efficient fare, for example due to competition from other transport, then this may affect its long term financial viability. In these instances, it is the government's role to decide if any additional financial support should be provided. There are already viability payments being made to a number of ferry operators.

In next year's review of private ferry and Stockton Ferry fares we propose to apply our revised approach for estimating the value of the external benefits of these services. We are currently reviewing this approach and expect to release our final report in May 2015.

We consider that estimating the value of the external benefits will help us determine whether any government subsidy is justified for these ferry services.

Currently TfNSW makes payments to most operators for providing school travel and concessions fares and as noted above some operators also receive viability payments.

2.3.2 Economic benefits provided by ferries

During the public forum, Brooklyn Ferry Service proposed that the economic benefit that private ferries provide to local communities should be captured in the building block model.[16] The benefit that ferries provide to local communities was also noted in the submission from Dangar Island League.[17]

We agree that private ferries are important for local economies, for example, through tourism. These **private** benefits are enjoyed by local businesses (through increased sales/profits) and by private ferry operators (through increased patronage). As private benefits are already captured by the affected parties, there is no need to separately account for this in our analysis. Only **external** benefits need to be separately accounted for.

In our review next year we will consider whether there are external benefits provided by private ferries (for example, reduced road congestion and reduced air pollution) that justify a government subsidy. We will be releasing a draft report on our approach to external benefits in December 2014.[18]

16 Transcript from the public forum, 4 November 2014, pp 25-26.
17 Dangar Island League submission, November 2014.
18 This report will be available from our website, www.ipart.nsw.gov.au.

2.3.3 Stockton Ferry

Free fares for Stockton Ferry

Mr Banyard noted that the Stockton Ferry should be considered a 'floating footpath' and that patronage would be negatively affected if fares were increased.[19] If IPART is required to set a fare, Mr Banyard suggested it should be set at one cent and rounded down. He also noted that it is discriminatory that the fare free zone in inner Newcastle does not apply to the ferry (State Transit buses are free in the inner city zone between 7.30am and 6.00pm seven days a week).[20]

A submission from Ms Haines noted that the Stockton fare should promote patronage, stimulate economic activity and assist tourism.[21]

IPART's role is to determine maximum fares for the Stockton Ferry. In doing this we are required to consider the costs of providing this service and the need for greater efficiency in providing services (see Appendix B for more details). Our approach has sought to determine a fare that reflects passengers' fair share of the efficient cost of providing this service. In our view, setting an artificially low fare to promote tourism and economic activity is not consistent with these requirements.

We also consider that it is appropriate for those who benefit most from public transport, namely passengers, to make a contribution towards the cost of providing it. With the introduction of Opal ticketing, passengers will be able to pay a fare that is lower than the maximum 'paper ticket' fare we determine (the Opal fare is $2.10).

Decisions regarding the inclusion of the Stockton Ferry in a free-fare zone are a matter for the NSW Government.

Timetable

Mr Banyard submitted that due to a lack of viable transport alternatives the Stockton Ferry is an essential service and should operate for free on a 24/7 basis each day of the year.[22] Similarly, the submission from Ms Haines noted that Stockton Ferry's operating hours should be increased to line up with all early Sydney services.[23]

Changes to the Stockton Ferry timetable are a matter for the NSW Government to decide.

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19 Rick Banyard submission, 19 September 2014.
20 Rick Banyard submission, 19 November 2014.
21 Jacqueline Haines submission, 21 November 2014.
22 Rick Banyard submission, 19 September 2014.
23 Jacqueline Haines submission, 21 November 2014.

Patronage

During the public forum Mr Banyard commented on the problem of collecting accurate patronage data for the Stockton Ferry given the lack of ticketing infrastructure.[24] He also noted the difficulty in determining fare box revenue for the Stockton Ferry given patronage may be part of multi-modes of travel. He commented that there is no evidence that revenue from such trips would actually be attributed to the Stockton Ferry.[25]

Mr Banyard and Ms Haines submitted that Stockton Ferry patronage data should be publicly available.[26]

We agree that due to a lack of ticketing infrastructure, recording patronage on the Stockton Ferry is difficult. We do have patronage information for the Stockton Ferry including MyMulti trips. The number of MyMulti trips used on the Stockton Ferry is small. With the introduction of Opal and the removal of certain paper tickets, MyMuti trips are likely to make up only around 1% of adult trips. This means regardless of the revenue assumption we make, it is not material to the fare decision. We have calculated the maximum fare by assuming that the revenue from a MyMulti trip on the Stockton Ferry would be equivalent to $2.60.

The introduction of Opal electronic ticketing should improve the quality of patronage data for the Stockton Ferry.

We agree that Stockton Ferry patronage data should be made publicly available.

Recommendation

2 Transport for NSW should publish annual patronage information for the Stockton Ferry, by type of ticket sold.

24 Transcript from the public hearing, 4 November 2014, pp 16-18.
25 Rick Banyard submission, 19 November 2014.
26 Ibid; Jacqueline Haines submission, 21 November 2014.

Newcastle rail line closure

Mr Banyard submitted that closure of the rail line between Newcastle Station and Wickham would affect passengers interchanging between the ferry and train, and would cause loss of patronage. He submitted that IPART should reduce fares to support patronage.[27]

Under the NSW Government's interim transport arrangements, frequent shuttle buses will run between Broadmeadow, Hamilton and Newcastle while the new light rail is under construction. An undertaking has been made by the government to make these interim arrangements "reliable, convenient and quick for public transport customers".[28]

We have not found any assessment or study of what the rail truncation might mean for **ferry passengers** who also use the rail. However, as buses will replace the rail service at the same fare, we consider there is not a strong case to make adjustments to Stockton Ferry's patronage (or maximum fares) to account for the heavy rail truncation. We note that reducing patronage puts upward pressure on the efficient fare. We will be able to further assess this during our review next year when updated data is available.

Improving Stockton Ferry's operation

Mr Banyard commented on a number of ways that the efficiency of the Stockton Ferry could be improved, including:

- The two ferries servicing the Stockton area could be better utilised. The spare ferry could also be used for harbour tours and charter operations.
- The parking berth at Wickham where the idle ferries are parked should be turned into another passenger facility, as the area has become a high density district in recent years.
- There is scope to use solar/wind hybrid technology to reduce the carbon footprint of the ferries and lower operational costs.[29]

Ms Haines also noted that efficiency of the Stockton Ferry would be improved if there was an additional stop at Wickham.[30]

In our view, we have determined a fare for the Stockton Ferry that reflects only the efficient costs of providing this service. As discussed further in Chapter 4, we engaged a consultant to review the efficient costs of private ferry operators and the Stockton Ferry service. Our consultant, Indec Consulting, advised it is reasonable for ferry operators to have a spare ferry. However, the spare ferry can

27 Rick Banyard submission, 19 November 2014.
28 http://www.transport.nsw.gov.au/media-releases/revitalisation-newcastle-cbd-underway-truncation-begin-boxing-day accessed 10 December 2014.
29 Rick Banyard submission, 19 September 2014.
30 Jacqueline Haines submission, 21 November 2014.

be used to provide other sources of revenue, for example, it could be used to provide charter tours. Therefore, we have only included 50% of the value of the spare ferry in estimating an efficient fare for each ferry operator. In our analysis, we have estimated the cost of replacing a ferry with a modern equivalent asset with the approximate carrying capacity reflecting each operator's patronage. Indec also found opportunities to improve the Stockton Ferry service, for example, using smaller ferries.

Amending the Stockton Ferry service to include a stop at Wickham is a matter for the NSW Government and is outside the scope of IPART's review.

Application of the Stockton fare determination

Mr Banyard queried the application of IPART's (draft) fare determination of $2.60, including:

- whether $2.60 is assigned to the ferry balance sheet for compound journeys
- whether the determination applies to the bus service that runs after the ferry closes
- whether school student payments should also be applied to the revenue of the ferry at the rate of $2.60, and
- that the evacuation provision offered by the ferry should also be a revenue input.[31]

The Stockton Ferry is run under contract whereby the operator (Newcastle Buses and Ferries) does not keep fare box revenue. Fare box revenue collected is returned to TfNSW. We assumed that the operator would receive fare box revenue for the purpose of applying the building block approach and determining passengers' share of total efficient costs.

As discussed above, for multi-mode tickets we have assumed $2.60 per trip is assigned to ferry revenue. The introduction of Opal means that passengers can now use the ferry for a lower fare of $2.10.

Our determination applies only to the ferry service (not to the buses that are provided once the ferry closes). The School Student Travel Scheme is funded by the government – we do not determine the financial arrangements for this.

If the operator of the Stockton Ferry received income for providing a standby evacuation service then we would include some portion of this in our analysis. However, they are not funded to provide any such service.[32]

31 Rick Banyard submission, 19 November 2014.

32 The submission from Ms Haines, 21 November 2014, also noted the importance of the Stockton Ferry in the event of an emergency evacuation.

2.3.4 Contract period and capital investment

Brooklyn Ferry Service submitted that short-term contracts with private ferry operators are inconsistent with the long-term nature of capital investments (such as replacing a ferry). In other words, short term contract arrangements might deter operators from undertaking long term capital expenditure.[33]

The contract term may affect ferry operators' decision to invest in fleet renewal or upgrades. It is important to note that our analysis, based on advice from Indec, assumes that ferries will be replaced when it is prudent and efficient to do so - irrespective of contract terms. This means the efficient price for each operator allows for ferry replacement. The actual length of the contract may influence operators' investment decisions.

The issue of appropriate contract periods is part of negotiations between ferry operators and TfNSW.

2.3.5 Ferry cost indices

The submission from Mr Banyard noted that while cost indices are valid instruments, the inflator values should be checked with the localities in which the ferry operates. A submission from the Brooklyn Ferry Service noted that rounding in relation to the ferry cost indices is inequitable and that a floor price should be set equivalent to the change in CPI.[34]

As we explain above for this review, our approach involved estimating an efficient fare that would allow each ferry operator to recover the operating and capital costs of running their business efficiently. If current maximum fares are the same or higher than the 2015 efficient fares, we made a final decision to freeze the current maximum fare (in nominal terms). If the current maximum fares are lower than the 2015 efficient fare, then we made a final decision to increase the current maximum fare to the lesser of the 2015 efficient fare from our building block model, or the current maximum fare, plus the change in the operator's costs since our last review measured using our ferry cost index, plus an additional 10 cents.

We obtain FUELTrac data to assess changes in fuel/diesel costs and for simplicity we use the Sydney index number for our cost indices that apply to all ferry operators. While a Newcastle index is available, our assessment is that this closely tracks the Sydney index and using either would not materially change the result. We consider that our current cost indices reasonably reflect changes in fuel/diesel prices.

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33 Brooklyn Ferry Service submission, November 2014, p 2.
34 Brooklyn Ferry Service submission, September 2014, p 2.

We consider that the rounding applied to master fares is appropriate. It is symmetrical in that in some years it can result in maximum fares that increase by more than the unrounded cost index result (in percentage terms) and in other years less.

We do not agree that it is appropriate to increase fares using a CPI floor. Our final recommendation is to freeze fares for three operators as the current maximum fares are the same or higher than the 2015 efficient fares. If these fares were to increase by CPI then in our view passengers would be paying more than an efficient fare.

2.3.6 Comments on our building block analysis

The submission from Church Point Ferry Service commented on a number of aspects of our building block analysis, including in relation to:

- actual vs efficient costs
- engine replacement periods
- including goodwill in the regulatory asset base
- an appropriate economic life of ferries
- including 50% of the value of the spare ferry in the regulatory asset base, and
- revenue assumptions given discounted multi-trip tickets.[35]

As these relate to the building block model we have responded to these issues in Chapter 4.

[35] Church Point Ferry Service submission, November 2014.

3 Final recommendations for maximum fares and final determination for the Stockton Ferry

As discussed in Chapter 1, for several years we have recommended or determined how much the current maximum fares for the ferry services covered in this review can change based on the amount by which the operator's costs have changed. We measured this amount using industry-specific cost indices.

However, for this review, we have gone back to first principles to estimate an 'efficient fare' for each operator – with the exception of Matilda Cruises – in 2015. We used a building block approach for this analysis, which is the approach we use in reviewing Sydney Ferries and other public transport fares.

An 'efficient fare' is one that will allow the ferry operator to:

- recover the operating costs of running its business efficiently
- earn a fair return on the capital it has invested in that business (and regulatory depreciation on this capital), and
- undertake prudent capital expenditure (for example, to replace an old ferry).

We think it is timely to assess the efficiency of current maximum fares, to help ensure passengers pay fair prices to use ferry services, and these prices enable ferry operators to sustain their business over the long term.

In this chapter, we outline our final recommendations and final determination and explain our approach to making these decisions.

3.1 Summary of our final decisions

Under our final recommendations, the maximum fares for private ferry services in 2015 change as follows:

- Central Coast Ferries fares **increase** by 30 cents (to $7.80)
- Clarence River Ferries fares **increase** by 40 cents (to $7.70)
- Brooklyn Ferries fares **increase** by 30 cents (to $6.70)
- Church Point Ferry Service fares **increase** by 10 cents (to $7.70), and
- fares for Matilda Cruises, Palm Beach Ferry Service and the Cronulla and National Park Ferry Service **do not change** from 2014 levels (see Table 1.1).

For Church Point and Clarence River, our final recommendations on maximum fares are 10 cents higher than our draft recommendations. For all other private ferry operators our final recommendations are the same as our draft recommendations.

Under our final determination, the maximum fare for the Stockton Ferry **does not change** (see Table 3.2). This is consistent with our draft determination.

Table 3.1 Final recommendations on maximum fares for private ferry services from January 2015

	Current max master fare	Current maximum fare (rounded)	Final maximum fare from January 2015	Final maximum fare from January 2015 (rounded)	Difference between current max fare (rounded) and final maximum fare from January 2015 (rounded)	
Central Coast	$7.48	$7.50	$7.79	$7.80	$0.30	4.0%
Church Point	$7.63	$7.60	$7.66	$7.70	$0.10	1.3%
Clarence	$7.35	$7.30	$7.66	$7.70	$0.40	5.5%
Cronulla	$6.44	$6.40	$6.44	$6.40	$0.00	0.0%
Brooklyn	$6.44	$6.40	$6.73	$6.70	$0.30	4.7%
Matilda – Circ Quay	$7.44	$7.40	$7.44	$7.40	$0.00	0.0%
Matilda – Lane Cove	$7.44	$7.40	$7.44	$7.40	$0.00	0.0%
Palm Beach - The Basin	$7.68	$7.70	$7.68	$7.70	$0.00	0.0%
Palm Beach - Ettalong	$11.17	$11.20	$11.17	$11.20	$0.00	0.0%

Note: All prices include GST.

Table 3.2 Final determination for Newcastle (Stockton) ferry service from January 2015

	Current max master fare	Current maximum fare (rounded)	Final decision max master fare from Jan 2015	Final decision max fare from Jan 2015 (rounded)	Difference between current max fare (rounded) and final max fare from Jan 2015 (rounded)	
Stockton	$2.58	$2.60	$2.58	$2.60	$0.00	0.0%

Note: All prices include GST.

3.2 How we made our final recommendations and determination

We used our building block model to determine an efficient fare for each ferry operator in 2015. This is discussed further in Chapter 4.

We compared our estimated efficient fare in 2015 with each ferry operator's current maximum fare. We found that the current maximum fares for Central Coast Ferries, Church Point Ferry Service, Clarence River Ferries and Brooklyn Ferries were below the efficient level. For all other ferry services, including the Stockton Ferry, we found the current maximum fare was at or above the efficient level.

We are not able to provide details of our estimated efficient fare for each operator, or the difference between this fare and the current maximum fare, as our analysis relied on confidential information provided by the ferry operators and TfNSW.

3.2.1 Deciding on the change in current fares

To make our final decisions on the change in maximum fares for 2015, we considered the above findings, their implications for fare levels and ferry operators' revenues, and stakeholder submissions. Where we found a difference between the current and efficient maximum fare, we took a conservative approach, so fares will transition towards the efficient level over an appropriate time. We used the following framework to guide our final decisions:

- if the current maximum fare is the same or higher than the 2015 efficient fare, we made a final decision to freeze the current maximum fare (in nominal terms)
- if the current maximum fare is lower than the 2015 efficient fare, then we made a final decision to increase the current maximum fare to the lesser of:
  - the 2015 efficient fare from our building block model, or
  - the current maximum fare, plus the change in the operator's costs since our last review measured using our ferry cost index, plus an additional 10 cents.

We consider this conservative approach is appropriate, to minimise price shocks for passengers as well as revenue shocks for operators. Unlike the operators of rail, metropolitan and outer metropolitan bus services, Sydney Ferry and the Stockton Ferry, who receive contract payments to provide public transport services, private ferry operators are dependent on fare box revenues.

Two fare outcomes changed since our draft decision. For Church Point, our final recommendation is that maximum fares should increase by 10 cents (instead of remaining unchanged), mainly as the result of taking account of discounted multi-trip ticket sales. For Clarence River, our final recommendation is that maximum fares should increase by 40 cents (instead of 30 cents) as the result of an increase in the slow ferry cost index.

It is important to note that we only recommend the maximum fare, or in the case of the Stockton Ferry determine the maximum fare. Operators can choose to set their fare below the maximum fare.[36] Ferry operators are in the best position to decide whether to set their fares below the maximum.

Private ferry operators are commercial businesses with an incentive to be efficient and profitable. Private ferry operators earn revenue from ticket sales and this is at risk from other forms of transport. For the most part, we found that ferry operators are operating their businesses efficiently.

In the case of the Stockton Ferry, we found opportunities to improve the efficiency of service. In its final report, Indec Consulting noted that there may be opportunities to review the way the Stockton Ferry service is provided, including using smaller ferries on a 'continuous loop'. More information is provided in Indec's report.[37]

As indicated above, we used a different approach for reaching our recommendation for Matilda Cruises. As our information paper outlined, compared to other operators covered in this review, Matilda Cruises faces more competition for passengers from other ferry services and other modes of transport. As we have noted previously, we consider that competition provides the best protection for consumers, including protection from higher than efficient prices.

Given this, we compared Matilda Cruises' current fares to the maximum fare we recommended in our 2014 review. As the current fares have been determined by the market, we consider they are likely to reflect efficient levels. We found that the current adult fares for the Circular Quay to Lane Cove service and the Circular Quay to Darling Harbour service were both $7.00; 40 cents lower than our recommended maximum fare. We note that these fares have increased since our draft decision.[38]

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36 Newcastle Buses and Ferries may charge less than the determined maximum fare for Stockton Ferry with the permission of the NSW Treasurer.

37 Indec Consulting, *Efficient costs of providing private ferry and Newcastle-Stockton ferry services* – Final Report – November 2014, p iv.

38 Current fares for Matilda Cruises obtained from http://www.matilda.com.au/, 1 December 2015. When we made our draft decision, the fare for the Circular Quay to Lane Cove service was $5.70 and the fare for the Circular Quay to Darling Harbour service was $6.50.

In its submission to our draft report, Matilda Cruises agreed that it faces more competition for passengers from other ferry services and other modes of transport, and that competition provides the best protection for customers.[39]

While Matilda Cruises increased its fares in the market since our draft decision, these are still below the current maximum fares. Therefore, our final decision is to freeze the recommended maximum fares (in nominal terms) for these services in 2015.

We also formed the view that price regulation is not necessary for the Matilda Cruises services covered by this review. In general, price regulation is only required in a monopoly market – where lack of competition can lead to higher prices and poorer service. However, in our view competition is delivering Matilda Cruises passengers benefits beyond those that can be achieved through fare regulation. This view was supported by Matilda Cruises.[40]

39 Captain Cook (Matilda) Cruises submission, October 2014.
40 Ibid, p 1.

4 Estimating efficient fares using the building block model

In this chapter we explain how we estimated efficient fares using the building block model. Section 4.1 provides an overview of the model, and Section 4.2 summarises the key inputs we used in the model.

4.1 The building block model

In many industries that IPART regulates, we use the building block approach which 'builds up' the revenue required by the ferry operator to cover its total efficient costs of providing contracted services.

The total efficient costs include the following components:

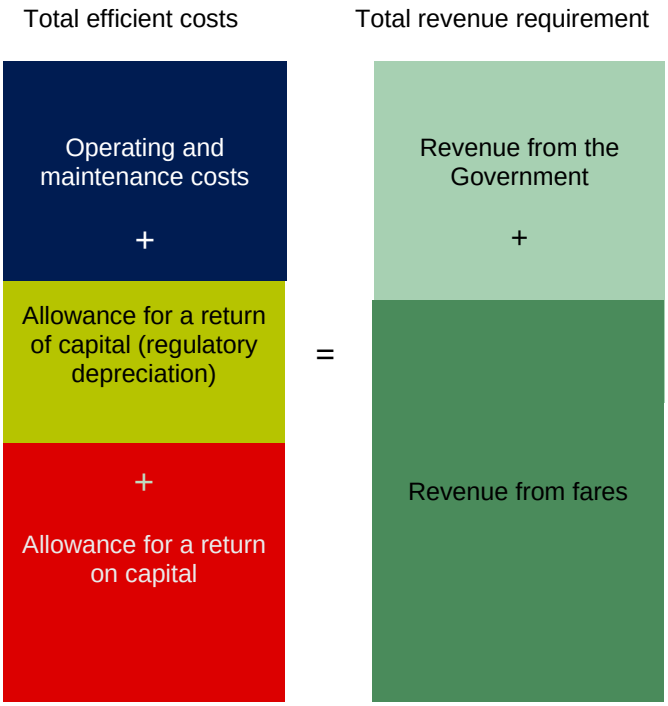
- efficient operating and maintenance costs, and
- an allowance for prudent and efficient capital costs, in the form of return of capital (regulatory depreciation) and return on capital.

The total efficient costs also include allowances for regulatory taxation and working capital, but these represent a small proportion of the total efficient costs for private ferries and the Stockton Ferry service.

The ferry operator needs to earn revenue to recover its total efficient costs. This 'revenue requirement' is shared between the government (through payments made to operators) and passengers (through fares).

In this review we have estimated an 'efficient fare' so that passengers pay for the total efficient costs, less total payments from the government. This means that all else equal, larger government payments lead to lower fares, as less of the total efficient costs need to be recovered from passengers through fares. This is summarised in Figure 4.1.

Figure 4.1 Revenue requirement under the building block approach



Note: Our building block model also includes allowances for regulatory taxation and working capital. These are not shown in Figure 4.1 because they represent a small proportion of the total revenue requirements for private ferries and the Stockton Ferry service. The figure is not to scale.

We have estimated the efficient costs for each of the operators for the next three year period (2015 to 2017). Under each operator's contract, they receive government payments for providing school travel and concessions tickets. Some operators receive viability payments as well. Therefore, we subtracted the estimated amount of these Government payments from the total revenue requirement. We calculated the fares that would be required to cover the remaining revenue requirement (also called the passengers' share of total efficient costs) based on our forecast estimate of annual patronage. We took account of patronage under different types of tickets (eg, adult, child and concession tickets) based on information reported by operators to TfNSW.

Stakeholder submissions

Since the draft decision we were provided with new information from most private ferry operators on multi-trip tickets which are offered at a discount to the current maximum fare (see Table 4.1 below).

The building block model takes into account fare revenue from discounted and non-discounted fares. Incorporating the new information on discounted multi-trip tickets in our building block model resulted in changes to the 'weightings' for different types of passenger fares. This generally increased the operators'

efficient fare. This is because a greater share of passengers' trips are taken under discounted tickets, and therefore the efficient fare needs to be higher to ensure the operator earns enough revenue to cover the passengers' share of total efficient costs.

Table 4.1 Summary of multi-trip ticket information provided by operators

	Multi-trip ticket type (trips per ticket)	Discount implied by current ticket price
Brooklyn	Ferry Ten (10)	9%
	Ferry Twenty (20)	14%
Central Coast	Ferry Ten (10)	47%
Church Point	Total Adult 13 (13)[a]	40%
Clarence River	N/A	N/A
Cronulla	Weekly Ten (10)[b]	36%
	10 ride (10)	16%
	Family (6)[c]	6%
Palm Beach	Ferry Ten (10)	11% for Ettalong 10% for Mackerel

[a] Church Point has other multi-trip tickets such as *Adult Return*, *Concession 13*, *Concession Return* and *Child Return*, however discounts offered to these tickets are marginal (from 1% to 5%).

[b] Weekly ticket allows unlimited trips per week. As we do not have information about the exact number of trips taken using Weekly ticket, we have assumed ten trips.

[c] Family ticket allows two adult and up to four children. As we do not have information about the exact number of trips taken using Family ticket, the Family ticket is assumed to be associated with six trips.

Source: Private ferry operators.

When incorporating multi-trip tickets in our building block model we have assumed that the percentage discount implied by the current ticket price will remain in future years.

Private ferry operators have contracts that require them to report patronage to TfNSW. We recommend that more disaggregated patronage data be reported that includes sales or trips taken under all available ticket types. This information will be used by IPART in updating our estimate of efficient fares and would also be relevant for determining adequacy of financial viability payments from the government.

Recommendation

3 Private ferry operators should report more detailed patronage information to Transport for NSW that includes sales and/or trips taken under each ticket type offered by the operator.

Stakeholders made other comments in relation to our building block approach. We have summarised these issues below and referenced the section of this chapter where the issue is discussed:

- actual vs efficient costs (Section 4.2.1)
- engine replacement periods (Section 4.2.2)
- treatment of the 'spare ferry' (Section 4.2.4)
- including the value of goodwill in the regulatory asset base (Section 4.2.4)
- economic life of ferries (Section 4.2.5).

4.2 Key inputs to the building block model

4.2.1 Efficient operating expenditure

We engaged Indec Consulting to provide advice on efficient operating expenditure over the next three years for all ferry operators (except for Matilda Cruises).

Efficient operating expenditures include labour costs, fuel, insurance, repairs and maintenance, berthing and mooring fees and 'other costs' including cash collection costs, office rent, communication costs, financial services, external consultants, advertising, etc.

Indec provided advice on efficient operating costs for each ferry operator. In doing this, they collected data from the operators, and reviewed operators' actual operating costs reported in The CIE's survey undertaken last year.[41]

Indec concluded that efficient labour costs per full time equivalent (FTE) is approximately $64,000 but noted that not all operators charge the business for all the time they spend in the business, either as salary/wages or owner's drawings. There is a range in business sizes/models of the private ferry operators. For example, Palm Beach Ferries is part of the much larger Fantasea Adventure Cruising, whereas some smaller ferries are run by their owners – with the owners undertaking a multitude of tasks ranging from captaining the ferries, selling tickets, and book keeping and managing the business. Indec recommended benchmark labour costs be used rather than reported costs to ensure the sustainability of these smaller businesses.

While we agree that our recommended fares should ensure that an efficient operator can continue to provide ferry services, we note that operators' reported costs that are lower than Indec's benchmark reflect the market conditions in which they operate. On balance, we have accepted Indec's advice on efficient operating costs and included these costs in our analysis.

41 The CIE, *Final Report – Private Ferry Cost Consultancy* – October 2013.

For two operators Cronulla and Stockton, Indec concluded that their reported operating costs were higher than would be regarded as efficient. This mainly related to their labour costs. In estimating total efficient costs we have used Indec's recommended operating costs (which are lower than the reported costs).

More details on Indec's estimated operating expenditure can be found in their report.[42]

Stakeholder submissions

Church Point Ferry Service submitted that using actual costs as a basis for efficient costs penalises operators for efficiency. It noted that private ferry operators are run like family businesses where some costs are not accounted for. It provided examples of these costs, including office and storage space, motor vehicles, uniforms and owners' salary.[43]

Indec's approach involved assessing the reasonableness of operators' reported costs. These costs were benchmarked with comparable organisations including other ferry operators. As a result of this benchmarking, for some operators including Church Point, Indec recommended benchmark costs that were higher than operators' reported costs. Indec allowed for 'other costs' that include many of the items referred to in Church Point's submission. As discussed above, on balance we decided to accept Indec's advice on these costs.

Indec's final report provides more information in response to Church Point's submission.[44]

4.2.2 Efficient capital expenditure

Indec also provided advice on forecast efficient capital expenditures over the next three years for each private ferry operator (except for Matilda Cruises) and the Stockton Ferry. Vessels represent the largest proportion of capital expenditure incurred by private ferry operators and the Stockton Ferry. We have also included allowances for ferry refurbishment and engine replacement.

Replacement of old ferries is driven by structural integrity. Indec has noted that some operators are not planning any ferry replacement, refurbishment or engine replacement over the next three years. However, for some private ferry services, ferries are being utilised far beyond the conventional useful economic lives. Indec considered that additional capital expenditure, particularly to replace very old vessels, would be prudent. This means that the efficient prices that we have

42 Indec Consulting, *Efficient costs of providing private ferry and Newcastle-Stockton ferry services* – Final Report – November 2014.

43 Church Point Ferry Service submission, November 2014, p 2.

44 Indec Consulting, *Efficient costs of providing private ferry and Newcastle-Stockton ferry services* – Final Report – November 2014, p 20.

estimated provide for operators to replace old ferries. Indec's report provides more details on efficient capital expenditure.[45]

We note that Indec's forecast efficient capital expenditures are for the purpose of estimating total efficient costs under the building block model. This does not mean that an operator must incur this amount of capital expenditure in any given year. The assessment of required capital expenditure and the mix of operating and capital expenditures are best based on the knowledge and experience of the operators. However, we include efficient capital expenditures in the regulatory asset base (RAB), which is the basis for the allowance for a return on, and of capital. Including a return on and of capital should ensure that operators will be able to prudently replace assets over time. This is discussed in the section below.

Stakeholder submissions

In response to our draft report, Church Point argued that capital expenditure for rebuilds and replacement of engines should be based on engine hours and not on an assumed economic life in years. It submitted that engine rebuilds should be done after 10,000 hours and replacements after 20,000 hours.[46]

Indec agreed that using engine hours is a preferred approach to assuming an engine life in years. Indec has reassessed its capital expenditure recommendations for engine replacements and rebuilds based on engine hours for all operators. For engine related capex Indec has used 10,000 engine hours for rebuilds and 20,000 engine hours for replacements. This resulted in one additional replacement (and one less refurbishment) for Church Point in 2017 (ie, capital expenditure of $100,000 instead on $20,000). There were no changes for other operators within the three-year regulatory period. Most operators are assumed to have ferry replacements early in the regulatory period, meaning less need for rebuilds and replacements in the short-term.

This issue is also discussed in Indec's final report.[47]

45 Indec Consulting, *Efficient costs of providing private ferry and Newcastle-Stockton ferry services* – Final Report – November 2014.

46 Church Point Ferry Service submission, November 2014, p 3.

47 Indec Consulting, *Efficient costs of providing private ferry and Newcastle-Stockton ferry services* – Final Report – November 2014, p 22.

4.2.3 Allowances for regulatory depreciation and a return on assets

The revenue requirement calculated under the building block model includes an allowance for a return of capital, commonly known as depreciation, and a return on capital:

- Return of capital (regulatory depreciation): including a return of capital in the revenue requirement recognises that through the provision of services to customers, a business' capital infrastructure will wear out, and that the cost of maintaining the capital base is a legitimate business expense.
- Return on capital: a return on capital includes the cost of capital invested in a business through equity and debt investments. Including a return on capital ensures that efficient investment in capital continues into the future for the maintenance and growth of the business.

Both a return of and on capital are set with reference to the RAB. The RAB represents the value of the business' shareholder-funded assets, used to provide the regulated services. The next section explains how we estimated the initial RAB.

We calculated the allowance for a return on capital by multiplying the weighted average cost of capital (WACC) by the value of the RAB. We used our standard approach to estimate the WACC and our final decision is to apply the midpoint WACC of 5.6% to estimate the allowance for a return on assets (see Table 4.1). Note that we updated our estimate of the WACC since the draft decision. However, as underlying market-based parameters are largely unchanged, the midpoint of the WACC is unchanged at 5.6%.

Table 4.2 Real post-tax WACC range and midpoint

	Low	Mid	High
Real post-tax WACC	5.3%	**5.6%**	6.0%

Note: Market data sampled to 20 November 2014.

Source: IPART calculation.

Details on our WACC calculation and parameters that underpin our WACC calculation are contained in Appendix C.

4.2.4 Initial regulatory asset base

We need to establish an initial RAB as it is the first time we are applying a building block model to private ferries and the Stockton Ferry. We decided that an initial RAB should consist of the depreciated replacement cost of a main ferry (ferries) and 50% of the depreciated replacement cost of a spare ferry. We included 50% of the value of the spare ferry as this can be used to earn other income, for example, charter cruises.

To establish a ferry operator's initial RAB, we adopted a depreciated optimised replacement cost (DORC) valuation method. A DORC valuation is an estimate of the value of an asset in use that is equivalent to the net current cost of replacing the asset in its current state with an asset that has similar service potential, taking into account any scope for efficiencies. It has the advantage of excluding any unused or under-utilised assets beyond the specified planning horizon, and allowing for potential cost savings that may have resulted from technological improvement.

More information on our approach for estimating the initial capital base is provided in Appendix D.

Stakeholder submissions

The submission from Church Point Ferry Service questioned the assumption for including 50% of the value of the spare ferry given the limited opportunities it has for charter work and that their vessels do not have adequate facilities for charter cruises.[48] A similar comment was made by Brooklyn Ferry Service at the public forum.[49]

Church Point Ferry Service also raised that the value of goodwill should be included in the RAB.[50]

Indec advised that it is reasonable for operators to have a spare ferry, however they estimate it might only be used for regulated ferry services around 10% to 20% of the time.

On balance, we consider that including 50% of the value of the spare ferry is fair to passengers and operators and still provides an incentive for operators to maximise its economic value. We do not consider that passengers should pay fares that reflect 100% of the value of spare ferry given it is only utilised for regulated services considerably less than 50% the time. We note that all private ferry operators advertise their ferries for a number of different services. These include private charters for weddings, live music tours and parties. Church Point's older ferries with no power are available for children's parties and as a backdrop for photos.[51] We also note that Church Point can swap vessels so that their newer ferry (L Duck) which normally provides the regulated ferry service can also be used for private charters. In our view, accepting that there may be limited opportunities to fully utilise the spare ferry, 50% is a reasonable assumption.

48 Church Point Ferry Service submission, November 2014, p 3.
49 Transcript from public forum, 4 November 2014, p 15.
50 Church Point Ferry Service submission, November 2014, p 3.
51 http://churchpointferryservice.com/charters-day-trips/, accessed 4 December 2014.

We have not included the value of goodwill in the RAB. In our view, intangible assets like goodwill should only be included in the RAB (and paid for by passengers) if they are relevant to the provision of the regulated service. If a regulated business is sold, then the value of goodwill would be received by the owner through the sale/transaction price.

4.2.5 Remaining asset lives

The average remaining asset lives affect the regulatory allowance for depreciation. All else equal, the shorter the remaining asset life the greater the allowance for regulatory depreciation (ie, return of capital). However, estimating the initial RAB based on the DORC method means that shorter remaining asset lives would result in a smaller initial RAB.

We used the following approach to approximate the average remaining asset lives:

- New ferries have a remaining asset life of 25 years for slow ferries and 15 years for fast ferries (based on Indec's advice).
- Old ferries which are to be replaced within the regulatory period have a remaining asset life consistent with that period. For example, if an existing ferry needs to be replaced in the first year of the regulatory period, its remaining asset life is assumed to be one year.
- There are some ferries which are not required to be replaced within the regulatory period as these have generally had work undertaken in the past to extend their useful life. We have assumed remaining asset lives that result in an entire life of between 30 to 50 years for a slow ferry and up to 20 years for a fast ferry. We consider this assumption reasonable given that there are several ferries running that are 60 to 70 years old.

As all private ferry operators and Stockton Ferry have at least two ferries (ie, main and spare ferries), to estimate an average remaining asset life, we have calculated a weighted average remaining asset life for each ferry operator.

Stakeholder submissions

Church Point Ferry Service and Palm Beach Ferries consider that an economic life of 25 years for a slow ferry with an aluminium hull is too long.[52]

We agree with advice from Indec that the current assumptions for the economic life of ferries are appropriate. Indec referred this matter to marine engineers and other sources who advised that the economic useful life of ferries can be greater than that indicated in their report. If ferries are purchased new and properly

[52] Church Point Ferry Service submission, November 2014, p 3; Transcript from public forum, 4 November 2014, comment from C Campbell, Palm Beach Ferries, p 10.

maintained, the useful life could be in the vicinity of 50% to 100% longer than Indec has indicated in its report. Based on that advice, Indec considers that its useful life estimates are conservative. Indec also notes that if some hull construction materials for slow ferries do not have the durability required, other options are available and should be explored.[53]

4.2.6 Patronage

Forecasts of patronage are key inputs into the building block model. All else equal, higher forecast patronage leads to lower fare increases, because passengers' share of total efficient costs will be recovered from a higher number of passengers.

We were provided with data on ferry patronage by operator from TfNSW. This was provided on a quarterly basis and by type of ticket (adult, child, etc). For most operators we have around six years of historical data. As noted above, since the draft decision we have been provided with new information on patronage under discounted multi-trip tickets.

Based on our analysis of this data, we did not find strong evidence of an upward or downward trend in patronage for any operator. In our view, the average patronage over the most recent three years (where available) is a reasonable guide to future patronage. Therefore, we used forecast patronage given by an average of the last three years' patronage levels, and assumed the level of patronage to remain constant. In the case of the Stockton Ferry we used the most recent two years as this was the only information available. More information is provided in Appendix E.

4.2.7 Freight revenue

Since our draft decision we have received new information from some ferry operators on freight revenue they receive from regulated ferry services (eg, carrying bicycles). We have included 50% of freight revenue in the building block model to offset the revenue requirement. This is consistent with IPART's standard approach and provides an incentive for operators to continue to earn non-regulated revenue. We note that freight revenue is not significant and therefore this did not have a material impact on the efficient fare for any operator.

[53] Indec Consulting, *Efficient costs of providing private ferry and Newcastle-Stockton ferry services* – Final Report – November 2014, pp 21-22.

4.2.8 Government payments

Ferry operators may receive a number of different government payments, including for school student travel under the School Student Transport Scheme (SSTS), Pensioner Excursion Tickets (PET), Concession tickets, and certain operators also receive viability payments to support their business.

As illustrated in Figure 4.1, higher government payments would lead to lower fares, because this reduces the share of total efficient costs that needs to be recovered from passengers through fares.

With the exception of viability payments, the amount of these payments made to operators is generally based on a formula that incorporates ticket prices and the number of tickets sold. We have summarised these formulas in Appendix F. Viability payments are indexed to inflation each year.

With the exception of viability payments, government payments are outputs of our analysis rather than inputs. That is, forecast government payments are a function of forecast patronage and fares.

5 Ferry cost indices

In this Chapter we outline our final fast ferry cost index (FFCI) and slow ferry cost index (SFCI).[54]

5.1 Updated ferry cost indices

In updating the ferry cost indices we have maintained the relative weightings of fuel and 'other costs' components based on the results of The CIE's cost survey conducted last year.

For our final decision we found that both the SFCI and FFCI increased by 2.9%.[55] We have summarised the ferry cost index results in Table 5.1.

Table 5.1 Updated ferry cost indices for final recommendations

Cost item	Slow ferry weighting (%)	Fast ferry weighting (%)	Inflator	Inflator value Final	Inflator value Draft
Fuel	11.3	15.2	FUELtrac data	4.7%	5.6%
All other costs	88.7	84.8	CPI	2.6%	2.4%
Index result	**2.9%**	**2.9%**			

Source: FUELtrac fuel data for monthly average diesel prices for the 12 months to September 2014, compared to FUELtrac data for 12 months to September 2013; CPI Sydney all groups, 4 quarters to September 2014 compared to 4 quarters to September 2013.

Since the draft decision, the SFCI and the FFCI have increased from 2.7% and 2.8%, respectively. This is because the CPI which represents more than 80% of both indices has increased by 0.2 percentage points since the draft decision, although the fuel inflator has decreased by 0.9 percentage point over the same period.

54 The Slow Ferry Cost Index (SFCI) measures the changes, in percentage terms, for ferries operating at an average speed of less than 10 knots and the Fast Ferry Cost Index (FFCI) is for ferries operating at an average speed of 18 to 20 knots. The use of separate indices reflects the different cost structures of 'fast' and 'slow' ferry services, as they were measured in 2008.

55 Before rounding, the SFCI is 2.86% and the FFCI is 2.94%. Both indices round to 2.9%.

According to FUELtrac commentary, the drop in the fuel inflator was attributed to the recent media and political pressure placed on the petrol retailers to lower its gross margins of up to 35cpl despite falling international oil prices and local wholesale prices. After the Petrol Price Summit held in October, United Petroleum announced its decision to reduce its retail petrol prices, which caused a domino effect that resulted in further price drops nationally.

5.2 How ferry cost index results are used in our final decisions

As discussed in Chapter 3, if the current maximum fare was lower than the 2015 efficient fare, then we increased the current maximum fare to the lesser of:

- the 2015 efficient fare from our building block model, or
- the current maximum fare, plus the change in the operator's costs since our last review measured using our ferry cost index, plus an additional 10 cents.

We used the ferry cost index to recommend final maximum fares for Central Coast, Clarence River and Brooklyn ferry services.

We consider this is a conservative approach to transition towards the efficient fare, and prevents price shocks for passengers. We have summarised this in Table 5.2.

Table 5.2 Transition of current maximum fares to 2015 efficient fares

Operator	Current master max fare[a]	Current max fare	2015 max master fare using the SFCI	Additional allowance	2015 max master fare[a]	2015 max fare	Changes to max fare
Central Coast	7.48	7.50	7.69	0.10	7.79	7.80	0.30
Clarence River	7.35	7.30	7.56	0.10	7.66	7.70	0.40
Brooklyn	6.44	6.40	6.63	0.10	6.73	6.70	0.30

[a] Master maximum fares are unrounded, but we show these fares to two decimal places.

Note: All prices include GST.

Note that these final changes to the maximum fare in Table 5.2 are the same as our draft decision with the exception of Clarence River which is 10 cents higher under our final decision. This is the result of an increase in the SFCI as discussed in Section 5.1.

6 How we propose to approach future reviews

This chapter outlines how we propose to approach future reviews, including mid-year fuel cost reviews.

6.1 Mid-year fuel cost review for private ferries

We intend to continue undertaking the mid-year fuel cost review for private ferry operators. If the mid-year review indicates that fuel costs have increased or decreased by more than 10% in the six months after our final fare decision is made, we may recommend an adjustment to the maximum fares.

6.2 Efficiency of maximum fares will be reviewed every five years

As in other industries we regulate using a building block approach, we do not propose to conduct an efficiency review of maximum fares every year. Instead, we propose to do it every five years.

In the interim years, we will consider whether we should resume using the relevant ferry cost index to adjust fares (including whether to change fares by more than the change in the relevant cost index), or whether fares should remain frozen. To do this we will consider factors such as:

- changes to patronage, operating expenditures and capital expenditures
- changes to any viability payments, and
- developments in competition from other forms of transport on the relevant ferry route.

6.3 The potential for a weighted-average price cap

Under the building block model, the efficient fare allows an operator to earn enough revenue to recover the passengers' share of total efficient costs. The model takes account of both discounted and non-discounted fares. If more passengers travel under discounted fares, then (all else equal) the non-discounted fare needs to be higher to ensure the operator recovers its total efficient costs. In next year's review we propose to explore with stakeholders the potential for

using a weighted-average price cap (WAPC) rather than recommending or determining (in the case of Stockton) the maximum fare.

Under a WAPC, a regulated business is free to adjust its individual prices as long as the weighted average price change remains within the cap. For example, if IPART recommended a maximum 3% change in fares, ferry operators would be able to change individual fares (including multi-trip tickets) by more or less than 3% as long as the weighted average change does not exceed 3%. In effect, the current approach of recommending the change in the maximum fare is like recommending the upper end of a WAPC.

Ferry operators know their market best, and using a WAPC would provide more flexibility to set individual fares to recover costs and maximise patronage. This can lead to more efficient outcomes that benefit all passengers.

As noted in Section 1.1, the Government announced that from December 2014 the Opal fare for the Stockton Ferry will be $2.10. This represents a discount of 50 cents per adult journey. If we were to incorporate a forecast of Opal patronage (using the discounted fare), then (all else equal) the non-discounted fare would need to be higher to ensure fare box revenue recovers the passengers' share of total efficient costs. Unlike the private ferry operators, the operator of Stockton Ferry does not keep its fare box revenue – instead it receives a contract payment to provide the service. We also do not have data on the likely take up rate of Opal on the Stockton Ferry. For these reasons we have not incorporated any Opal patronage in our determination. Instead, as part of our review next year we will consult with stakeholders both on the use of a weighted average price cap and incorporating Opal patronage into our determination.

6.4 Value of external benefits of private ferries and the Stockton Ferry

Generally, in setting fares for public transport such as trains, buses and Sydney Ferries, we estimate the value of external benefits to determine the share of public transport costs that should be funded by the Government. For example, using public transport leads to lower road congestion, and lower air pollution and greenhouse gas emissions than if these journeys had been taken by private vehicle. Therefore, we have considered that it is appropriate to set the Government subsidy broadly in line with the estimated value of these community-wide or external benefits.

We are currently reviewing our approach for estimating the value of the external benefits of public transport, and expect to release a final report in May 2015. As our review of external benefits has yet to be finalised, we have not considered the value of external benefits of private ferry and the Stockton Ferry services. We propose to consider the value of the external benefits of these services based on our revised approach as part of our next year's review.

We consider that estimating the value of the external benefits will help us determine the level, if any, of the government subsidy justified for these ferry services. In general, external benefits justify a government subsidy if:

- the subsidy increases ferry patronage, and
- the external benefits society receives as a result of increased ferry patronage exceeds the net cost of providing the subsidy.

We will also consider whether a government subsidy for these ferry services is justified in the context of viability payments that some operators already receive from the NSW Government.

7 Other factors we considered

We are required by our terms of reference and by section 15 of the IPART Act to consider a range of matters related to the effect of our pricing recommendations and decisions on stakeholders. Our views on the likely implications of our decisions for four key stakeholder groups – private ferry operators, passengers, the environment and Government – are outlined in this section.

We are also required to consider the relativities between private ferry fares and those of government-provided ferry services, and standards of service and patronage. Our analysis of these issues is also provided in this chapter.

7.1 Implications for private ferry operators

To make our final decisions on the change in maximum fares for 2015, we considered the implications for fare levels and ferry operators' revenues, and stakeholder submissions.

Where we found a difference between the current and efficient maximum fare, we took a conservative approach, so fares will transition towards the efficient level over an appropriate time. We used the following framework to guide our final decisions:

- if the current maximum fare is the same or higher than the 2015 efficient fare, we made a final decision to freeze the current maximum fare (in nominal terms)
- if the current maximum fare is lower than the 2015 efficient fare, then we made a final decision to increase the current maximum fare to the lesser of:
  - the 2015 efficient fare from our building block model, or
  - the current maximum fare, plus the change in the operator's costs since our last review measured using our ferry cost index, plus an additional 10 cents.

We consider this conservative approach is appropriate, to prevent price shocks for passengers as well as revenue shocks for operators. Unlike the operators of rail, metropolitan and outer metropolitan bus services, Sydney Ferry and Stockton Ferry, who receive contract payments to provide public transport services, private ferry operators are dependent on fare box revenues.

It is important to note that we only recommend the maximum fare, or in the case of Stockton Ferry determine the maximum fare. Operators can choose to set their fare below the maximum fare.[56] Ferry operators are in the best position to decide whether to set their fares below the maximum.

7.2 Implications for passengers

Passengers of the Central Coast, Clarence River, Brooklyn and Church Point ferries will experience a moderate increase in fares in 2015 under our final decision. The final recommended increase in maximum fares for these private ferries is between 10 cents and 40 cents per trip, which represents a percentage increase of between 1.3% to 5.5% (after rounding). Some of these percentage increases are higher than those we recommended last year, where fares increased by between 1.4% and 2.7% (after rounding). We have considered the impact on passengers by gradually transitioning the current maximum towards the efficient fare.

For users of all other private ferry services and the Stockton Ferry, we consider passengers will have a small positive impact, while receiving the same quality of service. This is because our final decision is to freeze the current maximum fares (in nominal terms) in 2015, meaning in real terms there is a fare reduction.

7.3 Implications for the environment

The impact of the final recommended and determined fares on the environment in terms of pollution and congestion is likely to be negligible, given that ferry travel accounts for a small proportion of passenger trips.

7.4 Implications for Government funding

Where our final decision results in an increase to the maximum fare in 2015, this will affect the government through increased payments for fully subsidised student travel under the SSTS, and half-fare and PET concessions.

Generally, the Government provides operators with:

- A payment based on the **maximum** child fare for an eligible school student presumed by TfNSW to have travelled under the SSTS. Operators do not record patronage figures for SSTS passengers.
- A top-up to the full adult fare charged by the operator for concession passengers reported to have travelled by the ferry operator.

[56] Newcastle Buses and Ferries may charge less than the determined maximum fare for Stockton Ferry with the permission of the NSW Treasurer.

- In some cases, a top-up to the full adult fare charged by the operator for pensioners travelling on a Pensioner Excursion Ticket, reported to have travelled by the ferry operator.[57]

As these payments are related to the level of fares charged by ferry operators and/or the maximum fare that they can charge, our recommendations will increase the amount of funding required per student or concession passenger trip for four operators only. There should be no impact on funding for the other operators.

We note that most slow ferry operators already receive supplementary viability payments from the Government. We have not made any recommendations this year in regards to these payments.

As outlined in Chapter 1, we are currently conducting a separate review to estimate the external benefits of the public transport network, including rail, bus and ferry services. The final report is due for release in May 2015. Hence, we will defer making a recommendation on the appropriate level of government subsidies for private ferries until the next annual fare review.

7.5 Relativities with Sydney Ferries' services

Matilda Cruises is the only private ferry operator that provides comparable services to those provided by Sydney Ferries on the Circular Quay to Darling Harbour route. There are slight differences in the service route and travel time between the two services, namely:

- The Sydney Ferries trip uses slow ferries and takes a slightly longer route; from Circular Quay to Darling Harbour is via Milsons Point, McMahons Point and Balmain East and is scheduled to take 23 minutes.
- The Matilda service uses fast ferries and travels from Circular Quay to Darling Harbour via Luna Park and the estimated travel time is 20 minutes.

Currently, the Sydney Ferries single adult fare is $6 (MyFerry1) and $5.60 (Opal card fare less than 9km).[58]

[57] Only some private ferry services have been deemed eligible by TfNSW to provide Pensioner Excursion Tickets to eligible pensioners for $2.50. Information provided by TfNSW.

[58] TfNSW: Ferry tickets http://www.transportnsw.info/tickets/ferry Accessed 15 October 2014. Opal ferry fares https://www.opal.com.au/en/fares-and-benefits/fare_information_ferry/ Accessed 22 October 2014.

Our final recommendation is to freeze fares for Matilda Cruises in 2015, so the final recommended maximum fare for Matilda Cruises remains unchanged from last year at $7.40. As discussed, Matilda Cruises is charging less than the maximum fare; the current single adult fare is $7.00.[59] We consider this relativity with Sydney Ferries' fares is appropriate due to the differences between the services.

Our final determination for Stockton Ferry is to freeze the fare at the current level of $2.60 from January 2015. The minimum Sydney Ferries single adult fare is $6 (MyFerry1) and $5.60 (Opal card fare less than 9km), but given the relative distances involved, the fares are not comparable.

7.6 Service standards

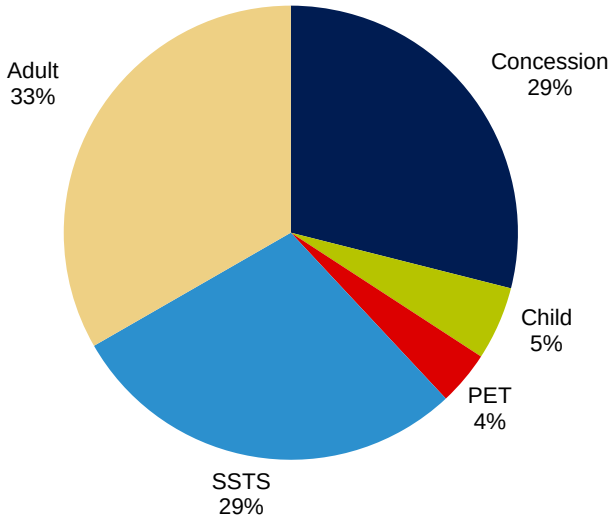
We collect and publish summary data on patronage and service standards. For this review, we have received data for the 12 months to June 2014 from TfNSW.

Patronage data is manually collected by operators. Figure 7.1 below shows the breakdown of patronage on private ferries according to passenger type. It illustrates the relativities between numbers of adult full fare-paying passenger trips, and subsidised trips (ie, passengers paying concession/half-fares or using PETs and patronage counted under the SSTS).

In total, there were just over 1 million private ferry trips reported across 2013/14. The proportion of patronage by passenger type is very similar to what we reported last year for 2012/13. Adult full fare ferry trips are unchanged at 33%, while concession and PET passengers increased by one percentage point to 29% and 4%, respectively. The share of Child and SSTS passengers were down marginally to 5% and 29%, respectively.

[59] Matilda Cruises: City Loop Ferry Service Prices: http://www.matilda.com.au/dir076/matilda.nsf/Pages/Ferry+Services~City+Loop+-+Luna+Park Accessed 4 December 2014.

Figure 7.1 Patronage on private ferries - 2013/14 (%)



Note: The SSTS patronage is based on the number of issued passes and assumed school trips.
Data source: TfNSW, 16 September 2014.

Ferry operators also provide TfNSW with information on late and cancelled services and the number of safety incidents experienced. For the 12 months to June 2014, the private ferry industry reported 21 incidences of late services and 17 cancelled services, for example due to bad weather. We note that these incidences represent a very low proportion of total services provided (less than 1%). No safety incidents were recorded. This information is summarised in Table 7.1, along with information collected from our previous reviews.

Table 7.1 Summary of KPI data for year ending 30 June

Route	Late				Cancelled				Safety			
Year ending 30 June	2014	2013	2012	2011	2014	2013	2012	2011	2014	2013	2012	2011
Woy Woy – Empire Bay	0	0	0	0	0	0	0	0	0	0	0	0
Church Point	4	7	1	5	0	2	0	0	0	0	1	0
Iluka – Yamba	0	0	0	0	0	0	0	0	0	0	0	0
Cronulla – Bundeena	1	1	0	1	2	7	1	4	0	0	0	0
Brooklyn – Dangar Island	1	0	3	2	3	0	3	4	0	0	1	1
Circular – Darling Harbour (ff)	10	13	10	37[a]	5	1	0	0	0	4	3	0
Circular Quay – Lane Cove (ff)	0	4	9		4	0	0		0	0	1	
Palm Beach – Mackerel and the Basin	0	0	0	0	0	0	0	0	0	0	0	0
Palm Beach – Ettalong Wagstaff (ff)	5	5	0	0	3	6	0	0	0	0	0	0
Stockton Ferry[b]	-	-	-	2	-	-	-	0	-	-	-	0

a All vessels fitted with wet exhaust systems.

b Stockton Ferry only provided information for 2011.

Note: ff denotes fast ferry.

Source: TfNSW, 1 October 2013, 23 October 2012, 6 and 11 October 2011, 19 October 2010.

Appendices

A Terms of Reference

INDEPENDENT PRICING AND REGULATORY TRIBUNAL ACT 1992
PRIVATE FERRY INDUSTRY FARE REVIEW

I, Hon Mike Baird, Premier, pursuant to Section 9(2) of the *Independent Pricing and Regulatory Tribunal Act* 1992, approve the Independent Pricing and Regulatory Tribunal (IPART) entering into arrangements with Transport for NSW for one year to 2 August 2015 to provide services to Transport for NSW that are within its area of expertise. The services to be provided by IPART are the conduct of an investigation into, and the preparation of a report concerning, maximum fares for regular private ferry services under the *Passenger Transport Act 1990*.

In providing these services, IPART should consider:

i) the cost of providing the services concerned and the need for greater efficiency in the supply of services so as to reduce costs for the benefit of customers;
ii) relativities with Sydney Ferries' services, including in terms of service, efficiency, cost and ticketing products;
iii) the protection of customers from abuses of monopoly power in terms of prices, pricing policies, and standards of service;
iv) the need to maintain ecologically sustainable development;
v) the impact on customers of the recommendations;
vi) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise and any suggested or actual changes to those standards); and
vii) the effect of any pricing recommendation on the level of Government funding provided to private operators under commercial contracts.

The services to be provided by IPART will include a public consultation process through which IPART will invite submissions from the private ferry operators and other stakeholder groups including user groups.

The services are to be provided through the provision of one or more reports to Transport for NSW, as agreed between Transport for NSW and IPART.

The Hon Mike Baird MP
Premier
Minister for Western Sydney
Minister for Infrastructure

B Requirements of the IPART Act for the Stockton Ferry determination and private ferries recommendation

Section 15 of the IPART Act 1992 details the matters to be considered by the Tribunal when making a determination or recommendation under the Act. The section is reproduced in full below.

(15) Matters to be considered by Tribunal under this Act

(1) In making determinations and recommendations under this Act, the Tribunal is to have regard to the following matters (in addition to any other matters the Tribunal considers relevant):

(a) the cost of providing the services concerned,

(b) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services,

(c) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales,

(d) the effect on general price inflation over the medium term,

(e) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers,

(f) the need to maintain ecologically sustainable development (within the meaning of section 6 of the *Protection of the Environment Administration Act 1991*) by appropriate pricing policies that take account of all the feasible options available to protect the environment,

(g) the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets,

(h) the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body,

(i) the need to promote competition in the supply of the services concerned,

(j) considerations of demand management (including levels of demand) and least cost planning,

(k) the social impact of the determinations and recommendations,

(l) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

C Weighted average cost of capital

One of the elements in the building block model is an efficient return on assets. The rate of return is a key input to our calculation for the allowance for a return on assets. We calculate the allowance for a return on assets by multiplying the weighted average cost of capital (WACC) by the RAB.

We developed our approach to determining the real post-tax WACC in December last year.[60] We further refined our approach to estimating the debt margin in April this year.[61] Our final decision uses this approach to estimate a WACC range. Once we determined a range, we selected a point within the range using our uncertainty index. As our assessment of uncertainty is currently within one standard deviation from the long term average of zero (ie, economic uncertainty is neutral), we have used the midpoint of the range of WACC values.[62]

We have also considered the level of the industry-specific parameters (ie, the equity beta and the gearing level) by investigating:

- the risks of providing ferry services, and
- the value of equity beta and gearing levels of companies that face similar risks to the ferry businesses we are regulating.

Table C.1 sets out the parameters that underpin our WACC calculation. The rest of this section provides our consideration of these industry-specific parameters.

We did not receive any comments from stakeholders on the proposal that we set out in our information paper to use our standard approach to estimating the WACC.[63] In addition, we did not receive any comments from stakeholders to our draft decision on the WACC from October 2014.

60 IPART, *Review of WACC Methodology - Final Report,* December 2013.
61 IPART, *Fact Sheet - WACC - IPART's New Approach to Estimating the Cost of Debt,* April 2014.
62 See IPART, *Review of WACC Methodology - Final Report,* December 2013, p 23 for further details on our decision rule for selecting a point within the range of WACC values.
63 IPART, *Information Paper – Review of 2015 fares for private ferries and the Newcastle-Stockton ferry*, August 2014, p 2.

Table C.1 WACC parameters and values

	WACC - current data			WACC - long-term averages			WACC range		
	Low	Mid	High	Low	Mid	High	Low	Mid	High
Nominal risk free rate	3.3%	3.3%	3.3%	4.9%	4.9%	4.9%			
Inflation	2.6%	2.6%	2.6%	2.9%	2.9%	2.9%			
Debt margin	2.2%	2.2%	2.2%	2.9%	2.9%	2.9%			
Gearing	60%	50%	40%	60%	50%	40%			
Market risk premium	7.6%	8.1%	8.7%	5.5%	6.0%	6.5%			
Equity beta	0.8	0.9	1.0	0.8	0.9	1.0			
Cost of debt (nominal pre-tax)	5.5%	5.5%	5.5%	7.8%	7.8%	7.8%			
Nominal vanilla WACC	7.1%	8.0%	9.4%	8.4%	9.1%	10.0%	8.0%	8.5%	9.1%
Real post-tax WACC	4.3%	5.3%	6.6%	5.3%	6.0%	6.9%	5.3%	**5.6%**	6.0%

Note: Market data sampled to 20 November 2014.

Source: IPART calculation.

C.1 Industry-specific parameters

To determine the appropriate level for the equity beta and the gearing, we have evaluated the risks faced by private ferry operators. We have compared these risks to other businesses/industries we regulate. We have also investigated market evidence available from companies that are listed on stock exchanges that provide ferry services.

In determining the equity beta and gearing level, our current practice is to adopt benchmark values (rather than the values of the regulated entity). This ensures that customers will not bear the costs associated with inefficient funding and capital structures. This is consistent with regulatory practice in Australia.

Equity beta and gearing level

The equity beta measures the extent to which the return of a particular security varies with the overall return of the market. It represents the systematic or market-wide risk of a security that cannot be eliminated by holding it as part of a diversified portfolio. It is important to note that the equity beta does not measure business-specific or diversifiable risks.

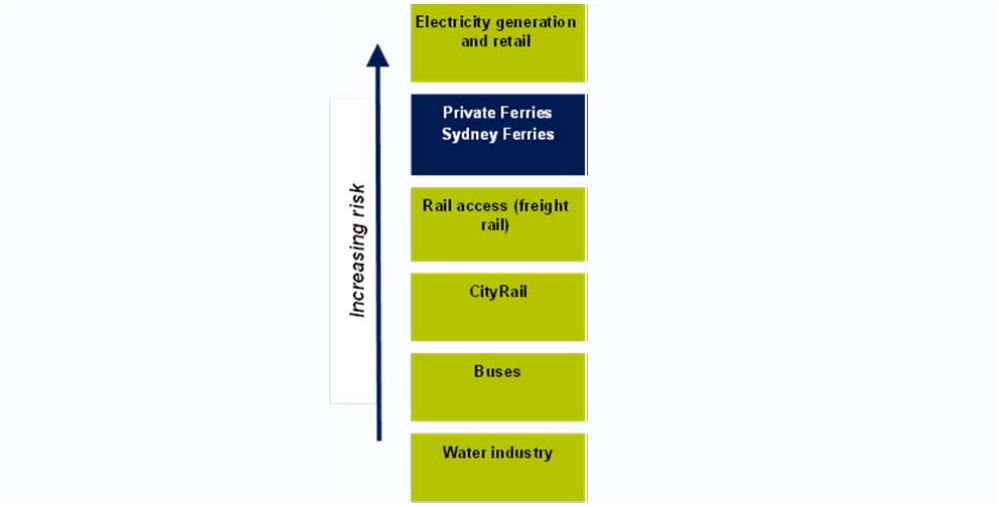
The gearing ratio is the ratio of the value of debt to the total value of assets in the business' capital structure. Gearing is used to weigh the costs of debt and equity in estimating the WACC. Since, all else being equal, debt funding is cheaper than equity funding, the lower the level of gearing the higher the WACC and vice versa.

Our final decision is to use:

- an equity beta of 0.8 to 1.0
- a gearing ratio ranging from 60% to 40%.

This is consistent with our draft decision. This decision implies that the level of risk faced by a ferry operator is higher than the risk faced by other public transport modes (Figure C.1). We came to this judgment after considering the relative risks involved in providing private ferry passenger services compared to other modes of transport. We also placed limited weight on beta and gearing values for a range of proxies for the private ferries.

Figure C.1 Implied relative risks of utilities regulated by IPART



Risks relative to other industries

In principle, ferry and bus operators may be able to respond faster in the short to medium term to changes in patronage than rail operators due to the more capital intensive nature of rail business. We considered the lower level of profit variability arising from the ability of the ferry operators to respond to changes in operating conditions. On the other hand, the contractual arrangements of the ferry operators affect the levels of risk they face. The private ferry operators:

- have contractual requirements to provide a set number of services, regardless of the number of passengers
- earn fare box revenue from ticket sales which is variable.

This is likely to expose private ferry operators to revenue volatility as revenue is directly related to the number of passengers, although some private ferry operators may receive viability payment. The scheduling requirements also limit the ability of ferry operators to respond to changes in patronage. Further, ferry

operators are likely to have a higher proportion of tourist passengers than rail and bus operators. Ferry operators are therefore more exposed to fluctuations in the tourism cycle than bus and rail operators.

Market evidence

Table C.2 contains companies that obtain at least half of their revenue from providing ferry passenger services that are listed on stock exchanges. One of the companies, SEALink Travel Group is listed on the Australian Stock Exchange. All other comparators are listed on overseas exchanges.

Table C.2 Gearing and equity beta of private ferry comparators

Company	Country	% revenue from ferry passenger services[a]	Gearing (%)	Equity beta
SEALink Travel	Australia	100[b]	30	0.3
Reederei Herbert	Germany	100	0	0.3
Viking Line	Finland	100	45	0.2
Mols-Linen	Denmark	100	84	0.5
Hainan Strait	China	100	0	1.2
Saos Maritime	Greece	98	18	0.1
Maritime Company of Lesvos	Greece	98	102	-0.3
Attica Holdings	Greece	94	40	0.3
Anek Lines	Greece	91	80	0.7
Minoan Lines	Greece	90	45	0.1
Tokai Kisen Co	Japan	75	45	0.4
Sado Steam Ship Co	Japan	67	49	0.1
Shun Tak Holding	Hong Kong	63	27	0.8
Irish Continental Group	Ireland	62	53	0.5
		Average	44	0.34
		Median	45	0.31

a Bloomberg includes revenue from onboard businesses such as kiosks, restaurants, tourism etc.

b Bloomberg reports that SEALink earns 100% of its revenue from 'cruise services', rather than 'ferry passenger services'.

Note: The equity beta is the two-year unadjusted beta.

Source: Bloomberg, IPART analysis.

The data in Table C.2 suggests that for private ferry operators:

- the level of gearing ranges from 0% to over 100% and the median is 45%
- the equity beta ranges from -0.3 to 1.2. The median value is around 0.3 (rounded to one decimal place).

We have placed limited weight on the evidence from the market due to a number of concerns we have with the data. For example, Table C.2 shows that gearing and beta values range widely. However, we note the median gearing level from this sample is within the selected range for our analysis shown in Table C.1.

Further, Bloomberg's beta estimation method (regression of stock returns on market returns) may be subject to estimation errors. Also, some of the companies in Table C.2 do more than just provide ferry services. For example, Shun Tak Holding operates in the property and hospitality sectors and acts as an investment manager.

Our WACC decision rule

We use the uncertainty index to help us choosing a WACC point estimate from within the WACC range:

- If the uncertainty index is within or at one standard deviation from the long term average of zero (ie, economic uncertainty is neutral), we will select the midpoint WACC.
- If the uncertainty index is more than one standard deviation from the long term average of zero, we will consider moving away from the midpoint WACC. We will have regard to the value of the uncertainty index and additional financial market information.[64]

Figure C.2 shows the current uncertainty index. The uncertainty index is currently within one standard deviation from the long term average of zero. Based on IPART's decision rule, we recommend the midpoint of the real post-tax WACC range, 5.6%, as the point estimate WACC.

While we have updated the underlying market-based parameters since our draft decisions these are largely unchanged. This resulted in the real post-tax WACC of 5.6% also being the same as the draft decision.

64 IPART, *Review of WACC Methodology - Final Report,* December 2013, p 23.

Figure C.2 Uncertainty index

Note: IPART analysis.
Data source: Thomson Reuters.

D More information on the initial regulatory asset base

For our final decisions, we need to determine an initial RAB as it is the first time we are applying a building block model to private ferries and the Stockton Ferry. We have decided that an initial RAB should consist of the depreciated replacement cost of a main ferry (ferries) and 50% of the depreciated replacement cost of a spare ferry.

To establish a ferry operator's initial RAB, we have adopted a depreciated optimised replacement cost (DORC) valuation method. A DORC valuation is an estimate of the value of an asset in use that is equivalent to the net current cost of replacing the asset in its current state with an asset that has similar service potential, taking into account any scope for efficiencies. It has the advantage of excluding any unused or under-utilised assets beyond the specified planning horizon, and allowing for potential cost savings that may have resulted from technological improvement.

To determine the initial RAB for each ferry operator based on the DORC valuation method, we have established the following three-stage process:

1. determining the replacement value based on efficient carrying capacity
2. estimating the depreciated replacement costs
3. optimising the depreciated replacement costs.

Step 1: Determining the replacement value based on efficient carrying capacity

In the first stage, we determine the costs of replacing an existing ferry with a new ferry with an efficient level of passenger carrying capacity. Indec has advised that it is prudent for each operator to maintain one spare ferry in addition to those used for the main regulated services, and provided its assessment on the efficient carrying capacity for each private operator given the level of patronage. Please refer to Indec's report for replacement costs for ferries.

Step 2: Estimating the depreciated replacement costs

In the second stage, we estimate the depreciated replacement costs, reflecting the remaining asset life of a ferry. We applied straight-line depreciation based on Indec's advice that a useful economic life of a ferry is 25 years for slow ferries and 15 years for fast ferries.

Indec has indicated that for some private ferry services, ferries are being utilised far beyond the conventional useful economic life of 25 years for slow ferries and 15 years for fast ferries, and that it would be prudent for these operators to replace the main ferry immediately (on 1 January 2015). In these cases, capital expenditure for replacement of a new ferry is immediately rolled into the initial RAB.

For existing ferries, we have calculated the depreciated replacement costs based on our assessment of the remaining asset life of a ferry.

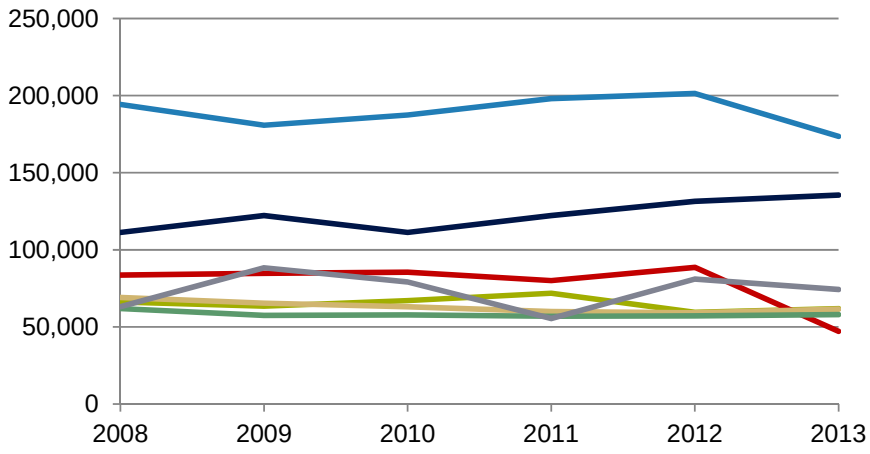
Step 3: Optimising the depreciated replacement costs

In the final stage, we have optimised the depreciated replacement costs determined in Step 2, focusing on spare ferries. Although it would be prudent for a ferry operator to maintain an extra ferry as a spare, a spare ferry may be used to earn income from unregulated services such as sight-seeing cruises and charters. Therefore, we consider it is appropriate to include only half of the depreciated replacement costs of the spare ferry in the initial RAB, reflecting a lower level of utilisation for the main regulated services.

E Patronage forecasts

Figure E.1 shows annual reported patronage levels for all private ferry operators since 2008. Note that our analysis excludes the patronage level reported under the School Student Travel Scheme (SSTS). The SSTS patronage is a notional number intended for calculating SSTS payments, and does not reflect an actual number of students travelled under the scheme.

Figure E.1 Annual patronage levels (excluding SSTS)



Data source: TfNSW.

The patronage levels are fairly stable over time for most private ferry operators. For two operators, patronage has decreased in recent years, but the historical patronage patterns indicate that this is likely to be temporary. For one operator, the level of patronage has been fairly stable until the last two years when it has increased. We do not consider that this provides strong evidence of an upward trend.

For the Stockton Ferry, we have historical patronage data from 2012, which show that the annual patronage declined slightly in 2013. However, due to the lack of historical data, we do not think this provides a reasonable indication of future patronage patterns.

We did not find strong evidence of an upward or downward trend in patronage for any operator. In our view, the average patronage over the most recent three years (where available) is a reasonable guide to future patronage. Therefore, we used forecast patronage given by an average of the last three years' patronage levels, and assumed the level of patronage to remain constant over the next three years.

F Government payments

Ferry operators may receive a number of different government payments, including:

- School Student Travel Scheme (SSTS): this relates to government payments for services that carry school children. The total SSTS payment is notional and is calculated based on the following formula:

  Semester payment = number of eligible children x single child fare price x 2 x number of school days in semester x average number of days travelled (77% for school children or 75% for TAFE)[65]

- Pensioner Excursion Ticket (PET): these tickets are $2.50 for all day travel. The total government payment[66] relating to PET tickets is calculated based on the following formula:

  Payment = number of PET tickets sold x (2 x full adult ticket - $2.50)

- Concession payments: The total government payment relating to Concession tickets is calculated as follows:

  Payment = number of Concession tickets sold x half the adult ticket price.

- Viability payments: The viability payments are made to certain operators based on consultant advice in 2010. The total amounts are indexed by the change in CPI each year.

65 We have assumed 75% for all as we do not have information on the split between TAFE and school students. This is a conservative assumption.

66 This may include compensation for the cost of purchasing ticket stocks.