

More efficient, more integrated Opal fares

Transport — Final Report
May 2016

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1 | Executive summary

Public transport is essential for a liveable, modern city. It is good for the people who use it – and it benefits the whole community by taking cars off the roads, which means less congestion and cleaner air.

Public transport is also costly. Right now, the efficient cost of providing the rail, bus, ferry and light rail services in Sydney and surrounding areas is \$4.8 billion a year. Fares cover around 25% of these costs; the other 75% is paid for by taxpayers.

While public transport services are becoming more efficient, with the operating costs per trip forecast to fall by around 5% over the next three years, overall efficient costs are continuing to rise as the Government expands and improves services through projects such as the CBD and South-East light rail extension and the Sydney Metro. In 2018-19, efficient costs will rise to around \$5.6 billion a year. We have also found a gap between actual and efficient operating costs of around 15% in 2018-19.

Setting the fares for public transport in this context involves deciding:

- ▼ how to share the efficient costs between the people who use Opal services (customers) and the community (taxpayers)
- ▼ how to share customers' portion of the costs between different groups of customers, such as those who travel long distances versus those who travel short distances, and those who use the services frequently versus those who use them occasionally, and
- ▼ how to encourage both the efficient use and delivery of public transport services so as to get the most benefits from these services for the least cost.

Over the last 12 months, the Independent Pricing and Regulatory Tribunal (IPART) has conducted a major review of public transport fares in Sydney and surrounding areas to examine these and other issues related to setting Opal fares for the 2016 determination period (1 July 2016 to 30 June 2019). We conducted detailed research and analysis, including economic modelling. We also carried out extensive public consultation to understand the range of stakeholder views, and considered these views alongside the findings of our analysis.

This report outlines our objectives and approach for this review, and explains our final fare decisions and recommendations and how these differ from the proposals in our Draft Report. Box 1.1 lists the Opal services covered by our fare decisions.

Box 1.1 Opal services covered by our fare decisions

Our decisions on the maximum fares to apply from July 2016 to June 2019 includes the following Opal services:

- ▼ rail services operated by Sydney Trains and NSW TrainLink Intercity
 - ▼ government and private bus services in Sydney, Newcastle, the Central Coast, Wollongong, the Blue Mountains and the Hunter regions
 - ▼ ferry services operated by Sydney Ferries
 - ▼ light rail services in Sydney, and
 - ▼ the Stockton Ferry in Newcastle.
-

1.1 What were our objectives for this review?

The Minister for Transport and Infrastructure asked us to determine appropriate maximum fares for Opal services and consider options for fare structure reform. The Minister's referral required us to take account of a large number of matters (see Appendix A). We synthesised these matters into six criteria or objectives for our review – that it should result in fares that:

1. encourage the efficient use of public transport
2. promote the efficient delivery of public transport
3. encourage greater use of public transport
4. minimise impacts on customers
5. be logical, predictable and stable over time, and
6. increase farebox revenue or cost recovery.

In making our final determination and recommendations we have developed a package of fares that balances all six criteria. We consider that this package of fares best reflects the costs and benefits of public transport for society as a whole.

1.2 What was our approach for the review?

This review is the first time IPART has looked at fares for all modes at the same time, with Opal in place for all modes. It has given us an opportunity to consider Sydney's public transport system as a whole, how customers currently use this network, and how fares can encourage travel behaviour that maximises the social benefits and minimises the social costs of this system.

To do this, we developed a more sophisticated approach for the review.

Under this approach, we used an economic model to estimate the ‘socially optimal’ fares for single-mode journeys. By definition, these are the fares for each mode that encourage the most efficient use and delivery of Opal services (the first two criteria). They take account of our estimates of:

- ▼ the efficient costs of providing the services
- ▼ the external benefits of generated by use of the services¹
- ▼ the existing and planned capacity of the services
- ▼ how these costs and benefits differ between peak and off-peak periods, and
- ▼ how people are likely to respond to changes in fares.

We also carried out economic analysis and consultation on the aspects of the fare arrangements that were not captured through our socially optimal fares model. We used our findings to identify fares for multi-mode journeys, and improve the efficiency of frequency discounts and daily, weekly and weekend price caps.

We then assessed a wide range of options for transitioning towards the socially optimal fares and efficient arrangements against the six criteria. This led us to develop a proposed package of fares and fare arrangements that balanced these criteria.

We also made draft recommendations on the appropriate Gold Opal fare arrangements.

We set out this proposal in our Draft Report, and sought feedback from customers and other stakeholders, including the NSW Government.

1.3 What have we done since our Draft Report?

We received over 1,200 submissions to our Draft Report. We have considered all these submissions in making our final decisions and recommendations, and made many adjustments to our proposed fare package in response to these submissions. We thank the many stakeholders who contributed their views.

We also received the NSW Government’s policy position which it developed in response to our Draft Report (see Appendix B) and Transport for NSW (TfNSW) advice on the technical limitations the Opal system.

¹ The model used our updated estimates of the external benefits of public transport as key inputs. We reviewed and released a report on these external benefits in 2014, and have considered submissions in response to this report as part of this fare review.

In general, most submissions supported our proposal to make fares for multi-mode journeys more integrated and to remove the 'transfer penalty' (the additional fare paid by people who transfer from one mode to another). However, stakeholders expressed mixed views about our other proposals, with many individuals objecting to changes that would increase the fares they currently pay or decrease the discounts they currently receive.

Overall, the Government's position is that it supports the overall intent of our Draft Report to make changes that deliver a fairer, more efficient and more integrated fares system. TfNSW also advised that our several of our proposals are not feasible in the 2016 determination period due to the technical limitations of the Opal system.

The Government also indicated that it requires flexibility to continue to implement changes to fare structure over this period. Therefore, it requires IPART to regulate maximum Opal fares using a weighted average price cap for the next three years. Under this form of regulation, IPART determines the maximum amount by which average fares can increase (in percentage terms). TfNSW can set individual fares either higher or lower than this amount, provided the average increase across all fares does not exceed it.

To accord with the Government's policy position, we have made:

- ▼ a final decision on maximum average amount by which Adult Opal fares can change in the 2016 determination period
- ▼ final recommendations on Adult Opal fares and fare arrangements, and
- ▼ final recommendations on Gold Opal fare arrangements.

This gives the Government the flexibility it requires to make changes to fare structure. It also sets out our views on the fare levels, fare structure, and fare arrangements that will best balance the objectives for this review and lead to a more efficient and more integrated public transport system.

1.4 Final decision on maximum change in average fares

Our final decision is that on average Adult Opal fares can increase by a maximum of 13% (including inflation) over the 2016 determination period. This means that fares can increase by an average of 4.2% a year (including inflation) over the next three years.

Within this overall cap, we also decided to limit the increase in average fares in 2016-17 to 6.6% including inflation. We also considered whether to place this limit on the second and third years of the determination period. We decided that these limits are not needed because if TfNSW does not put up fares in the first year, then customers pay less in present value terms over the determination period.

We calculated this maximum change in average fares based on the change required to implement our final recommended package of Adult Opal fares and fare arrangements (outlined below). It is our view that this package of fares best balances the objectives for our review and should be implemented by Government.

We note that TfNSW can increase some fares by more than these average amounts, provided that these increases are offset by changes in other fares that are lower than the average.

1.5 Final recommendations on Adult Opal fares and fare arrangements

The amount a customer pays to use Opal services depend on the fare levels, fare structure and other fare arrangements that apply, such as discounts for frequent travel and the daily, weekly and weekend caps. For this reason, we have considered all of these elements together, and developed a package of recommended fares and fare arrangements. As noted above, we consider this package best balances the objectives for the review and will lead to a more efficient and more integrated public transport system.

1.5.1 Fares for single mode journeys

Our recommended fares for single mode journeys for each mode are as shown in Table 1.1 to Table 1.5. They reflect our recommendations on reforms to the structure of these fares, including that:

- ▼ Fares for single mode journeys should continue to vary by mode and distance travelled.
- ▼ In this determination period, distance travelled should continue to be measured as track distance for rail and as a point-to-point straight line for all other modes, distance bands should be harmonised for all modes, and the additional 'CBD increment' for rail journeys should be removed.
- ▼ In the longer term, distance travelled for rail should be measured as a point-to-point straight line to provide consistency across modes and facilitate greater integration across modes.
- ▼ Fares for longer distance journeys should increase relative to those for shorter distance journeys.
- ▼ Peak and off-peak pricing should continue for rail services, and the off-peak discount should increase to 40%. Bus, ferry and light rail services should continue to **not** vary by time of day.

Our recommended fares for single mode journeys are similar to our draft fares. But we have made a series of adjustments in response to stakeholder feedback and other changes we made to our recommended fare package. For example, we have:

- ▼ Calculated rail fares based on track distance and adjusted the distance bands for rail journeys over 35 km to manage impacts on rail customers.
- ▼ Increased all single mode fares slightly to offset the revenue loss resulting from changes we made to our recommended discounts for frequent travel.
- ▼ Limited the **maximum** fare increase for any individual single mode fare to:
 - 14% in the first year (down from a maximum of 37% in our Draft Report), and
 - 41% over three years (down from a maximum of 72% in our draft).

1.5.2 Fares for multi-mode journeys

Our recommendation is that to improve fairness for customers who use two or more modes to complete a journey, the fares for multi-mode journeys should include a transfer rebate.

This recommendation differs from our draft proposal, which was to set a separate fare schedule for multi-mode journeys and calculate these fares in the same way as those for multi-trip single mode journeys – that is, as if they were single trips. TfNSW advised us that this proposal could not be implemented in the next three years due to technical constraints. Therefore, we developed an alternative approach which we consider to be a good option that can be implemented in the short term.

Our recommendation is that the transfer rebate be set equal to our lowest recommended Adult fare for single mode journeys – that is \$2.00 in 2016-17, \$2.01 in 2017-18 and 2018-19.

1.5.3 Discounts for frequent travel

Under the existing Opal Travel Rewards scheme, customers pay for the first eight journeys they take in a week, and then get free travel for the remainder of the week. In the past year, \$150 million worth of free journeys were made as a result of this scheme.

Our analysis shows that the Travel Rewards scheme leads to inefficient outcomes. In particular, it creates incentives that result in suboptimal travel behaviour and inefficient use of the transport network. In our Draft Report, we proposed an alternative weekly travel credit scheme to reduce these inefficiencies. Under this alternative scheme, customers would pay for their 10 most expensive journeys in the week (up to the weekly cap), and only additional cheaper journeys would be free of charge.

Requiring customers to be paying for the ten most expensive journeys in a week remains our preferred approach for reducing the inefficiencies of the current weekly rewards scheme, while also mitigating the impact of price increases for frequent users. However, TfNSW advised us that such a scheme cannot be implemented for the 2016 determination period, due to technical constraints.

In light of this advice, we are instead recommending a change to the existing Travel Rewards scheme that would still improve its efficiency. In particular, we are recommending that when customers have paid for eight journeys in a week, they receive a 50% discount on the fare for their ninth and subsequent journeys in that week. In arriving at our recommended 50% discount level, we took into account stakeholder feedback on our draft proposal and the impact of our final recommendations on commuters and other customers.

1.5.4 Weekday and weekly caps

Like the existing Travel Rewards scheme, the weekday and weekly caps help limit frequent customers' weekly spend on public transport.

In our Draft Report, we recommended that the weekday and weekly caps be retained, but that they should be increased. A number of submissions expressed concern over the impacts on their public transport spend under the draft proposal, in part as a result of the higher weekday and weekly caps. Our final recommendations on weekday caps remain unchanged from the draft proposal, but we are recommending slightly smaller increases to the weekly caps. In combination with a range of other changes in the final recommendations, the lower weekly caps help limit the impact of price increases for frequent customers.

Our final recommendations are that:

- ▼ the Adult Opal weekday cap be raised from the current \$15 to \$18 in 2016-17, and then to \$20 by 2018-19
- ▼ the Adult Opal weekly cap be raised from the current \$60 to \$64 in 2016-17, and then to \$72 by 2018-19, and
- ▼ the weekday and weekly caps for Concession and Child/Youth remain 50% of the adult caps.

1.5.5 Weekend caps

In our Draft Report we recommended to increase the Sunday cap, but to different levels depending on the Opal card type. We also recommended that these caps apply to travel on Saturdays as well. Our draft recommendations were that in 2016-17, the Saturday and Sunday caps be set to \$7.20 for Adult Opal, \$5.40 for Concession Opal, and \$3.60 for Child/Youth Opal. The primary reason for our draft recommendations was to spread demand for public transport more evenly between Saturday and Sunday.

Our final recommendations on weekend caps remain largely unchanged from our draft proposal. However, we are recommending that the weekend cap for Concession Opal be set to the same as that for Child/Youth Opal, to be consistent with current Government policy on single fares, weekday and weekly caps for Child/Youth/Concession Opal.

In response to feedback from stakeholders, we are also recommending that the Government reinstate the 'Family Fare Deal' for Opal customers, so that travelling families only be required to pay for the first child, with additional children travel for free.

Finally, we are recommending that the weekend caps also apply on public holidays, since travel behaviour and transport timetables on public holidays are likely to be similar to that on the weekend.

1.6 Final recommendations on Gold Opal fare arrangements

Public transport schemes often provide concession pricing for children, students, economically disadvantaged and older people. While concession fare pricing is usually outside the scope of IPART's fare reviews, the Minister's referral for this review specifically asked us to consider "whether current concession arrangements for peak and off-peak travel support the optimal use of the network".

Our draft recommendation was that the Gold Opal cap be linked to the level of other daily caps so the relativities are maintained over time. Specifically, we recommended this cap be set at 20% of the daily adult cap (or 40% of the daily concession cap). Given our draft recommendations on the adult cap, this would have resulted in a Gold Opal daily cap of \$3.60 from 1 July 2016, rising to \$3.80 from July 2017 and \$4.00 from July 2018.

We also made a draft recommendation that Seniors Card holders who do not also hold a pensioner concession or NSW war widow/ers card should be eligible for a Concession Opal card, rather than a Gold Opal. With a Concession Opal, they would continue to receive half-price concession **fares**, but would have a higher daily **cap** than Gold Opal customers. The Concession Opal cap is half the level of the Adult Opal cap.

After considering stakeholder comments, we decided to maintain our recommendations on increasing the Gold Opal Daily cap from \$2.50 to \$3.60 for 2016-17, and thereafter set it at 40% of the Concession Opal weekday cap. We consider that this would be an affordable increase given that the cap has not increased for 11 years while pensions have increased by 74% over this period.

We also decided to change our recommendation on the eligibility arrangements for Gold Opal. Our final recommendation is that Gold Opal continue to be available to all holders of a Seniors Card. However, we also recommend that Government review the eligibility arrangements for the Seniors Card, so that the benefits of the card are better targeted towards people who most need them.

1.7 Impacts on customers

The impacts of our final determination on customers will vary, depending on how TfNSW decides to set individual fares within the weighted average price cap of 13% over the determination period. Some fares may increase, while other may decrease, provided the overall average change in prices is less than this cap.

We have modelled the impact on customers using our recommended fare package. The impacts on customers would vary depending on which modes they use, how far they travel and how frequently they travel. In 2016-17:

- ▼ Almost all individual multi-modal journey fares under our recommended fare package would be cheaper than they currently are, although more expensive than in our draft fare recommendations.
- ▼ Around 40% of single-mode customers would pay less than they currently pay – many of these customers are off-peak rail customers.
- ▼ 97% of single mode customers travelling up to 10 times a week would pay a maximum of 20% more than they currently pay. Those travelling more than 10 times a week would face increases greater than 20% - these customers make up around 14% of single mode customers.

By 2018-19 (after the effect of inflation has been removed):

- ▼ Around half of rail customers would be paying less than they are paying now.
- ▼ Around 20% of ferry customers, and around 10% of bus customers would pay less than they are currently paying.

1.8 Impacts on cost recovery

Under our final recommendations, cost recovery would fall slightly over the determination period, even if efficiency savings are made. This is because efficient costs are expected to increase significantly over the determination period – by around 5%² per year – mainly due to planned capital investment for the Sydney Metro Northwest and the CBD and South-East Light Rail extension (CSELR). However, revenue would increase by less than this, by 3.7% per year.

² Excluding the effect of inflation.

1.9 Structure of this report

The rest of this report explains our review and final decisions and recommendations in more detail:

- ▼ Chapter 2 outlines the key themes that emerged from our stakeholder consultation, the Government's policy position, and how we responded in making our final decisions and recommendations
- ▼ Chapter 3 explains the objectives for our review and the approach we used to develop our final decisions and recommendations
- ▼ Chapter 4 discusses our final recommendations on single mode fares including information on our recommended fare bands by mode, peak and off-peak pricing and how distance should be measured
- ▼ Chapter 5 discusses our final recommendations on multi-mode fares and why fares should be more integrated
- ▼ Chapters 6 to 9 explain our final recommendations on discounts for frequent travel, daily and weekly caps, weekend travel arrangements, and Gold Opal arrangements
- ▼ Chapter 10 discusses our final decision on the maximum average fare increase
- ▼ Chapter 11 outlines the impacts of our final decisions and recommendations on fare revenue, patronage and cost recovery
- ▼ Chapter 12 discusses the impacts of our final recommendations on customers.

We have also released a range of Final Information Papers that provide further analysis supporting our recommendations and final decisions:

- ▼ Information Paper 1 Weekday peak and off-peak fares
- ▼ Information Paper 2 Cost recovery
- ▼ Information Paper 3 Total Factor Productivity
- ▼ Information Paper 4 Socially optimal consumption and prices
- ▼ Information Paper 5 Medium run financial costs
- ▼ Information Paper 6 Long run marginal social costs
- ▼ Information Paper 7 External benefits and costs
- ▼ Information Paper 8 Public transport fare optimisation model
- ▼ Information Paper 9 Elasticities
- ▼ Information Paper 10 Weighted Average Cost of Capital (WACC)

These papers are available at www.ipart.nsw.gov.au.

1.10 What this review did not cover

This review did not consider the following matters, which are determined by the NSW Government and not covered by our referral:

- ▼ The airport station access fee. Currently people entering or exiting the rail network at either of the Sydney Airport stations are charged a station access fee. This fee is set by the company that operates the airport stations under a contract with RailCorp.
- ▼ The public transport network and timetable – including network coverage, service frequency and proposed changes to services. Transport planning decisions are made by TfNSW.
- ▼ Fares for regular private ferry services provided under contract to TfNSW in the Sydney, Central Coast and North Coast areas of NSW. IPART annually makes recommendations on maximum fares to TfNSW³.

1.11 List of final decisions and recommendations

Final decisions

- | | | |
|---|--|----|
| 1 | The maximum change in the average fare over the determination period is 13% including the effect of inflation. | 85 |
| 2 | The maximum change in the average fare in 2016-17 is 6.6% including the effect of inflation. | 85 |

Final recommendations

- | | | |
|---|---|----|
| 1 | Maximum Adult Opal fares for single mode journeys be set as shown in Tables 1.1 to 1.5. | 36 |
|---|---|----|

³ See our Final Report on Review of maximum fares for private ferry operators, December 2015.

Table 1.1 Adult Opal maximum fares – single rail journeys in peak periods (\$ nominal includes GST)

Current distance bands	Current fares	Distance bands	Fares from		
Route distance (km)	2015	Route distance (km)	July 2016	July 2017	July 2018
0-10	3.38	0 to less than 3	3.34	3.35	3.36
		3 to less than 8	3.60	3.66	3.71
10-20	4.20	8 to less than 15	3.69	3.97	4.25
20-35	4.82	15 to less than 25	4.48	4.74	5.01
		25 to less than 35	5.11	5.51	5.90
35-65	6.46	35 to less than 45	6.30	6.55	6.79
		45 to less than 55	6.55	7.12	7.69
		55 to less than 65	6.89	7.73	8.58
65+	8.30	65 to less than 85	8.30	9.11	9.92
		85+	9.50	10.60	11.70

Note: Current fares apply to current distance bands.

Table 1.2 Adult Opal maximum fares – single rail journeys in off-peak periods (\$ nominal includes GST)

Current distance bands	Current fares	Distance bands	Fares from		
Route distance (km)	2015	Route distance (km)	July 2016	July 2017	July 2018
0-10	2.36	0 to less than 3	2.00	2.01	2.01
		3 to less than 8	2.16	2.19	2.23
10-20	2.94	8 to less than 15	2.21	2.38	2.55
20-35	3.37	15 to less than 25	2.69	2.85	3.01
		25 to less than 35	3.07	3.30	3.54
35-65	4.52	35 to less than 45	3.78	3.93	4.08
		45 to less than 55	3.93	4.27	4.61
		55 to less than 65	4.13	4.64	5.15
65+	5.81	65 to less than 85	4.98	5.46	5.95
		85+	5.70	6.36	7.02

Table 1.3 Adult Opal maximum fares – single bus and light rail journeys (\$ nominal includes GST)

Distance bands Longest straight-line distance between any tap on and tap off points (km)	Current fares	Fares from		
	2015	July 2016	July 2017	July 2018
0 to less than 3	2.10	2.12	2.28	2.44
3 to less than 8	3.50	3.52	3.81	4.10
8 to less than 15	4.50	4.50	4.60	4.70
15 to less than 25	4.50	4.69	4.97	5.25
25 and over	4.50	4.80	5.20	5.60

Table 1.4 Adult Opal maximum fares – single Sydney Ferries journeys (\$ nominal includes GST)

Distance bands Longest straight-line distance between any tap on and tap off points (km)	Current fares	Fares from		
	2015	July 2016	July 2017	July 2018
0 to less than 3	5.74	5.74	5.74	5.74
3 to less than 8	5.74	6.00	6.33	6.66
8 to less than 15	7.18	7.18	7.61	8.03
15 and over	7.18	7.90	8.94	9.98

Table 1.5 Adult Opal maximum fares – single Stockton Ferry journeys (\$ nominal includes GST)

Journey distance (km)	Current fares	Fares from		
	2015	July 2016	July 2017	July 2018
0 to less than 1	2.10	2.12	2.28	2.44

- 2 Maximum Adult Opal fares continue to vary by mode and distance travelled. 37
- 3 In this determination period: 40
 - distance travelled continue to be measured as track distance for rail and a point-to-point straight line for all other modes 40
 - distance bands be harmonised for all modes, and set as shown in Tables 4.1 to 4.5, and 40
 - the ‘CBD increment’ that adds extra notional distance to the distance travelled for rail trips that start or finish in the CBD be removed. 40

4	In the longer term, distance travelled should be measured as a point-to-point straight line for rail to increase fare integration.	40
5	Peak and off-peak pricing continue for rail, and the off-peak discount be increased to 40%.	45
6	Bus, ferry and light rail fares continue not to vary by time of day.	45
7	TfNSW collect and publish information on load statistics for buses and light rail in the same way that it currently does for rail and ferries.	45
8	The premium on single use or paper tickets be 20%, rounded to the nearest 10 cents.	47
9	Multi-mode fares should receive a transfer rebate set to the lowest full Adult fare. In 2016-17, the transfer rebate would be \$2.00, rising to \$2.01 in 2017-18 and 2018-19.	49
10	The travel reward scheme be amended to provide a 50% discount on all travel after the eighth journey, rather than 100% discount.	54
11	Flexibility be added to the Opal system as soon as possible to permit more efficient discounting arrangements for frequent travel, similar to IPART's draft proposal to require customers to pay for their ten most expensive journeys in the week.	54
12	Weekday caps for Adult Opal fares be set at:	61
	– \$18 in 2016-17	61
	– \$19 in 2017-18	61
	– \$20 in 2018-19.	61
13	Weekly caps for Adult Opal fares be set at:	61
	– \$64 in 2016-17	61
	– \$68 in 2017-18	61
	– \$72 in 2018-19.	61
14	Weekday and weekly caps for Concession and Child/Youth Opal fares be set at 50% of the adult daily and weekly caps, consistent with current Government policy.	62
15	Adult Opal weekend caps to apply on Saturdays and Sundays be set to 40% of the recommended Adult Opal weekday caps:	65
	– \$7.20 in 2016-17	65
	– \$7.60 in 2017-18	65

– \$8.00 in 2018-19.	65
16 Concession and child/youth Opal weekend caps be set to 50% of the adult Opal weekend caps, consistent with existing concession and child/youth fares, weekday and weekly caps.	65
17 Opal weekend caps be extended to also apply on public holidays.	65
18 Travelling families be required to pay for first child, and additional children be permitted to travel for free.	65
19 The level of the Opal weekend caps be kept under review during the determination period, to assess whether customers respond as intended and demand is spread more evenly between Saturday and Sunday.	65
20 The Gold Opal daily cap be set at 40% of the Concession Opal weekday cap (\$3.60 for 2016-17, \$3.80 for 2017-18 and \$4.00 for 2018-19).	72
21 If Seniors Card holders continue to be eligible for Gold Opal, the Government should review the eligibility arrangements for the Seniors Card, so that the benefits of the card are better targeted towards people who most need them.	72
22 That IPART works with TfNSW to develop a standard set of regulatory accounts for each mode that can be updated annually.	92

Finding

1 Under our final recommendations, fares will continue to cover around 25% of efficient costs, with taxpayers funding the remaining 75%.	90
2 The operation of public transport services is becoming more efficient, with the operating costs per trip forecast to fall by around 5% over the over the period 2015-16 to 2018-19.	94
3 The gap between actual and efficient operating costs is around 15% by 2018-19.	94

2 | Key themes from consultation

Public transport in Sydney and surrounding areas plays an important role in many people's lives, as well as the functioning of the economy and society in general. Therefore, many individuals and organisations have a stake in public transport fares, opinions on how they should be structured, and concerns about how changes will affect them and the broader society.

In conducting this review, we undertook extensive public consultation to understand the range of stakeholder views, and considered these views alongside our research and analysis. As the first step in our consultation process, we released an issues paper in July 2015 that focused mainly on options for fare structure reform. In September 2015, we released a methodology paper that explained how we proposed to calculate fares in our determination. In both papers, we sought comment from interested parties, and we received over 100 submissions in response.

We also held a public hearing to provide a further opportunity for stakeholders to make comments on both areas of this review. And we engaged a consultant to survey a representative sample of public transport users about their attitudes and responses to fares and fare structure.

In December 2015, we released a Draft Report that set out our draft findings and recommendations on fares, outlined the analysis that supported them, and sought comment from interested parties. We received over 1,200 submissions to this report.

While stakeholder perspectives varied, a number of key themes emerged from these consultations, including that:

- ▼ fares for different modes of transport need to be more integrated and the penalty for switching modes removed
- ▼ fares should encourage greater public transport use and discourage private vehicle use above other objectives
- ▼ fares and fare structure need to be fair and changes should not disadvantage any customer group
- ▼ fare increases need to be affordable and should not disadvantage any customer group, and
- ▼ the current benefits of Gold Opal are highly valued by pensioners and retirees and should not be changed.

We considered all these themes in making our final determination and recommendations – and we thank the many stakeholders who contributed their views. We also considered the NSW Government’s advice on its policy position (see Appendix B) and the technical limitations of the Opal system, which we received after releasing our Draft Report. We also received comments from several stakeholders on the operation of Opal cards.

The sections below discuss each theme and the Government’s policy position, and outline how we responded in making our final decisions.

2.1 Fares for different modes of transport need to be more integrated

Integration refers to the way fares for journeys on different modes, over different distances, or with multiple component trips relate to each other. Currently, the level of fare integration is limited. Customers who travel the same distance by a single mode of transport pay different fares, depending on that mode. For example, a 5 km bus fare is different to a 5 km rail fare.

In addition, customers who make multi-trip journeys of the same distance pay different fares depending on whether or not they transfer between modes. If they use one mode – for example, they transfer from one bus service to another – the whole journey is charged as if it was one trip from origin to destination. However, if they use multiple modes – such as transferring from a bus service to rail – the trips are charged independently, resulting in a higher fare.⁴

Throughout our consultations, stakeholders put the view that fares for different modes of transport need to be more integrated. In response to our Issues Paper, many stakeholders argued in favour of more integrated fares for reasons of fairness, equity,⁵ efficiency,⁶ or simplicity.⁷

⁴ But all multi-trip journeys, whether they are single mode or multi-mode, are counted as a single journey for the purpose of qualifying for the frequency discount (free travel after eight paid journeys within the week)

⁵ For example, see Action for Public Transport (NSW) submission to Issues Paper, p 2; Individual - Carroll submission to Issues Paper, p 2; NCOSS submission to Issues Paper, p 3; NSW Greens submission to Issues Paper, p 2; Individual - Swayn submission to Issues Paper, p 1; Individual - Thackray submission to Issues Paper, p 1; Individual - Zagami submission to Issues Paper, p 1.

⁶ For example, see Anonymous (W15/3738) submission to Issues Paper, p 1; BOC submission to Issues Paper, p 2; City of Sydney submission to Issues Paper, pp 2-3; Connect Macquarie Park + North Ryde submission to Issues Paper, pp 2-3; Infrastructure Partnerships Australia submission to Issues Paper, p 4; NRMA submission to Issues Paper, p 2.

⁷ For example, see Individual - Banyard submission to Issues Paper, p 5; BOC submission to Issues Paper, p 2; City of Sydney submission to Issues Paper, pp 2-3; Connect Macquarie Park + North Ryde submission to Issues Paper, p 2; Individual - Deer submission to Issues Paper, p 1; Sharples submission to Issues Paper, p 3.

In particular, many stakeholders strongly support change to remove the ‘transfer penalty’ – the additional fare paid by people who transfer from a bus to a train, for example.⁸ As future expansions of the network (such as the Sydney Metro and the George Street light rail) come on line, more people will need to switch modes to complete their journey.

IPART agrees that fares need to be more integrated to improve the fairness of the fare structure for customers who use two or more modes to complete a journey. In our Draft Report we argued that there should be a separate fare schedule for multi-mode journeys to allow the fares to be calculated in the same way as those for multi-trip journeys on a single mode – that is, as if they were single trips. Several stakeholders supported this draft recommendation.⁹

However, in response to our Draft Report, TfNSW advised that our draft multi-mode fare schedule cannot be implemented within the determination period due to the technical limitations of the Opal system. Therefore, we are recommending an alternative way to reduce the transfer penalty.

Specifically, we are recommending the Government introduce a ‘transfer rebate’ that is applied when a customer transfers to a different mode within a single journey. Our recommended rebate is equal to the lowest Opal Adult fare (\$2.00 in 2016-17 increasing to \$2.01 in 2018-19). It is deducted from the fare for the second trip **after** the customer transfers to a different mode, and from the fares for any subsequent trips within that multi-mode journey. (For example, if a customer travels by bus, then rail, then bus again, the rebate would apply to the rail trip and the second bus trip.)

Our recommended transfer rebate will only partly integrate fares for multi-trip journeys taken on different modes. However, it can be implemented within the determination period. Further information on our final recommendations on multi-mode fares are provided in Chapter 5.

⁸ For example, see Individual – Y Garrett submission to Draft Report, p 1; Individual – Anonymous (W15/5218) submission to Draft Report, p 1; Individual – Anonymous (W16/147) submission to Draft Report, p 1.

⁹ See for example, Action for Public Transport submission to Draft Report, p 1; NCOSS submission to Draft Report, p 7.

2.2 Fares should encourage greater public transport use and discourage private vehicle use

Submissions suggest that many stakeholders believe that greater public transport use is an end goal in its own right, and should be prioritised over the other objectives for this review. For example, in response to our Draft Report, many stakeholders argued that our recommended fares would discourage people from using public transport and therefore result in more private vehicle use, greater road congestion and more road accidents.¹⁰

One stakeholder argued that cheaper fares would attract more patronage and that this would in turn lead to an increase in revenue from public transport fares.¹¹ Another stakeholder argued for free public transport.¹²

Some stakeholders also made these arguments specifically about Sunday travel, noting that under our draft weekend caps, private vehicle use would be a more attractive option than public transport, particular for families.¹³

IPART does not agree that greater public transport use is an end goal in its own right, or should be prioritised above other objectives. In our view, the key challenge for this review was to balance a number of competing objectives. As our Draft Report discussed, we consider that our fare recommendations should result in fares that meet six criteria, of which encouraging greater use of public transport is just one. For example, it is also important that fares:

- ▼ encourage **efficient** use of public transport
- ▼ promote **efficient** delivery of public transport, and
- ▼ **increase** farebox revenue or cost recovery.

Chapter 3 contains the full list of criteria and more information about the approach we have used to develop our fare recommendations. We emphasise that this approach – particularly the model we used to estimate the **socially optimal fares** – takes into account how fares influence people’s decisions to use private cars versus public transport, and the impacts on congestion when public transport fares are increased or decreased.¹⁴

¹⁰ See for example, The NSW and Hunter Commuter Council submission to Draft Report, p 1; Blue Mountains City Council submission to Draft Report, p1; Individual – Anonymous (W15/5289) submission to Draft Report p 1.

¹¹ Individual – K Ireland submission to Draft Report, p 1.

¹² Individual – P Georgiades submission to Draft Report, p 1.

¹³ For example, see Individual – D Behan submission to Draft Report, p 1; Individual – Anonymous (W15/5247) submission to Draft Report, p 1.

¹⁴ The model also takes into account other factors including the existing and planned public transport capacity, the current utilisation of this capacity, and taxpayer subsidisation of public transport.

Appendix D contains more information on our estimates of the socially optimal fares. In our view, pursuing greater public transport use at the expense of other objectives – by setting fares **below** the socially optimal level or making public transport free – would not result in socially optimal outcomes. Instead, it would lead to:

- ▼ excessive crowding on public transport
- ▼ underutilisation of existing and planned road capacity, and
- ▼ excessive public transport operating losses, which would then need to be funded from taxation.

Similarly, setting fares **above** the socially optimal level would lead to excessive use of private cars and underutilisation of existing and planned public transport capacity, leading to higher external costs associated with road congestion, emissions and road accidents. Our final recommendations seek to avoid both these two effects, and to balance the six criteria for our review.

In response to stakeholder concerns about the impact of our draft recommendations on weekend public transport fares, we have reconsidered this issue. We are now recommending that the Government consider reinstating its previous policy on weekend travel arrangements for families. Under this policy, an adult travelling with children pays for one child only, and any additional children travel for free. Chapter 8 contains more information on our recommended weekend travel arrangements.

2.3 Fares should be fair and fare changes should not disadvantage any customer group

Fairness was a strong theme in many submissions to our Draft Report. As discussed above, many stakeholders considered that the current penalty for switching modes is unfair, and supported our proposed changes to multi-mode fares.

However, many stakeholders also said other proposed changes to fare structure were unfair, largely because they would be disadvantaged by the changes. For example, some stakeholders opposed our proposed changes to:

- ▼ the weekly travel rewards¹⁵
- ▼ the relativity between fares for short, medium and long distances¹⁶, and
- ▼ how distance is measured across modes.¹⁷

¹⁵ Individual – S Khanna submission to Draft Report, p 1; Individual – Anonymous (W15/5218) submission to Draft Report, p1; Individual – M Truong submission to Draft Report, p 1.

¹⁶ Individual – Anonymous (W16/153) submission to Draft Report, p 1; Individual – K Robb submission to Draft Report, p 1.

¹⁷ Individual – Anonymous (W16/811) submission to Draft Report, p 1.

In our view, it is important that fares help to pay for an expanding public transport system in a way that is fair to those who use a lot of public transport, those who use it occasionally, and those who never use it at all (ie, NSW taxpayers as a whole). We maintain that the appropriate goal for this review is to develop a package of fares that balances the six criteria discussed above – and thus leads to optimal benefits for society as a whole. It is not possible to meet this goal without increasing fares for some customers and decreasing fares for others.

2.3.1 Weekly travel rewards

Some stakeholders agreed with our view that the current weekly travel reward arrangements – where customers travel for free after they pay for eight journeys in a week – creates a perverse incentive for people to take short unnecessary journeys early in the week.¹⁸ However, most of these stakeholders also argued against our proposed change to address this incentive – where customers pay for their 10 most expensive journeys and travel for free on their additional journeys in a week.

For example, these stakeholders said our proposed change would unfairly punish honest customers – ie, those who don't make short trips early in the week.¹⁹ Others argued that there was nothing wrong with taking short trips early in the week and that the previous Minister for Transport had encouraged people to 'beat the system'.²⁰

In addition, some stakeholders believe those who use public transport more regularly should not be punished.²¹

While our proposed change was intended to remove the perverse incentive to take short journeys early in the week, it was also intended to ensure that customers who use the Opal system more pay their fair share of the costs of the system. We maintain that customers who use the Opal system frequently should contribute more towards these costs than those who use the system infrequently.

¹⁸ See for example, Anonymous (W15/5309) submission to Draft Report, p1; Individual – I Arifin submission to Draft Report, p 1. We note that on 21 March Government announced that it closed a previous loophole in the Opal system where some people were running, cycling, driving or even roller-skating between train stations or light rail stops to tap on and off, earning free travel for the week after only paying around \$18.00. TfNSW, Media Release - Opal runners tapped out for a fairer system, 21 March 2016, Available from <http://www.transport.nsw.gov.au/media-releases/opal-runners-tapped-out-fairer-system>, Accessed 27 April 2016.

¹⁹ Individual - Anonymous (W16/199) submission to Draft Report, p 1; Individual – J Nolan submission to Draft Report, p 1.

²⁰ See for example, Individual – Anonymous (W16/194, W16/21) submissions to Draft Report, p 1.

²¹ For example, see Individual – Anonymous (W15/5334) submission to Draft Report, p 2.

Our final recommendation – which is that customers receive a 50% fare discount after they have paid for eight journeys in a week – seeks to achieve this while also balancing impacts on customers. Chapter 6 contains further information on our final recommendations on weekly travel arrangements.

2.3.2 Relativity between fares for short and long distances

Some stakeholders said our proposed new fare structure is unfair to customers travelling 35 km to 65 km on rail.²² One argued that our proposed fares penalised people who live outside of Sydney.²³

As noted above, we maintain that customers who use the system more should pay more. This includes customers who take longer journeys paying more than those who take shorter journeys. This is consistent with our optimal fares analysis which indicates that fares for all modes should increase with distance travelled.

However, we agree that setting fares at optimal levels would have had large impacts on customers who travel longer distances. Therefore, our final recommendation is to set fares for longer distances below the optimal levels to reduce impacts on these customers. We are also recommending daily and weekly caps that will further limit impacts on these customers. Chapters 4 and 7 contain more information on our recommended fares for journeys of different distances and our daily and weekly cap arrangements.

2.3.3 How distance is measured across modes

Currently, Opal fares vary based on the distance travelled from origin to destination. There is a range of ‘distance bands’, and fares increase as the distance travelled falls into a higher band. However, both the distance bands and the way the distance travelled is measured differ across modes. Distance travelled is measured as a point-to-point straight line for bus, light rail and ferry, but by track distance for rail.

In our Draft Report, we argued that fares should continue to vary based on the distance travelled, but that the distance bands and the way distance travelled is measured should be the same for all modes and journeys to increase the level of fare integration.

²² For example Individual – Anonymous (W16/153, W16/13) submissions to Draft Report, p 1.

²³ Individual – E Jarrett submission to Draft Report, p 1.

While most stakeholders supported increased fare integration, some stakeholders argued against changing the way distance is measured for rail.²⁴ One stakeholder said measuring this distance as a straight line is unfair, because it would mean that commuters to the city from Mortdale and Cronulla would pay the same price even though journey from Cronulla is significantly longer.²⁵

We have reconsidered how distance should be measured for rail. In the long-term, we consider that fares should be more integrated and so rail distances should be measured in the same way as bus, ferry and light rail distances – that is, as a point-to-point straight line. However, we note that this change would result in some significant changes for different customers. On balance we are recommending that rail distances continue to be measured as the track distance for this period. Chapter 4 contains more information on this final recommendation.

2.4 Fare increases should be affordable and not disadvantage any customer group

Many stakeholders argued that our draft package of fares would result in fare increases that are unaffordable, particularly for people travelling more than eight times a week and those travelling longer distances.²⁶ They also argued that the increases are substantially higher than the impacts of other major policy changes, such as the impact of the carbon tax on energy bills.²⁷

Many of these submissions focused on the larger increases that would affect people that make more than eight journeys a week. For example, the NRMA noted that in some areas, commuters would face an increase of 48% on their weekly commuting costs in the first year, and up to 67% over the review period.²⁸

Others focused on how impacts vary across different parts of Sydney and surrounds. For example, the NSW and Hunter Commuter Council expressed concern about the larger impacts on customers who live in outer urban areas (which stem from our proposed change in the relativity between fares for long and short distances, discussed above). They argued that these customers are already disadvantaged compared to those in inner suburbs, due to few employment opportunities.²⁹

²⁴ See for example, Anonymous (W16/460, W16/853) submissions to Draft Report, p 1.

²⁵ Individual – Anonymous (W15/5266) submission to Draft Report, p 1.

²⁶ See for example, Action for Public Transport submission to Draft Report, p 2; Anonymous (W16/347) submission to Draft Report, p 1; Individual – J Lawson submission to Draft Report, p 1; Anonymous (W16/843, W16/3, W16/577) submissions to Draft Report, p 1.

²⁷ NRMA submission to Draft Report, p 4.

²⁸ NRMA submission to Draft Report, p 2. See also, Anonymous (W15/5241) submission to Draft Report, p1; Anonymous (W15/5192) submission to Draft Report, p 1; M Faruqi Greens Member of NSW Legislative Council, submission to Draft Report p 2.

²⁹ NSW and Hunter Commuter Council submission to Draft Report, p 1.

NCOSS argued that the increases proposed in our Draft Report are significantly higher than those we have put forward in recent years.³⁰ NRMA argued that some of the hardest hit would be Monday-to-Friday commuters in Sydney's outer suburbs, with increases of \$18.44 per week in Toongabbie, Warwick Farm and Engadine; \$13.80 in Punchbowl; and \$13.32 in Penrith and Richmond.³¹

We have considered stakeholder comments on affordability and in response we are recommending a final package of fares that reduces the large increases in fares that a small proportion of customers faced under our Draft Report. In particular, we are recommending a package of single fares, weekly travel arrangements, daily and weekly caps that limit the maximum increase in fares for a customer making 10 peak journeys in a week.

Further information on the customer impacts of our recommended fare package is contained in Chapter 12.

2.5 Gold Opal benefits should not change

We received the highest number of comments on our proposed changes to the concession arrangements for Gold Opal cards. Most of these comments objected to the changes, and said they were unfair and unaffordable.³²

One of the proposed changes was to set the daily cap for Gold Opal customers at 40% of the cap for Concession Opal. This would result in Gold Opal customers paying a maximum of \$3.60 in fares a day in 2016-17, compared to the current cap of \$2.50 which has applied for the last 11 years.

Some submissions from pensioners said they could not afford a \$1.10 increase in the daily cap, or that it was unfair to increase the cap by so much all at once.³³ Other submitters, including groups representing seniors and pensioners, said some increase from \$2.50 was fair, but \$3.60 was too much for financially vulnerable pensioners.³⁴ Other submitters said that a \$3.60 cap was acceptable, as long as it applied to seniors as well as pensioners.³⁵

³⁰ NCOSS submission to Draft Report, p 4.

³¹ NRMA submission to Draft Report, p 4.

³² For example, Individual - L Eames- submission to Draft Report, p 1; Individual - P Kavanagh submission to Draft Report, p 1; Individual - K Tham submission to Draft Report, p 1; Individual - D Lloyd submission to the Draft Report, p 1.

³³ For example, Individual - A Phu - submission to Draft Report, p 1; Individual - R Stinson, submission to Draft Report, p 1; Anonymous submissions to Draft Report (W16/770, W16/33), p 1.

³⁴ See for example, Individual - N Mancar - submission to Draft Report p1; Anonymous (W16/39) submission to Draft Report, p 1.

³⁵ See for example, Individual - H Rolfe submission to Draft Report, p 1; Individual - D Lees submission to Draft Report, p 1; Individual - Anonymous (W16/150) submission to Draft Report, p 1.

The other proposed change was to make Seniors Card holders (primarily self-funded retirees) eligible for a Concession Opal rather than a Gold Opal. This change would mean these customers continue to pay half the adult fare, but their daily fare cap would increase to \$9.

A large number of self-funded retirees submitted that they had worked hard, paid taxes and weren't a burden on the Government, and therefore it wasn't fair to deny them a Gold Opal card.³⁶ Others said that they were as economically disadvantaged as pensioners, and therefore needed a Gold Opal card.³⁷

Some submissions also argued increasing the daily cap for Seniors Card holders to \$9 would lead to detrimental impacts on road congestion and accidents, the economy and seniors' well-being.³⁸

We have considered stakeholders' comments, and maintain our view that the Gold Opal daily cap should be increased, and be linked to the Concession Opal daily cap so that the relativity between it and other concession caps are maintained over time. In our view, our recommended increases in this cap over the determination period are affordable, given that the cap has not increased at all for the past 11 years while pensions have increased by 74% over this period.³⁹ We highlight that under our recommendation the daily cap – **not fares** – for Gold Opal customers would increase by \$1.10 (or 44%). Not all Gold Opal customers would experience the maximum possible impact.

We also continue to consider that Seniors Card holders should be eligible for the Concession Opal rather than the Gold Opal. However, in light of strong stakeholder opposition, we are recommending that if Seniors Card holders continue to be eligible for the Gold Opal, the Government consider reviewing the eligibility arrangements for the Seniors Card.

Further information on our recommended changes concession arrangements is provided in Chapter 9.

³⁶ See for example, Individual – J Corkery submission to Draft Report, p 1; Individual – R Stormont submission to Draft Report, p 1; Individual – K Hartley submission to Draft Report, p 1.

³⁷ See for example, Individual – R Walters submission to Draft Report p 1; Anonymous (W16/100, W16/23) submissions to Draft Report p 1.

³⁸ See for example, Individual – J Collins submission to Draft Report, p 1; Individual – M Maguire submission to Draft Report, p 1; Individual – I Parkin submission to Draft Report, p 1; Individual – B Willis submission to Draft Report, p 1.

³⁹ DSS Maximum Basic Rates of Pension – July 1909 to Present Date: 20/9/2004 \$11,793.60; 20/9/2015 \$20,498.40. Accessed 8/3/16 <http://guides.dss.gov.au/guide-social-security-law/5/2/2/10>

2.6 Government's policy position

The Minister's referral for this review (see Appendix A) requires us to consider the NSW Government's announced policy position on fare structure and the technical limitations of the Opal system. The Government developed its policy position after considering our Draft Report, and advised us of this position in April 2016 (see Appendix B).

Overall, the Government's position is that it supports the overall intent of our Draft Report to make changes that deliver a fairer, more efficient and more integrated fares system. In addition, Government requires the flexibility to manage changes in the way customers travel and transition issues if a more integrated fare structure is adopted.

Therefore, it is the Government's policy position that IPART continue to regulate Opal fares using a weighted average price cap for the next three years.⁴⁰ Under this form of regulation, IPART determines the maximum amount by which average fares can increase (in percentage terms). TfNSW can set individual fares either higher or lower than this amount, provided the average increase across all fares does not exceed it.

The Government's position is different to the approach we proposed in our Draft Report, which was that IPART determines individual maximum fares that reflect our decisions on the appropriate fare levels and fare structure for the next three years. Under this approach, TfNSW would be required to set individual fares that do not exceed our maximum fare schedule. It could still make changes to fares and fare structure during the determination period. But to do so, it would have to set individual fares lower than our determined fares, which would result in the Government foregoing revenue.

Consistent with Government's announced policy position, we have adopted a weighted average price cap for our final determination. We calculated the maximum average fare change by developing a package of recommendations that reflect our views on fare structure and levels including weekly travel arrangements, daily and weekly caps and weekend travel arrangements. It is our view that this package of fares best balances the objectives for our review and over time should be implemented by Government.

The remainder of this report sets out the analysis that underpins our final fare determination and our final recommended package of fares. We emphasise that the Government has the flexibility to implement individual fares and travel arrangements that differ from our recommended fares, so long as the average fare change is below the level we determined.

⁴⁰ This is the form of regulation we used in our 2013 and 2014 determinations of rail, bus and ferry fares, to give TfNSW this flexibility while the Opal system was being implemented.

More information on our final decisions on the average fare change and the how we calculated this fare change is set out in Chapter 10.

2.7 Opal operational issues

Many stakeholders commented on possible improvements that could be made to the operation of Opal cards. For example:

- ▼ Some commented on the incidence of card readers not working.⁴¹
- ▼ Several suggested Opal cards and Opal card top up should be available at all stations and that there should be more viable alternatives to automatic top ups.⁴²
- ▼ Another stakeholder was concerned about the collection and retention of trip information.⁴³
- ▼ Stakeholders commented on difficulties in obtaining an Opal card – for tourists and interstate visitors, and the delays in obtaining a Gold Opal.⁴⁴

We note that these are matters for Government to consider and have not been considered as part of this review.

⁴¹ For example, see Individual – Anonymous (W16/16) submission to Draft Report, p 1.

⁴² For example, see Individual – Anonymous (W16/283) submission to Draft Report, p 1.

⁴³ CPSA Dapto Seniors submission to Draft Report, p 1.

⁴⁴ Individual – J Dawson submission to Draft Report, p 1.

3 How we made our final decisions and recommendations

To make our fare decisions and recommendations for this review, we developed a set of assessment criteria that encapsulate all the matters we are required to consider for this review (see Box 3.1), as well as the principles of good regulatory practice. These criteria also encapsulate the objectives that need to be met in setting fares.

In addition, we developed a five-step approach that uses these criteria to guide us in developing a range of fare options – including the ‘socially optimal fares’ – and assessing these options to determine the fares that strike the best balance between the criteria.

The sections below explain:

- ▼ the assessment criteria and the five-step approach we used for making our final fare determination and recommendations
- ▼ how this approach differs from the one we used to make our draft decisions, and
- ▼ what we mean by the ‘socially optimal fares’, and what matters our model for estimating these fares takes in account.

More information on the socially optimal fares, including our final estimates of these fares for each mode and how we used the estimates in making our final decisions, can be found in Appendix D.

3.1 Our final assessment criteria

To make our final determination and recommendations, we used the same assessment criteria as for our draft decisions – that is, that Opal fares should:

1. encourage the efficient use of public transport
2. promote the efficient delivery of public transport
3. encourage greater use of public transport
4. minimise impacts on customers
5. are logical, predictable and stable over time, and
6. increase farebox revenue or cost recovery.

Box 3.1 Matters we must consider for this review

In making our decisions and recommendations for this review, we must consider the legislative requirements set out in section 124(3) of the *Passenger Transport Act 2014*. These include:

- ▼ the cost of providing the services
- ▼ the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers
- ▼ the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standards of service
- ▼ the social impact of the determination or recommendation
- ▼ the impact of the determination or recommendation on the use of the public passenger transport network and the need to increase the proportion of travel undertaken by sustainable modes such as public transport
- ▼ standards of quality, reliability and safety of the services (whether those standards are specified by legislation, agreement or otherwise)
- ▼ the effect of the determination or recommendation on the level of Government funding, and
- ▼ any other matter IPART considers relevant.

In addition, we must consider the additional matters specified in the referral from the Minister for Transport and Infrastructure. These include:

- ▼ the benefits of fare structures that support network integration to increase network efficiency and reduce overall costs
 - ▼ the benefits and costs of spreading demand for public transport to increase efficiency in service delivery and the likely impact of different fares on the travel behaviour of customers, including whether current concession arrangements for peak and off-peak travel support the optimal use of the network
 - ▼ whether there are strong arguments for or against full integration of fares across all Opal Services, given that some modes have significantly different costs and/or externality benefits
 - ▼ the relative contributions that customers and taxpayers should make to the cost of delivering Opal Services, including light rail as an Opal Service
 - ▼ the technical feasibility of making changes to the current fare structure, given the features of the Opal system and the contracts in place for its implementation and operation
 - ▼ the most appropriate method or methodology for determining maximum fares for Opal Services, including the need for sufficient flexibility to implement any changes to the current fare structure (where relevant)
 - ▼ where relevant, transitional arrangements from the current fare structure to a new fare structure, assuming that new fares would apply from 1 July 2016 and including any customer impacts and technical limitations, and
 - ▼ the need to ensure consistency between the structure of fares in the final determination of appropriate maximum fares for Opal Services and the NSW Government's announced policy position on the structure of fares for Opal Services.
-

As Chapter 2 discussed, several stakeholders disagreed with how we balanced the different criteria in making our draft decisions. For example, NCOSS argued that ‘criteria 3 and 4 ought to guide the Tribunal towards giving some weight to the impact that higher priced fares have in reducing accessibility to transport services for those experiencing financial and other forms of disadvantage’.⁴⁵

We maintain the view that all six assessment criteria are important and need to be considered in setting Opal fares. In addition, we point out that prioritising one criterion over another would not be consistent with the Minister’s referral for this review. Therefore, in making our final determination and recommendations we have developed a package of fares that balances all six criteria. We consider that this package of fares best reflects the costs and benefits of public transport for society as a whole.

3.2 Our final approach for making our fare determination and recommendations

To develop our final package of recommended fares and make our fare determination, we took the following steps:

1. **Estimate the ‘socially optimal fares’.** These fares target our first two assessment criteria – encouraging the most efficient use of public transport, and promoting the most efficient delivery of public transport. We used an economic model to estimate the socially optimal fares for single trip journeys by each Opal mode (rail, bus, ferry and light rail) and by car.
2. **Conduct economic analysis and consult** on aspects of Opal fare structure that are not captured by our economic modelling in Step 1, and form a view on how fares should be calculated for multi-mode journeys, the arrangements for frequency discounts, weekly and daily caps, and Gold Opal.
3. **Develop a large number of alternative fare options** to transition from the current fares towards the socially optimal fares, taking into account the outputs of Steps 1 and 2 and our other four assessment criteria for fares:
 - encourage greater use of public transport
 - minimise impacts on customers
 - are logical, predictable and stable over time, and
 - increase farebox revenue or cost recovery.
4. **Assess these fare options against all six criteria** and decide on the package of recommended fares and fare arrangements that strikes the best balance between these criteria.
5. **Calculate the maximum increase in average fares required over the determination period to implement this package**, and determine the weighted average price cap over the 3 years in line with this increase.

⁴⁵ NCOSS submission to Draft Report, p 5.

3.3 How our final approach differs from our draft approach

Steps 1 to 4 are consistent with the approach we described in our Draft Report, and result in fares that balance the assessment criteria. We updated some of the data we used in steps 1 and 2 for our final report, which resulted in updated estimates of the socially optimal fares and fare options. We also reassessed the updated fare options in step 4, taking into account stakeholder comments, and adjusted some of our recommended fares and fare arrangements.

Submissions on our Draft Report suggest that many stakeholders misunderstood the first step of our approach. For example, many suggested we had not considered the impacts of fares on the use of public transport versus private cars, and argued that our proposed fare package would lead to more congestion on roads.⁴⁶ We emphasise that we have considered the impact on congestion. This issue is addressed step 1, in estimating the socially optimal fares. See section 3.4 for further explanation.

Step 5 of our final approach is different from our Draft Report. As Chapter 2 discussed, after considering the Draft Report TfNSW advised us that the Government's policy position is that, to be fairer, Opal fares should be more integrated. In addition, it advised that it needs the flexibility to implement changes to the fare structure over the 3-year period 1 July 2016 to 30 June 2019. Therefore, the Government requires IPART to regulate Opal fares using a weighted average price cap for the next three years.

We changed step 5 of our approach so that instead of calculating maximum individual fares (as for our Draft Report), we calculated the maximum average fare increase across the Opal system for the determination period. This weighted average price cap approach gives the Government the flexibility to set the price and structure of individual fares, provided the overall average price change is less than the price cap. More information on this decision and how we calculated the maximum average fare increase is provided in Chapter 10.

3.4 What we mean by 'socially optimal fares'

The 'socially optimal fares' for Opal services are the fares that encourage people to use the Opal system in the way that leads to the highest **net benefit**⁴⁷ to society as a whole. This 'socially optimal' use of the system is **not** the same as the greatest possible use.

⁴⁶ See for example, The NSW and Hunter Commuter Council submission to Draft Report, p 1; Blue Mountains City Council submission to Draft Report, p 1; Individual – Anonymous (W15/5283) submission to Draft Report, p 1; Individual – Anonymous (W15/5289) submission to Draft Report, p 1.

⁴⁷ The net benefit is the total benefits minus the total costs.

When a person decides to use a public transport service there are **costs and benefits** to that individual, and to the wider community (including other users of public transport and NSW taxpayers who fund most of the costs of delivering the service). The relative sizes of the costs and benefits depend to a great extent on the overall:

- ▼ **capacity of the service** – for example, how many bus vehicles there are, and how many people they can carry, and
- ▼ **use of the service** – such as, how frequent the bus service is, and how far the buses travel.

These costs and benefits also depend on how the capacity and use of public transport services compare to the capacity and use of alternative transport options – such as road capacity and the level of road congestion.

In theory, a certain number of journeys on a public transport service will maximise the **net benefit to individuals and the wider community** (ie, the welfare) generated by the service. In economics, this is known as the socially optimal level of consumption. Fares set to achieve this level of consumption are known as the ‘socially optimal fares’. Socially optimal fares encourage both **efficient use** of public transport and **efficient delivery** of public transport – our first two assessment criteria.

At the socially optimal number of journeys, the cost of providing the service to the last passenger is equal to the benefit of the service to that passenger and to the wider community. This last passenger is known as the ‘marginal’ passenger, and the costs and benefits associated with serving the marginal passenger are known as the ‘marginal costs’ and ‘marginal benefits’.

At the socially optimal number of journeys, the costs to society of **additional journeys** would outweigh the benefits to society associated with those additional journeys. Only when there are fewer than the socially optimal number of journeys do additional journeys increase the welfare generated by a public transport service.

Both the level and structure of fares will affect people’s decisions on if and how they use public transport. Setting fares at the level that encourages the socially optimal number of journeys will therefore maximise the net benefits to society of public transport use. Appendix D provides more information on how we estimated the socially optimal fares and the estimates we used in making our final decisions and recommendations.

4 Fares for single mode journeys

Fares for single mode journeys are the Adult Opal fares customers pay for one journey by a single mode (before any frequency discounts or fare caps they are entitled to applied). We developed our recommended fares for these journeys using the criteria and approach outlined in Chapter 3, and by considering stakeholder comments.

The section below summarises our final recommended fares for single mode journeys, and our final recommendations on the structure of these fares and related issues. The next sections discuss our recommendations in more detail, including stakeholder feedback on our draft recommendations and our response to this feedback.

4.1 Final recommendations on fares for single mode journeys

Our final recommended fares for single mode journeys for each mode are as shown in Table 4.1 to Table 4.5.

Table 4.1 Adult Opal maximum fares – single rail journeys in peak periods (\$ nominal includes GST)

Current distance bands	Current fares	Distance bands	Fares from		
Route distance (km)	2015	Route distance (km)	July 2016	July 2017	July 2018
0-10	3.38	0 to less than 3	3.34	3.35	3.36
		3 to less than 8	3.60	3.66	3.71
10-20	4.20	8 to less than 15	3.69	3.97	4.25
20-35	4.82	15 to less than 25	4.48	4.74	5.01
		25 to less than 35	5.11	5.51	5.90
35-65	6.46	35 to less than 45	6.30	6.55	6.79
		45 to less than 55	6.55	7.12	7.69
		55 to less than 65	6.89	7.73	8.58
65+	8.30	65 to less than 85	8.30	9.11	9.92
		85+	9.50	10.60	11.70

Note: Current fares apply to current distance bands.

Table 4.2 Adult Opal maximum fares – single rail journeys in off-peak periods (\$ nominal includes GST)

Current distance bands	Current fares	Distance bands	Fares from		
Route distance (km)	2015	Route distance (km)	July 2016	July 2017	July 2018
0-10	2.36	0 to less than 3	2.00	2.01	2.01
		3 to less than 8	2.16	2.19	2.23
10-20	2.94	8 to less than 15	2.21	2.38	2.55
20-35	3.37	15 to less than 25	2.69	2.85	3.01
		25 to less than 35	3.07	3.30	3.54
35-65	4.52	35 to less than 45	3.78	3.93	4.08
		45 to less than 55	3.93	4.27	4.61
		55 to less than 65	4.13	4.64	5.15
65+	5.81	65 to less than 85	4.98	5.46	5.95
		85+	5.70	6.36	7.02

Table 4.3 Adult Opal maximum fares – single bus and light rail journeys (\$ nominal includes GST)

Distance bands	Current fares	Fares from		
Longest straight-line distance between any tap on and tap off points (km)	2015	July 2016	July 2017	July 2018
0 to less than 3	2.10	2.12	2.28	2.44
3 to less than 8	3.50	3.52	3.81	4.10
8 to less than 15	4.50	4.50	4.60	4.70
15 to less than 25	4.50	4.69	4.97	5.25
25 and over	4.50	4.80	5.20	5.60

Table 4.4 Adult Opal maximum fares – single Sydney Ferries journeys (\$ nominal includes GST)

Distance bands Longest straight-line distance between any tap on and tap off points (km)	Current fares	Fares from		
	2015	July 2016	July 2017	July 2018
0 to less than 3	5.74	5.74	5.74	5.74
3 to less than 8	5.74	6.00	6.33	6.66
8 to less than 15	7.18	7.18	7.61	8.03
15 and over	7.18	7.90	8.94	9.98

Table 4.5 Adult Opal maximum fares – single Stockton Ferry journeys (\$ nominal includes GST)

Journey distance (km)	Current fares	Fares from		
	2015	July 2016	July 2017	July 2018
0 to less than 1	2.10	2.12	2.28	2.44

These fares reflect our final recommendations on the appropriate structure of fares for single mode journeys. In summary, these include that:

- ▼ Fares for single mode journeys should continue to vary by mode and distance travelled.
- ▼ In this determination period, distance travelled should continue to be measured as track distance for rail and as a point-to-point straight line for all other modes, distance bands should be harmonised for all modes, and the additional 'CBD increment' for rail journeys should be removed.
- ▼ In the longer term, distance travelled for rail should be measured as a point-to-point straight line to provide consistency across modes and facilitate greater integration across modes.
- ▼ Fares for longer distance journeys should increase relative to those for shorter distance journeys.
- ▼ Peak and off-peak pricing should continue for rail services, and the off-peak discount should increase to 40%. Bus, ferry and light rail services should continue to **not** vary by time of day.

Our final recommendations on fare structure for single mode fares are similar to our draft views. However, there are some differences. We are now recommending that the way distance travelled is measured for rail should remain as current in the short term, but be made consistent with the other modes in the longer term. We are also recommending different distance bands for rail journeys above 35km, and that Opal fares be capped after 85 km rather than 100 km. In addition, we are recommending that TfNSW collect and publish

information on load statistics for buses and light rail, in the same way that it does for rail and ferries at present, to inform future analysis of peak and off-peak pricing for these modes.

The fares shown in the tables above also reflect our views on the appropriate level of single mode fares over the determination period. While similar to our draft views, we have adjusted our recommended fare levels to respond to stakeholder feedback and other changes in our recommended fare package. In particular, we have:

- ▼ Increased single mode fares slightly to partially offset the forecast revenue loss resulting from the changes we made to our recommended frequency discount arrangements in response to stakeholder comments (see Chapter 6).
- ▼ Calculated our recommended rail fares based on track distance, and our recommended fare bands.
- ▼ Limited the **maximum** fare increase for any individual single mode fare to:
 - 14% in the first year (down from a maximum of 37% in our Draft Report).
 - 41% over three years (down from a maximum of 72% in our Draft Report).

In addition, we have revised downwards our draft recommendation that the premium on single use or paper tickets should be 40%, to 20%.

Final recommendation

- 1 [Maximum Adult Opal fares for single mode journeys be set as shown in Tables 4.1 to 4.5.](#)

4.2 Fares should continue to vary by mode and distance travelled

Currently, fares for single-mode journeys of the same distance differ by modes. For example, a 5 kilometre bus fare is different from a 5 kilometre rail fare.

In our Draft Report, we found that fares should continue to differ for each mode in line with the socially optimal fares. However, for simplicity, we decided to set light rail fares at the same level as bus fares. Light rail trips currently make up only around 2% of all public transport trips.

We also found fares should continue to vary by the distance travelled in line with the socially optimal fares.

4.2.1 Stakeholder feedback on fares varying by mode and distance travelled

Many stakeholders considered that fares should vary by distance travelled⁴⁸, but this was not universal, for example because it is seen as inconsistent with planning policies which have encouraged development on the periphery.⁴⁹ Some stakeholders supported fares varying by mode and distance travelled to reflect the varying costs of providing services⁵⁰. Two considered that this principle should be extended to light rail.⁵¹ Several considered that fares should vary by distance travelled but should be consistent across modes.⁵²

4.2.2 IPART's response to feedback on fares varying by mode and distance travelled

Having considered submissions and our analysis on socially optimal fares, we maintain the view that fares should vary by mode and distance travelled. Fares that vary by mode better reflect the different underlying efficient costs of delivering services on each mode, and the different usage patterns on each mode. Fares that vary by distance travelled are more efficient because:

- ▼ it costs more to provide a longer distance service than a shorter distance service
- ▼ people are generally willing to pay more the further that they travel, and
- ▼ the further a journey extends outside the CBD, the lower the external benefits of using public transport instead of driving, due to the lower road congestion.

We did consider making fares the same for all modes and all distances. But our analysis clearly indicated that the socially optimal fares for Sydney and surrounds differ by mode and distance travelled.

Final recommendation

2 Maximum Adult Opal fares continue to vary by mode and distance travelled.

⁴⁸ For example, Individual - D Behan submission to Draft Report, p 1; Individual - M Kunach submission to Draft Report, p 1; Western Sydney Community Forum - S Caldalano, pp 8-9; Individual - P Stephenson submission to Draft Report, p 1.

⁴⁹ Individual - Y Garrett submission to Draft Report, p 3.

⁵⁰ For example, Western Sydney Community Forum - S Caldalano, p 6; Individual - Anonymous (W16/853) submission to Draft Report, p 3.

⁵¹ Western Sydney Community Forum - S Caldalano, p 6; Individual - Anonymous (W16/853) submission to Draft Report, p 3.

⁵² For example, Individual - K Ireland submission to Draft Report, p 1; Individual - D Behan submission to Draft Report, p 1; Individual - Anonymous (W16/115) submission to Draft Report, p 1.

4.3 The way distance is measured should be harmonised across all modes

Currently, distance travelled is measured in a range of ‘distance bands’, and fares increase as the distance travelled falls into to a higher band. However, both the distance bands and the way the distance travelled is measured differ across modes. Distance travelled is measured as a point-to-point straight line for bus, light rail and ferry, but by track distance for rail.

In our Draft Report, we found:

- ▼ both the distance bands and way distance is measured should be the same for all modes and journeys, and
- ▼ the distance travelled should be measured as the longest straight-line distance between any tap-on and any tap-off point on the journey.

This would increase the integration of single mode fares, as well as facilitate greater integration of multi-mode fares. It would mean customers would be charged for the same distance travelled regardless of their mode of travel.

4.3.1 Stakeholder feedback on the way distance is measured

Many stakeholders who commented on the way distance is measured agreed that using consistent distance bands across modes is fairer.⁵³ Many also agreed that charging based on straight-line distance is fairer, as it means customers are not penalised for the configuration of the network.⁵⁴

However, several submissions also disagreed with adopting a straight line approach for rail on the grounds that this would have big impacts on some customers, and track distance better reflects the actual cost of rail services.⁵⁵ For example, the Western Sydney Commuter Forum submitted that:

This draft decision has the unintended consequence of creating inconsistent fare prices for commuters based on the origin or destination of their travel, rather than on the cost of the journey they undertake.⁵⁶

⁵³ For example, Individual - D Behan submission to Draft Report, p 1; Individual - Anonymous (W16/96) submission to Draft Report, p 1; Individual - K Ireland submission to Draft Report, p 1; Individual - Anonymous (W16/115) submission to Draft Report, p 1.

⁵⁴ For example, Individual - Y Garrett submission to Draft Report, p 1; Individual - S Schnell submission to Draft Report, p 1; Individual - K Ireland submission to Draft Report, p 1.

⁵⁵ For example, Individual - Anonymous (W16/853) submission to Draft Report, pp 5-6; Individual - Anonymous (W16/811) submission to Draft Report, p 1; Individual - Anonymous (W16/1097) submission to Draft Report, p 3.

⁵⁶ Western Sydney Community Forum – S Caldalano submission to Draft Report, p 9.

It noted that a commuter from Mt Druitt would pay 24% more per week to commute to the city, compared to a Kurnell resident, even though the track distance travelled is the same. Another stakeholder questioned how a person travelling from Cronulla can pay the same as someone travelling from Mortdale.⁵⁷

Action for Public Transport questioned adopting a straight line distance when a journey covers a bay or watercourse. It cautioned against creating incentives for planners to plan less interchanges and design more routes based on straight line distance.⁵⁸

4.3.2 IPART's response to feedback on the way distance is measured

Having considered submissions and our analysis of the socially optimal fares, we maintain our view that both the distance bands and the way distance travelled is measured should be consistent across all modes and journeys. We agree that continuing to use track distance for rail would result in more cost reflective rail fares. But we consider adopting a consistent approach is important to improve fare integration. As Chapter 2 discusses, most stakeholders strongly support improved fare integration.

However, our final recommendation is that for the 2016 determination period, rail distance travelled continue to be measured as track distance. TfNSW has advised that technology issues make it unfeasible to introduce our proposed multi-mode fare schedule in this period.

In the longer term, we consider rail fares should be based on straight line distance to:

- ▼ Remove the penalty for the radial design of the rail network, which limits interconnection on the network.
- ▼ Ensure distances are measured consistently across the network to facilitate our preferred multi-mode origin to destination charging in the future.

We also considered an additional issue in relation to the way distance travelled is measured for rail. Currently, an extra notional distance is added to the rail track distance for trips that start or finish in the CBD. This 'CBD increment' is a historical legacy of the paper ticket regime, which allowed customers with a 'city' destination to exit at any city station and return from any other.

We did not make a draft recommendation on this as we were proposing rail fares based on straight line distance. In light of our final recommendation that using track distance continue in the short term, we consider the CBD increment should be removed and actual track distance be used. This would result in lower fares for many customers who travel to the CBD.

⁵⁷ Individual - Anonymous (W15/5266) submission to Draft Report, p 1.

⁵⁸ Action for Public Transport submission to Draft Report, p 3.

Final recommendations

3 In this determination period:

- distance travelled continue to be measured as track distance for rail and a point-to-point straight line for all other modes
- distance bands be harmonised for all modes, and set as shown in Tables 4.1 to 4.5, and
- the ‘CBD increment’ that adds extra notional distance to the distance travelled for rail trips that start or finish in the CBD be removed.

4 In the longer term, distance travelled should be measured as a point-to-point straight line for rail to increase fare integration.

4.4 Fares for longer distance journeys should increase relative to fares for shorter distance journeys

Our analysis shows that the socially optimal fares for longer distance journeys are significantly higher than the current fares (see Appendix D). This is due to the high costs of operating long distance services and the lower external benefit that arises from these journeys.

To address this, and transition fares for longer journeys towards the optimal fares, our Draft Report proposed to adjust the structure and levels of these fares. In particular, we proposed to:

- ▼ Adjust the distance bands for journeys over 35 km, so there would be five bands (rather than the current two), and so Opal fares continue to increase with distance travelled up to 100 km (rather than the current 65 km).
- ▼ Increase single fares for longer distance journeys by relatively more than those for shorter journeys over the 2016 determination period.

The size of our proposed fare increases for journeys over 35 km varied depending on mode and journey length. For rail, the increase ranged from 16% (for fares of 35-45 km) to 72% (for fares 100+ km) over the 3-year period. Our draft fares for these journeys were still substantially below the socially optimal levels.

4.4.1 Stakeholders feedback on increasing fares for longer distance journeys

Many submissions argued against increasing fares for longer distances relative to shorter distances.⁵⁹ Some submissions said that increasing longer distance fares by more than shorter distance fares is inequitable because long-distance commuters generally have lower incomes than those living in the inner city. They said these commuters should not be further penalised.⁶⁰

Some also argued that people had decided to live in the outskirts of the city on the reasonable expectation that fare policy would remain stable, consistent with housing and urban design policy.⁶¹ In addition, some said increasing fares for longer distances was not warranted because the impact on customers outweighed the revenue gains, which they saw as negligible.⁶²

Other submissions argued that longer distance commuters should not pay relatively higher fares than inner city customers because service frequency is significantly worse in outer areas. Similarly, some said that it is reasonable for customers in the inner city to pay more (per km travelled) because the higher service frequency and reliability of public transport in inner Sydney means they do not have to maintain private transport.⁶³

⁵⁹ Individual - Y Garrett, submission to Draft Report, p 3; Individual - Anonymous (W 15/5265) submission to Draft Report, p 1; Individual - Anonymous (W16/12) submission to Draft Report, p 1; Individual - Anonymous (W16/293) submission to Draft Report, p 1; Individual - Anonymous (W16/347) submission to Draft Report, Individual - Anonymous, (W16/462), p 1; Anonymous, (W16/317), p 1; Individual - Anonymous (W 16/214) submission to Draft Report, p 1; Dr M Faruqi, Greens Member of the NSW Legislative Council submission to Draft Report, p 2.

⁶⁰ For example, Individual - J Singh submission to Draft Report, p 1; Individual - Anonymous (W16/317) submission to Draft Report, p 1; Individual - Anonymous (W16/293) submission to Draft Report, p 1; Individual - Anonymous (W16/1097) submission to Draft Report, p 3; Individual - Anonymous (W16/927) submission to Draft Report, p 1.

⁶¹ Individual - Y Garrett submission to Draft Report, p 3; Individual - Anonymous (W16/317) submission to Draft Report, p 1.

⁶² Individual - O Heldon submission to Draft Report, pp 1-2, Individual - Anonymous (W16/853) submission to Draft Report, p 3.

⁶³ Individual - Anonymous (W16/1097) submission to Draft Report, p 3; Individual - Anonymous (W16/853) submission to Draft Report, pp 4-5; Individual - Anonymous (W16/347) submission to Draft Report, p 1.

In contrast, some submissions argued that current fares favour those who travel long distances and inner city commuters already cross-subsidise outer city commuters.⁶⁴ Others argued that the current relativities between short and long fares were not logical. They considered shorter journeys should cost much less than longer journeys than currently to reflect the true cost of providing the services. For example, some pointed out that:

- ▼ The fare to travel from Point Clare to Sydney (\$6.46) is less than double the fare to travel 1 station from Point Clare to Gosford (\$3.38) but is 20 times the distance.⁶⁵
- ▼ The distance from Town Hall to Central should be several orders of magnitude lower than Central to Hornsby.⁶⁶

4.4.2 IPART's response to feedback on increasing fares for longer distance journeys

We maintain our view that fares for longer distances should increase relative to those for shorter distances, and the distance bands should be adjusted so there are more increments for longer distance journeys. This will move Opal fares closer to the socially optimal fares, and better reflect the relatively higher costs and lower external benefits of longer distance journeys.

Nevertheless, after considering stakeholder feedback and reviewing our analysis, we have made changes to our final recommended fare bands and fare levels to limit the impact on longer distance journeys. In particular, under our final fare recommendations:

- ▼ the current 35-65 km distance band is split into 2 bands and the highest fare band is 85+km rather than 100+km (see Table 4.6 below)
- ▼ the maximum **average** fare increases for longer rail journeys over three years range from 5% (for 35-45 km) to 41% (85+ km).

Our final recommendations on fares for longer distance journeys are shown in Tables 4.1 to 4.5 above. More information on the differences between our draft and final recommended fares is provided in Appendix E.

⁶⁴ For example, Individual - Anonymous (W16/420) submission to Draft Report p 1; Individual Anonymous (W16/15) submission to Draft Report p 1.

⁶⁵ Individual - Anonymous (W15/5228) submission to Draft Report, p 1.

⁶⁶ Individual - P Stephenson submission to Draft Report, p 1.

Table 4.6 Distance bands: current, draft and final

Distance band	Current distance bands	Draft distance bands	Final distance bands
	Track distance (km)	Straight line (km)	track distance (km)
1	0-10	0 to less than 3	0 to less than 3
2		3 to less than 8	3 to less than 8
3	10-20	8 to less than 15	8 to less than 15
4	20-35	15 to less than 25	15 to less than 25
5		25 to less than 35	25 to less than 35
6	35-65	35 to less than 45	35 to less than 45
7		45 to less than 65	45 to less than 55
8	65+	65 to less than 85	55 to less than 65
9		85 to less than 100	65 to less than 85
10		100+	85+

4.5 Fares should continue to differ in peak and off-peak periods for rail only

Currently, Opal fares differ in peak and off-peak periods for rail travel only, and off-peak rail fares are discounted by 30% compared to peak fares. In our Draft Report, we recommended the off-peak fare continue to be discounted, and that the discount be increased to 40%.

Our analysis of the socially optimal fares clearly shows that rail is the only mode for which the costs and benefits of travel in peak and off-peak periods differ sufficiently to justify different fares for these periods. It also shows that an off-peak discount of 40% better reflects this difference.

Rail services have high infrastructure costs (eg, rail lines, vehicles, stations) and relatively low operating costs (eg, electricity, fuel, drivers). Much of the infrastructure is needed to meet the demand for services in peak times. In off-peak times, such as the middle of the day and weekends, the infrastructure may have spare capacity.

In contrast, bus and ferry services have relatively high operating costs and their infrastructure costs (vehicles and vessels) make up a much lower proportion of their total costs. Because operating costs don't differ in peak and off-peak times, the total costs of providing these modes don't differ substantially in these times.

4.5.1 Stakeholder feedback on peak and off-peak fares

Those stakeholders who commented on off-peak fares generally supported increasing the discount for off-peak rail travel.⁶⁷ In addition, several stakeholders argued that there should be off-peak bus fares noting that during the day there is generally spare capacity on buses.⁶⁸

4.5.2 IPART's response to feedback on peak and off-peak fares

We maintain our view that peak and off-peak pricing should continue for rail, and the off-peak discount should increase from 30% to 40%. There is a substantial difference in the costs and benefits of travel on rail between peak and off-peak periods and it is efficient to reflect this in fares. Increasing the discount to 40% ensures that rail fares move towards the efficient costs and benefits of travel at different times of day.

As well as making fares more cost reflective, increasing the off-peak discount may promote more efficient use of spare capacity and delay the need for expensive investment in infrastructure to meet demand. For example, it may encourage some people to travel outside peak times, spreading the passenger load and reducing external costs of passenger crowding and boarding delays. It may also encourage people who are not currently rail customers to use rail services in off-peak times.

After considering stakeholder comments and our analysis, we maintain our view that there is not a clear case for different bus fares in the peak and off-peak. Unlike for rail, the socially optimal bus fares in the off-peak fall within the range of socially optimal fares for the peak (see Appendix D).

However, we note that for rail, but not for bus, TfNSW collects and publishes information on load statistics by line which can be used to identify the extent of crowding issues in the peak and assist in defining peak periods.⁶⁹ We consider TfNSW should publish similar information on load statistics for buses and light rail. This would inform decisions on peak and off-peak fares in future fare reviews. With information on crowding and loading levels for buses for the next review there may be stronger evidence to propose an off-peak fare.

⁶⁷ For example, Individual - E Olesen submission to Draft Report, p 1; Individual - J Peng, submission to Draft Report, p 1; Individual - V Xu submission to Draft Report, p 1; Individual - Anonymous (W15/5206) submission to Draft Report, p 1; Individual - Anonymous (W15/5239) submission to Draft Report, p 1; A Greenwich Member for Sydney submission to Draft Report, p 1.

⁶⁸ For example, Individual - S Bee submission to Draft Report, p 1; Individual - R Harris submission to Draft Report, p 1; Individual - S Khanna submission to Draft Report, p 1.

⁶⁹ See Bureau of Transport Statistics website - <http://www.bts.nsw.gov.au/Statistics/Rail/default.aspx?FolderID=223>

More information about our analysis of peak and off-peak pricing is provided in Information Paper 1: Weekday peak and off-peak fares, available on our website.

Final recommendation

- 5 Peak and off-peak pricing continue for rail, and the off-peak discount be increased to 40%.
- 6 Bus, ferry and light rail fares continue not to vary by time of day.
- 7 TfNSW collect and publish information on load statistics for buses and light rail in the same way that it currently does for rail and ferries.

4.6 Premium on single use or paper tickets should be 20%

TfNSW has announced that a range of paper tickets will no longer be sold from 1 January 2016.⁷⁰ The only paper tickets that will be available from that date are single Adult and Concession tickets and return Adult and Concession tickets.

Maintaining two ticketing systems in parallel is very costly. While there will always be a need for a 'ticket of last resort' for infrequent travellers or customers who have lost or forgotten their Opal card, these tickets should be priced at a level that encourages Opal card use.

The premium for peak paper tickets over Opal tickets currently varies between modes and distances and is currently highest for travel on rail (18%) and bus for short distances (14%) and lowest for ferries travelling more than 9 km (6%).⁷¹ We consider that the premium should be consistent across modes and distances.

For our Draft Report, we considered the premium in other jurisdictions with parallel electronic and paper systems. These vary from an 18% premium in Perth to an average 102% premium in London. We found that the premium on paper tickets should be 40%, rounded to the nearest 10 cents.

4.6.1 Stakeholder feedback on fares for single use or paper tickets

While one stakeholder supported our draft decision,⁷² most stakeholders argued against increasing the premium on paper tickets to 40%. Many argued that this would disadvantage particular groups including:

- ▼ infrequent travellers such as families, the elderly and tourists⁷³
- ▼ people experiencing homelessness⁷⁴, and

⁷⁰ See TfNSW website - https://www.opal.com.au/en/opal-fares/no_more_paper_tickets/

⁷¹ IPART *More efficient, more integrated Opal fares – Draft Report*, December 2015 p 31.

⁷² Individual - E Olesen submission to Draft Report, p 1.

⁷³ See for example, Individual - J Dawson submission to Draft Report, p 1; A Greenwich Member for Sydney submission to Draft Report, p 2; Two More Trains for Singleton submission to Draft Report, p 3.

⁷⁴ Homelessness NSW submission to Draft Report, p 1.

▼ people with a disability.⁷⁵

Some suggested a smaller premium. For example, some said that a 25% to 30% premium is more appropriate.⁷⁶ One submitter considered that we had not presented adequate reasoning supporting the 40% premium, and that the premium should stay at its current level of around 20%.⁷⁷

Other stakeholders raised concerns about the premium given that you cannot purchase and top up Opal cards at all stations. For example, the NRMA argued that if a 40% premium is adopted, it is vital that purchasing and topping up Opal Cards is made as accessible and user-friendly as possible.⁷⁸

The Combined Pensioners and Superannuants (CPSA) argued that paper tickets should remain at a cost comparable to Opal fares at the very least until all train stations and major interchanges have an accessible top up machine or outlet.⁷⁹ Furthermore, until the accessibility and privacy issues with the Opal network are resolved, it argued that increasing the cost of paper tickets constitutes discrimination against pensioners and people with a disability.⁸⁰

CPSA conducted an analysis of Opal-enabled train stations and the nearest available top up facilities. In the weeks leading up to pensioner paper tickets being retired, only 85 stations, or 27% of all stations had a top up machine. For 29.7% of the remaining 229 stations, the nearest top up facility was, and potentially still is, more than one kilometre away.⁸¹ CPSA also argued that people eligible for Gold or Concession Opal cards are also disadvantaged by the wait time between ordering and receiving an Opal card.

4.6.2 IPART's response to feedback on fares for single use or paper tickets

After the release of our Draft Report TfNSW commenced a trial of Opal single trip tickets at nine train stations.⁸² These tickets are sold in the form of a single use, non-reloadable Opal card that use the same tap-on tap-off technology as reloadable Opal cards.

⁷⁵ CPSA submission to Draft Report, p 10.

⁷⁶ Individual - Anonymous (W16/115) submission to Draft Report, p 2; Individual - Anonymous (W16/27) submission to Draft Report, p 1.

⁷⁷ Individual - Anonymous (W16/853) submission to Draft Report, p 10.

⁷⁸ NRMA submission to Draft Report, p 5.

⁷⁹ CPSA submission to Draft Report, p 10.

⁸⁰ CPSA submission to Draft Report, p 10. Article 9 of United Nations Convention on the Rights of Persons with Disabilities.

⁸¹ CPSA submission to Draft Report, p 10.

⁸² <https://www.opal.com.au/en/get-an-opal-card/opal-single-trip-tickets/>

We maintain that there should be a premium on paper or single use tickets to encourage the use of reloadable Opal cards. While the new Opal single use tickets will remove the legacy ticketing costs associated with the current magnetic strip and paper tickets, there continue to be additional costs associated with these products that justify a premium on these products. These costs would be significant if all customers were to use these products and include:

- ▼ Single trip Opal tickets impose transaction costs from queueing to purchase tickets from top up machines.
- ▼ Single trip Opal tickets that are sold on buses impose increased stopping times and increase travel times.
- ▼ The marginal cost of producing a single use Opal card is recovered over one journey, while the marginal cost of a reloadable Opal card is recovered over multiple journeys (ie, typically the life of the card).

We consider that a premium of 20% (compared to 40% in the Draft Report) provides a sufficient incentive for customers to use reloadable Opal cards. This is still an increase on the current premium for all modes and would be applied consistently across all distance bands. It is lower than the premium proposed in our Draft Report but we note that an efficient operator should not continue to incur the ongoing legacy ticket costs.

We do not consider that a premium of 20% unfairly disadvantages infrequent travellers such as tourists and the elderly or customers with a disability. Reloadable top up cards can be purchased on-line or from around 2,100 Opal retailers across metropolitan Sydney and regional areas including Woolworths, 7-Elevens, newsagents and 36 Service NSW centres.⁸³ Opal cards can be obtained and topped up from these locations free of charge.

The Opal website currently lists 93 top up locations which include stations, ferry wharves and bus interchanges. TfNSW indicates on its website that more machines will be rolling out throughout the year.⁸⁴

Final recommendation

- 8 The premium on single use or paper tickets be 20%, rounded to the nearest 10 cents.

⁸³ Opal website - <http://www.retailers.opal.com.au/list.html>, accessed 5 May 2016.

⁸⁴ TfNSW, Finding and Opal card top up machine, Available from: <https://www.opal.com.au/en/get-an-opal-card/find-an-opal-card-top-up-machine/>, Accessed 5 May 2016.

5 | Fares for multi-trip journeys

The Minister's referral specifically asked us to examine options for more integrated fares as part of our review. Integration refers to the way fares for journeys on different modes, over different distances, or with multiple component trips relate to each other.

Currently, fares for multi-trip journeys using a single mode (for example, two bus services) are integrated. They are calculated as if the journey was one trip from origin to destination (see Box 5.1). However, fares for multi-trip journeys using multiple modes (for example, a rail service then a bus service) are not integrated. They are calculated as if the trips are independent of each other, which results in a higher fare.

To improve fairness, we consider that fares for all multi-trip journeys should be fully integrated, whether they involve single or multiple modes. In our Draft Report, we proposed that fares for multi-mode journeys would be based on the journey distance as if it had been taken as a single trip on one of the modes used. We developed draft multi-mode fare tables using this principle.

However, the technical limitations of Opal prevent implementation of multi-mode fare tables. Therefore, our final recommendation for more integrated multi-mode fares is to introduce a 'transfer rebate' to be deducted from the next fare after a customer transfers to a different mode within a journey.

The section below summarises our final recommendations on fares for multi-mode journeys. The next sections explain our proposed fares for multi-mode journeys and stakeholder feedback on this proposal, how our final recommendation for multi-mode fares would work, and its impacts on customers.

5.1 Final recommendation on fares for multi-mode journeys

In response to our Draft Report, TfNSW advised that our proposed multi-mode fare table could not be implemented due to the technical limitations of Opal. TfNSW indicated that an alternative feasible way to achieve more integrated fares for multi-mode journeys is to apply a fixed dollar amount rebate when a customer transfers to a different mode during a journey.

Therefore, our final recommendation is to improve the integration of fares for multi-mode journeys by deducting a 'transfer rebate' from the fare for the next trip **after** the customer transfers to a different mode. (For example, if a customer travels by bus, then rail, then bus again, the rebate would apply to the rail trip and the second bus trip.)

Our recommended transfer rebate is equal to the lowest Adult Opal fare, which is the off-peak train fare for a trip of less than 3 kilometres. In 2016-17, the transfer rebate would be \$2.00, rising to \$2.01 in 2017-18 and 2018-19.

Final recommendation

- 9 Multi-mode fares should receive a transfer rebate set to the lowest full Adult fare. In 2016-17, the transfer rebate would be \$2.00, rising to \$2.01 in 2017-18 and 2018-19.

Box 5.1 How fares for multi-trip journeys are currently calculated

When a multi-trip journey is taken on a single mode, the 'Opal trip advantage' provides an integrated fare. When a subsequent tap-on is less than 60 minutes from the last tap-off, and on the same mode, the subsequent trip is considered part of the last trip (up to 5 transfers). Thus a journey from A to B, then B to C, is charged as if it was a trip from A to C (straight-line distance on a bus, or track distance on a train).

A 'longer trip' rule applies to multi-trip journeys, so that where a component trip is longer than the total journey (eg, a journey comprising a trip from A to B, followed by a trip from B to A), the fare for the longer trip is charged (ie, the A to B fare).⁸⁵

However, when a multi-trip journey involves a transfer from one mode to another (eg, bus to rail), the trips are charged independently⁸⁶. This makes journey fares more expensive than trip fares for the same distance.

⁸⁵ This rule has always applied to bus multi-trip journey Opal fares, and was introduced in January 2016 for rail multi-trip journeys. (Source: information provided by TfNSW, 24 March 2016.)

⁸⁶ Although the trips are considered part of one journey for the purposes of the Travel Rewards scheme. (Source: <https://www.opal.com.au/en/faqs/>, accessed 5 May 2016).

5.2 Draft proposal on fares for multi-mode journeys

In our Draft Report, we proposed to:

- ▼ calculate fares for journeys that involve trips on two or more modes in the same way as fares for journeys that involve multiple trips by a single mode – that is, as if it were a single trip
- ▼ measure the distance travelled for the journey as the longest straight-line distance between any tap-on and any tap-off point on the journey, and
- ▼ establish separate fare schedules for multi-mode journeys and set fares so that customers pay less than they currently pay for these journeys.⁸⁷

We set the multi-mode journey fares with reference to the journey distance and the single-mode fares for that distance. For example, we proposed that in 2016-17 a 35 km journey involving a peak rail trip and a bus trip would cost \$6.24, the same as the peak rail fare for that distance, and a 35 km journey involving an off-peak rail trip and a bus trip would cost \$3.74, the same as the off-peak rail fare for that distance.⁸⁸ We estimated that the impact of the proposed multi-mode fares on customers would be a price reduction of between 20% and 50% per journey.⁸⁹

Stakeholder feedback on the proposed multi-mode fares was almost universally supportive.⁹⁰ People generally prefer a fare structure that does not penalise customers for transferring between modes during a journey.

5.3 How our recommended transfer rebate would work

As noted above, TfNSW has advised that, under current Opal programming, a feasible way to achieve more integrated multi-mode fares is to apply a fixed dollar amount rebate when a customer transfers to a different mode during a journey.

We considered this approach in developing our draft proposals, and concluded that our proposed multi-mode fare table approach was superior. However, if the multi-mode fare table cannot be implemented, we consider that a transfer rebate is a good option.

⁸⁷ IPART, *More efficient, more integrated Opal fares – Draft Report*, December 2015, p 14.

⁸⁸ IPART, *More efficient, more integrated Opal fares – Draft Report*, December 2015, Table 2.1, p 16.

⁸⁹ IPART, *More efficient, more integrated Opal fares – Draft Report*, December 2015, p 3.

⁹⁰ For example, Individual – Anonymous (W15/5218) submission to Draft Report, p 1; Sydney Airport submission to Draft Report, p 2; NCOSS submission to Draft Report, unnumbered pages, Section 3.

5.3.1 Level of transfer rebate

We consider that the transfer rebate should never result in a customer paying less for a journey by taking an additional trip, so the maximum transfer rebate is effectively the lowest fare for a single trip. As the rebate is a fixed dollar amount, the percentage of a journey fare it represents will depend on the length of the journey. We consider it is appropriate to set the rebate by linking it to a lowest fare rather than determining it independently, so it maintains its relativity with other fares.

In our recommended fare package, the lowest full adult fare is the off-peak train fare for a trip of less than 3 kilometres. In 2016-17, the transfer rebate would be \$2.00, rising to \$2.01 in 2017-18 and 2018-19.

5.3.2 Transfer rebate for discounted fares and partially paid fares

Again following the principle that a customer should never pay less for a journey by taking an additional trip, fares that are discounted (because they are concession fares or for travel after eight journeys) should receive a discounted rebate. Therefore, if the journey is the 9th or subsequent journey and the fare is 50% of the regular fare, the transfer rebate should be 50% of the regular transfer rebate.

For fares which are partially paid because the daily or weekly cap has been reached, the transfer rebate should be applied to the fare before the cap is applied. For example:

- ▼ The daily cap is \$18.00.
- ▼ A customer has spent \$17.00 on fares in a day.
- ▼ The customer transfers from a bus to rail and travels 20 km.
- ▼ The fare calculation for the rail trip should be:
 - usual fare \$4.48
 - less the \$2.00 transfer rebate, = \$2.28
 - added to \$17.00 spent already = \$19.28, but that would exceed the daily cap so the fare charged is adjusted to
 - daily cap less \$17.00 = **\$1.00**.
- ▼ Rather than:
 - usual fare \$4.48
 - added to \$17.00 = \$21.48, but that would exceed the daily cap so the fare is adjusted to
 - daily cap less \$17.00 = \$1.00
 - less the \$2.00 transfer rebate, = -\$1.00, but there is a floor of \$0.00 for any fare, so the fare charged is adjusted to **\$0.00**.

5.4 Impacts on customers

For 2016-17, almost all individual multi-modal journey fares under our recommended fare package would be cheaper than they currently are, although more expensive than in our draft fare recommendations.

Only 7% of commuters who take 10 journeys a week would pay more than they currently do.

Most 10-journey commuters would still be paying less per week in 2018-19 than they are now.⁹¹

⁹¹ After the effect of inflation has been removed.

6 Discounts for frequent travel

Under the existing Opal Travel Rewards scheme, customers pay for the first eight journeys they take in a week, and then get free travel for the remainder of the week. The free journeys under this scheme are currently worth around \$150 million per year.

Our analysis shows that the Travel Rewards scheme leads to inefficient outcomes. In particular, it creates incentives that result in suboptimal travel behaviour and inefficient use of the transport network. In our Draft Report, we proposed an alternative weekly travel credit scheme to reduce these inefficiencies. Under this alternative scheme, customers would pay for their 10 most expensive journeys in the week (up to the weekly cap), and only additional cheaper journeys would be free of charge.

The section below summarises our final recommendations on discounts for frequent travel. The next sections explain our findings on the current Travel Rewards scheme, outline our draft proposal to address these findings, and discuss stakeholders' feedback on the proposal and our response to this feedback.

6.1 Final recommendations on discounts for frequent travel

Requiring customers to be paying for the ten most expensive journeys in a week remains our preferred approach for reducing the inefficiencies of the current weekly rewards scheme, while also mitigating the impact of price increases for very frequent customers. However, TfNSW has advised us that such a scheme cannot be implemented for the 2016 determination period, due to technical constraints and significant lead-time needed to make major changes to the Opal system.

In light of this advice, we are instead recommending a change to the existing Travel Rewards scheme that would still improve its efficiency. In particular, we are recommending that when customers have paid for eight journeys in a week, they receive a 50% discount on the fare for their ninth and subsequent journeys in that week.

This change would be less effective at reducing inefficiencies than our draft proposal to require customers to pay for their ten most expensive journeys in the week. However, it could be implemented without major changes to the Opal system, and would achieve some of the benefits of the draft proposal.

We are also recommending that TfNSW add flexibility to the Opal system as soon as possible to permit more efficient discounting arrangements for frequent travel, like that proposed in our Draft Report.

Final recommendations

- 10 The travel reward scheme be amended to provide a 50% discount on all travel after the eighth journey, rather than 100% discount.
- 11 Flexibility be added to the Opal system as soon as possible to permit more efficient discounting arrangements for frequent travel, similar to IPART's draft proposal to require customers to pay for their ten most expensive journeys in the week.

6.2 Findings on current Travel Rewards scheme

In step 2 of our approach for this review, we considered whether there is a strong rationale for providing discounts for frequent travel. We also analysed the current Travel Rewards scheme, to assess whether it leads to efficient outcomes and balances the six criteria for this review. We found:

- ▼ the rationale for providing discounts for frequent travel is not as strong under electronic ticketing as it is with paper tickets, but some discount may still be justified, and
- ▼ the current Travel Rewards scheme leads to inefficient outcomes, and creates incentives that result in suboptimal travel behaviour and inefficient use of the transport network.

6.2.1 Some discount for frequent travel may be justified

Many public transport fare schemes provide discounts for frequent travellers. Under paper ticketing, there is a strong economic rationale for this as the discounts create a financial incentive for frequent customers to buy reusable tickets (such as a weekly or annual tickets or multi-use tickets). Widespread use of these tickets results in significant benefits for the public transport network, including shorter queues at ticket machines, faster boarding on buses and lower administrative costs.

However, these benefits are achieved through electronic ticketing systems for both frequent and infrequent customers who use reusable tickets. No further such benefits can be achieved by offering large discounts for frequent travel.

This means the rationale for continuing to provide discounts for frequent travel is diminished under the Opal system.

Nevertheless, frequency discounting schemes can produce efficient outcomes if designed well. For example, if they encourage additional journeys on services that have spare capacity and the customers would otherwise make the journey by car on congested roads.

In addition, frequency discounting can help mitigate frequent customers' weekly spend on public transport.

6.2.2 Current Travel Rewards scheme produces inefficient outcomes

We found that the existing Travel Rewards scheme produces inefficient outcomes, as it distorts price signals and creates incentives that result in suboptimal travel behaviour and inefficient use of the transport network.

Under this scheme, a customer who has paid for eight journeys in a week can travel the rest of the week free of charge. Some of the additional journeys made for free would be efficient. For example, many such journeys would be made on weekend services that have plenty of available capacity.

However, it is also likely that many of these additional journeys are inefficient and produce a net cost to society. For example, some customers that travel for free during the Friday morning or evening peak might have chosen to travel in the off-peak, or not at all, if they had been charged the socially optimal fare. In this case, these customers' decision to travel during the peak increases the costs of crowding and delays to other users of the public transport system during the peak.

In general, by providing free travel after the eighth journey, the existing Travel Rewards scheme removes all price signals on subsequent journeys, including the important signal that the social cost of rail journeys in peak periods are considerably higher than those in the off-peak.

Further, the current Travel Rewards scheme creates a perverse incentive for some customers to reduce their weekly travel spend by making unnecessary short trips, early in the week. By reaching their free travel reward earlier in the week, these customers can use their free travel on peak-hour and longer distance journeys with the highest social cost.⁹²

⁹² In some cases, customers have also been running between stations close together, tapping their Opal cards on and off, in order to reach the free travel sooner. In March 2016, the Minister for Transport and Infrastructure Andrew Constance announced the Opal ticketing system has been updated to stop the practice of 'Opal running'. Source: TfNSW, *Opal runners tapped out for a fairer system*, 21 March 2016, at <http://www.transport.nsw.gov.au/media-releases/opal-runners-tapped-out-fairer-system>, accessed on 20 April 2016.

6.3 Draft recommendations on discounts for frequent travel

Our draft recommendation was to replace the existing Travel Rewards scheme with a more efficient scheme that would also help protect customers from excessive price increases. Under our proposed weekly travel credit scheme, the fare for each journey made during the week would initially be debited from the customer's Opal card upon tap off. At the end of the week, frequent customers would receive Opal credit equal to the higher of:

- ▼ their total expenditure on Opal fares in that week minus the cost of their ten most expensive journeys in that week, or
- ▼ their total expenditure on Opal fares in that week minus a weekly cap amount.⁹³

Customers would need to have sufficient funds on their Opal card so that the full cost of each journey could be paid for when they tap off. In the first week of travel, this would require some customers to load more money onto their Opal card than they do currently. However, in the subsequent weeks, the travel credit would be available for use.

The draft scheme would be more efficient than the existing Travel Rewards scheme because it would encourage travel decisions that are more closely aligned with the socially optimal travel behaviour. Specifically, it would:

- ▼ maintain price signals on two additional journeys per customer per week
- ▼ maintain price signals for the **ten most expensive journeys** made by a customer in a week, which would also be the journeys that impose the highest social cost (eg, peak journeys), and
- ▼ eliminate the perverse incentive for customers to reduce their weekly travel spend by making unnecessary short trips early in the week.

By reducing the number of free journeys provided, the draft scheme would allow most single fares to decrease by around 8% without causing farebox revenue to decline.⁹⁴ This would mean that less frequent travellers and part-time workers would benefit from cheaper fares, and that those who use the public transport system more pay a greater share of the cost of the system.

⁹³ Our draft recommendations were to increase the adult weekly cap from the current \$60 to \$65 in 2016-17, then to \$70 in 2017-18, and finally to \$75 in 2018-19.

⁹⁴ IPART, *More efficient, more integrated Opal fares – Draft Report*, December 2015, p 24.

6.4 Stakeholder feedback on draft recommendations on discounts for frequent travel

There was strong support from stakeholders for elements of the proposed weekly travel credit scheme, but some aspects also received little support. The reasons given for supporting or not supporting different aspects of the proposed scheme varied.

The majority of those who commented on the proposed weekly travel credit scheme supported closing the loophole that encourages some customers to make short unnecessary trips early in the week.⁹⁵ However, most did not agree with the proposal that Opal customers pay for the ten most expensive journeys in the week.⁹⁶

Many submitted that going from paying for the first eight journeys in the week to the ten most expensive journeys in the week would increase their weekly travel spend considerably, and reduce the affordability of commuting by public transport.⁹⁷ A number of submissions also argued that they had already seen sharp increases in travel spend as a result of the removal of periodical tickets, and that further increases were both unaffordable and unfair.⁹⁸ As an alternative to the draft proposal, there was strong support for customers paying for the *eight* most expensive journeys in the week.⁹⁹ Stakeholders argued that, like our draft proposal, this too would remove the incentive for unnecessary short trips at the start of the week, while further limiting increases in customers' public transport spend.

⁹⁵ See for example, Individual – Anonymous (W15/5309) submission to Draft Report, p 1; Individual – S Byrnes (W15/5315) submission to Draft Report, p 1; Individual – L Parsons (W15/5274) submission to Draft Report, p 1; and Individual – B Willis (W16/69) submission to Draft Report, p 1.

⁹⁶ See for example, Individual – L Crowe (W16/90), submission to Draft Report, p 1; Individual – S Khanna (W15/5197) submission to Draft Report, p 1; Individual – Anonymous (W15/5218) submission to Draft Report, p 1.

⁹⁷ See for example, Individual – I Wilson (W15/5224) submission to Draft Report, p 1; Individual – J Lawson (W15/5316) submission to Draft Report, p 1; and Individual – Anonymous (W15/5225) submission to Draft Report, p 1.

⁹⁸ See for example, Individual – W Otto (W16/314) submission to Draft Report, p 1; Individual – A Barski (W16/110) submission to Draft Report, p 1; Individual – Anonymous (W16/15) submission to Draft Report, p 1; and Individual – Anonymous (W15/5338) submission to Draft Report, p 1.

⁹⁹ See for example, Action for Public Transport (W16/936) submission to Draft Report, p 2; Individual – M Truong (W15/5314) submission to Draft Report, p 1; and Individual – O Heldon (W16/6) submission to Draft Report, p 1.

Several submissions proposed alternative ways to remove the incentive for unnecessary short trips at the start of the week, including:

- ▼ counting up to two journeys per day toward the travel reward,¹⁰⁰ and
- ▼ requiring customers to pay for the two most expensive journeys per day, up to eight journeys per week.¹⁰¹

However, some stakeholders argued that it would be unfair to close the loophole that allow customers to reduce their weekly travel spend by making additional short trips early in the week.¹⁰² Stakeholders also suggested that those who choose to take advantage of the loophole are likely those that need the savings the most.¹⁰³ Several submissions also pointed out that the previous Minister for Transport had encouraged Opal users to 'beat the system'.¹⁰⁴

A large number of submitters claimed frequent users *should* be rewarded and should receive significant discounts on their travel.¹⁰⁵ Several argued that since regular users provide the majority of farebox revenue, it is fair that they are rewarded with cheaper travel than less regular users.¹⁰⁶ One submission also argued that public transport is not only provided *for* regular users, but *because of* regular users, and that less frequent users benefit from that.¹⁰⁷

¹⁰⁰ See for example, Individual – K Newburg (W16/415) submission to Draft Report, p 1; Individual – Anonymous (W16/853) submission to Draft Report, p 9; Individual – M Glowacki (W16/360) submission to Draft Report, p 1.

¹⁰¹ See for example, Individual – J Fu (W16/251) submission to Draft Report, p 1.

¹⁰² See for example, Individual – Anonymous (W16/21) submission to Draft Report, p 1; Individual – Anonymous (W16/282) submission to Draft Report, p 1; and Individual – Anonymous (W16/293) submission to Draft Report, p 1.

¹⁰³ See for example, Individual – Anonymous (W16/282) submission to Draft Report, p 1; Individual – Anonymous (W16/293) submission to Draft Report, p 1.

¹⁰⁴ See for example, Individual – Anonymous (W16/214) submission to Draft Report, p 1; Individual – Anonymous (W16/336) submission to Draft Report, p 1; and Individual – Anonymous (W16/350) submission to Draft Report, p 1.

¹⁰⁵ See for example, Individual – Anonymous (W15/5334) submission to Draft Report, pp 1-2; Individual – K Chan (W16/909) submission to Draft Report, p 2; and Individual – Anonymous (W16/293) submission to Draft Report, p 1.

¹⁰⁶ See for example, Individual – Anonymous (W15/5334) submission to Draft Report, pp 1-2; Individual – Anonymous (W16/347) submission to Draft Report, p 2; and Individual – Anonymous (W16/570) submission to Draft Report, p 1.

¹⁰⁷ Individual – G Harman (W16/942) submission to Draft Report, p 3.

Many submitters noted that, for decades, frequent users have been offered significant discounts via periodical tickets.¹⁰⁸ Several argued that monthly, quarterly, or annual tickets should be reinstated, or that a form of subscription service be offered where longer pre-payment periods give greater discounts.¹⁰⁹ Some suggested longer reward periods (eg, monthly) or long-term loyalty programs.¹¹⁰

Some stakeholders considered that requiring customers to pay for their ten most expensive journeys in the week would be taking advantage of regular commuters who have little choice in how and when they travel to and from work.¹¹¹

Another concern raised by stakeholders was that the proposed scheme might require significant upfront payment in one week before being credited in the next week. These stakeholders argued that many customers might not be able to afford such a large upfront payment.¹¹² Others suggested the scheme was too complicated.¹¹³ Some submitters proposed a solution that would avoid the upfront payment and credit system: at the end of a journey, if the fare for that journey is more expensive than the cheapest journey paid for so far, the user would be charged only for the *difference* between the last and the cheapest journey.¹¹⁴

Several submissions suggested there should be no weekly travel reward, and that only the current or lower daily and/or weekly caps should apply.¹¹⁵

¹⁰⁸ See for example, Individual – D Baker (W16/274) submission to Draft Report, p 1; Individual – S Power (W16/185) submission to Draft Report, p 1; and Individual – O Heldon (W16/6) submission to Draft Report, p 1.

¹⁰⁹ See for example, Individual – Anonymous (W15/5208) submission to Draft Report, p 1; Individual – Anonymous (W15/5349) submission to Draft Report, p 1; and Individual – Anonymous (W16/282) submission to Draft Report, p 1.

¹¹⁰ See for example, Individual – Anonymous (W16/67) submission to Draft Report, p 2; and Individual – A Barski (W16/110) submission to Draft Report, p 1.

¹¹¹ See for example, Individual – W Wood (W15/5268) submission to Draft Report, p 1; Individual – A Barski (W16/110) submission to Draft Report, p 1; and Individual – R McNeill (W16/172) submission to Draft Report, p 1.

¹¹² See for example, Individual – Anonymous (W16/775) submission to Draft Report, p 2; Individual – G Steenbeeke (W16/910) submission to Draft Report, p 7; and Individual – Y Garrett (W15/5215) submission to Draft Report, p 3.

¹¹³ See for example, Individual – Y Garrett (W15/5215) submission to Draft Report, p 2; Individual – K Chan (W16/909) submission to Draft Report, p 5; and Individual – B Butterfield (W16/65) submission to Draft Report.

¹¹⁴ See for example, Individual – J Simpson (W16/176) submission to Draft Report, p 1; Individual – Anonymous (W15/5244) submission to Draft Report, p 1; and Individual – E Olsen (W16/93), submission to Draft Report, p 1.

¹¹⁵ See for example, Individual – L Wright (W16/355) submission to Draft Report, p 1; Individual – X Deng (W16/757) submission to Draft Report, p 1; and Individual – Anonymous (W15/5214) submission to Draft Report, p 1.

6.5 IPART's response to feedback on discounts for frequent travel

We understand stakeholders' concern that our proposed weekly credit scheme, in combination with other elements of the draft fare package, could result in large increases in some customers' weekly Opal costs. We have made numerous changes to our overall fare package to limit the maximum increase faced by individual customers.

However, our proposed scheme, under which customers pay for their ten most expensive journeys in a week, remains our preferred way to reduce the inefficiencies of the current Weekly Rewards scheme. As discussed above, the reason why our final recommendation differs from our preferred approach is that it could not be implemented in the 2016 period due the technical constraints of the Opal system.

We do not agree with the view expressed by many stakeholders that frequent customers should be rewarded with significant discounts, particularly when this produces a net cost to society. However, frequency discounts may be warranted if it encourages better use of under-utilised services. It can also help limit the impact of price increases on frequent customers.

Nor do we agree with the view that requiring customers to pay for their ten most expensive journeys in a week is taking advantage of commuters. We recognise that some commuters have limited choice and flexibility in how and when they travel to work, but this is not a good reason to provide free travel during peak periods.

Further, we do not agree that it is appropriate to retain the current 'Opal runners' loophole or perverse incentive in the Opal system simply to preserve the benefits for those that are able to take advantage of them. It is not fair that other customers and taxpayers pay more to fund the resulting gap in public transport revenue. Our draft proposal would completely eliminate this perverse incentive, and our final recommendation on discounts for frequent travel would significantly diminish it.

We note that TfNSW has taken steps to close the 'Opal runners' loophole.¹¹⁶ Nevertheless, we consider TfNSW should identify whether alternative arrangements to further reduce the incentive for these unnecessary trips could be implemented earlier, such as the stakeholder proposal to count up to two trips per day toward the Travel Rewards. In addition, TfNSW should prioritise adding flexibility to the Opal system to permit alternative frequency discounting schemes, like our draft proposal to require customers to pay for the ten most expensive journeys in a week (but without requiring an upfront payment and credit system).

¹¹⁶ NSW Government media release – 'Opal Runners' Tapped Out for a Fairer System, 21 March 2016, at <http://www.transport.nsw.gov.au/media-releases/opal-runners-tapped-out-fairer-system>, accessed 3 May 2016.

7 | Weekday and weekly caps

Like the existing Travel Rewards scheme, the weekday and weekly caps help limit frequent customers' weekly spend on public transport. The adult weekday cap is currently \$15, and the weekly cap is \$60. The weekday and weekly caps for Concession and Child/Youth are 50% of the adult caps.

In our Draft Report, we recommended that the weekday and weekly caps be retained, but that they should be increased. This was intended to ensure that customers would pay the full fare for most journeys in a day, while limiting the impact of higher public transport fares for frequent customers.

The sections below outline our final recommendations on the weekday and weekly caps, and then discuss how we reached our draft recommendations, outline stakeholders' feedback on those recommendations and summarise our response to the stakeholder feedback.

7.1 Final recommendations on weekday and weekly caps

Our final recommendations on weekday caps remain unchanged from the draft proposal. However, we are recommending slightly lower adult weekly caps. A number of submissions expressed concern over the impacts on their public transport spend under the draft proposal, in part as a result of the higher weekday and weekly caps. In combination with a range of other changes in the final recommendations, the lower weekly caps help limit price increases for frequent users.

Final recommendations

12 Weekday caps for Adult Opal fares be set at:

- \$18 in 2016-17
- \$19 in 2017-18
- \$20 in 2018-19.

13 Weekly caps for Adult Opal fares be set at:

- \$64 in 2016-17
- \$68 in 2017-18
- \$72 in 2018-19.

- 14 Weekday and weekly caps for Concession and Child/Youth Opal fares be set at 50% of the adult daily and weekly caps, consistent with current Government policy.

7.2 Draft recommendations on weekday and weekly caps

The weekday caps in the draft proposal were set to ensure customers would be paying the full fare for most journeys in a day, while limiting price increases for regular long-distance commuters. The draft weekday caps would require customers to pay for single-mode and multi-mode return journeys in most fare bands, except some of the longer-distance fare bands.¹¹⁷

If in our Draft Report, weekday caps were to be set so that customers would also pay for return journeys in these higher fare bands, the caps would have needed to be set substantially higher. We considered such increases in the weekday caps could result in excessive increases in public transport spend for some customers. In addition, since there are relatively few journeys greater than 65 km, the benefit from such higher weekday caps would be small.

In terms of the draft weekly caps, we considered annual increases of \$5 or 7% to 8% to be reasonable, and that the draft weekly caps would still effectively limit frequent customers' weekly spend on public transport.

7.3 Stakeholder feedback on draft recommendations on weekday and weekly caps

A number of submissions commented on the proposed increases to weekday and weekly caps in our draft proposal. While some appreciated that weekday and weekly caps would need to increase,¹¹⁸ the majority of submissions that commented on the proposed changes considered the increases to be too great.¹¹⁹ Several submissions noted that the proposed increases would [likely] be much greater than increases in the Consumer Price Index (CPI), fuel prices and wages.¹²⁰

¹¹⁷ The draft weekday caps would require customers to pay for single-mode and multi-mode return journeys in all fare bands, except for (a) peak rail or (b) multi-mode return journeys involving either peak rail or ferry, in the following fare bands: in 2016-17, greater than 85 km; in 2017-18 and 2018-19, greater than 65 km.

¹¹⁸ See for example, Individual – Anonymous (W16/853) submission to Draft Report, p 10; Individual – E Olesen (W16/93) submission to Draft Report, p 1; and Individual – Anonymous (W16/206) submission to Draft Report, p 2.

¹¹⁹ See for example, Individual – M Manjrekar (W16/207) submission to Draft Report, p 1; Individual – Anonymous (W16/857) submission to Draft Report, p 1; and Individual – K Stevenson (W16/19) submission to Draft Report, p 1.

¹²⁰ See for example, Individual – R Harris (W16/302) submission to Draft Report, p 1; Individual – Y Garrett (W15/5215) submission to Draft Report, p 3; and Individual – Anonymous (W16/175) submission to Draft Report, p 1.

A number of submissions also argued that the proposed increases would almost only affect long-distance commuters, and that many of these customers would come from a lower socio-economic background.¹²¹

Some submissions suggested removing the travel rewards scheme entirely, and only keeping daily and/or weekly caps.¹²²

7.4 IPART's response to feedback on weekday and weekly caps

As noted above, our final recommendations on weekday caps are unchanged from the draft proposal. In our final proposal, we have made numerous other changes taking into account feedback from stakeholders and concerns around customer impacts and affordability. We consider the final package of fares sufficiently addresses these concerns without requiring changes to the recommended weekday caps, and only minor changes to the recommended weekly caps.

We recognise that our recommended increases in weekday and weekly caps would likely be greater than increases in CPI, and fuel prices. However, as explained above, the draft decisions on weekday caps were based on ensuring that customers would pay the full fare for most journeys in a day, including most single-mode and multi-mode return journeys. For the same reason, our final recommendations on weekday caps have not changed.

In terms of the weekly caps, our final recommendation is to increase the adult weekly cap by \$4 per year, rather than \$5. The slightly lower annual increases in the adult weekly cap further help to limit the increases in public transport spend for regular commuters.

As noted in Chapter 6, in both our draft and final recommendations we decided to retain frequency discounts as well as weekday and weekly caps. Each of these instruments helps address affordability issues for different customer groups.

¹²¹ See for example, Individual – Anonymous (W16/293) submission to Draft Report, p 1; Individual – E Paton Walsh (W16/168) submission to Draft Report, p 1; and NSW Council of Social Service (W16/674) submission to Draft Report, pp 8-9.

¹²² See for example, Individual – L Wright (W16/355) submission to Draft Report, p 1; Individual – X Deng (W16/757) submission to Draft Report, p 1; and Individual – Anonymous (W15/5214) submission to Draft Report, p 1.

8 | Weekend caps

The current \$2.50 Sunday cap was originally introduced in 2008, to make it easier and cheaper for families to travel by public transport on Sundays (the ticket was named the 'Family Funday Sunday' ticket).¹²³ With the introduction of Opal, the Government decided to cap the daily fare for Sunday travel at \$2.50 for all customers, in place of the Family Funday Sunday ticket. The Opal weekday caps apply on Saturday – ie, \$15.00 for Adult Opal, \$7.50 for Child/Youth/Concession Opal.¹²⁴

In our Draft Report, we recommended to increase the Sunday cap, but to different levels depending on the Opal card type. We also recommended that these caps apply to travel on Saturdays. Our draft recommendations were that in 2016-17, the Saturday and Sunday caps be set to \$7.20 for Adult Opal, \$5.40 for Concession Opal, and \$3.60 for Child/Youth Opal.¹²⁵ The primary reason for our draft recommendations was to spread demand for public transport more evenly between Saturday and Sunday.

The sections below outline our final recommendations on the weekend caps, and then discuss how we reached our draft recommendations, outline stakeholders' feedback on those recommendations and summarise our response to the stakeholder feedback.

8.1 Final recommendations on weekend caps

Our final recommendations on weekend caps remain largely unchanged from our draft proposal. We are recommending that the weekend caps for Adult Opal and Child/Youth Opal remain the same as in the draft proposal. However, we are recommending that the weekend cap for Concession Opal be set to the same as that for Child/Youth Opal, to be consistent with current Government policy on single fares, weekday and weekly caps for Child/Youth/Concession Opal.

¹²³ NSW Government news release, *Family Fun on Sundays with cheaper public transport*, 14 December 2008, at <http://www.records.nsw.gov.au/digitalarchives/repository/archive/content/0870d85a-18cf-4643-895c-0e794ae37a48>, accessed 28 April 2016.

¹²⁴ The cap for Gold Opal is currently \$2.50 each day of the week. See Chapter 9 for more on Gold Opal.

¹²⁵ In our Draft Report, we recommended that the cap for Gold Opal be set to \$3.60 each day of the week. See Chapter 9 for more on Gold Opal.

In response to feedback from stakeholders, we are also recommending that the Government reinstate the 'Family Fare Deal' for Opal customers, so that travelling families only be required to pay for the first child, with additional children travel for free.¹²⁶

Finally, we are recommending that the weekend caps also apply on public holidays, since travel behaviour and transport timetables on public holidays are likely to be similar to that on the weekend.

Final recommendations

- 15 Adult Opal weekend caps to apply on Saturdays and Sundays be set to 40% of the recommended Adult Opal weekday caps:
 - \$7.20 in 2016-17
 - \$7.60 in 2017-18
 - \$8.00 in 2018-19.
- 16 Concession and child/youth Opal weekend caps be set to 50% of the adult Opal weekend caps, consistent with existing concession and child/youth fares, weekday and weekly caps.
- 17 Opal weekend caps be extended to also apply on public holidays.
- 18 Travelling families be required to pay for first child, and additional children be permitted to travel for free.
- 19 The level of the Opal weekend caps be kept under review during the determination period, to assess whether customers respond as intended and demand is spread more evenly between Saturday and Sunday.

8.2 Draft recommendations on weekend caps

In our Draft Report, we found that the current \$2.50 Sunday cap appears to have stimulated substantial additional public transport use on Sundays, particularly on ferries. Figure 8.1 shows how peak ferry patronage has changed for some routes between May 2011 and May 2015. Among other things, it shows that, for these routes, peak patronage in May 2015 was on Sundays, while in May 2011 it was on weekdays. For the Manly, Parramatta River and Taronga Zoo routes, the 2015 Sunday peak also exceeded the 2011 weekday peaks. Between 2011 and 2015, Sunday patronage increased considerably more than Saturday patronage, and for the Taronga Zoo route, Saturday patronage *decreased*.

¹²⁶ Currently, the Family Fare Deal applies to paper tickets only, and means all adult members of the family group and one child must hold a valid ticket, while all additional children travel free. Source: TfNSW, Family Fare Deal, at <http://www.transportnsw.info/en/tickets/eligibility-concessions/families.page?>, accessed 28 April 2016.

Figure 8.1 Maximum ferry loads by route (outbound) – May 2011 versus May 2015



Note: Load percentages are based on the proportion of passengers on board relative to the seating capacity of the vessel.

Data source: TfNSW – Bureau of Transport Statistics, *Summary of Ferry Load Census – May 2010 to May 2015*, at http://www.bts.nsw.gov.au/ArticleDocuments/224/Ferry_LoadCensus_summaries_May2010-May2015.zip.aspx, accessed 4 May 2016.

This additional ferry use is driving up the costs of delivering ferry services,¹²⁷ which suggests the current Sunday cap is below the efficient level.

¹²⁷ Among other things, in order to meet peak demand, private ferry operators are being paid to provide supplementary services, and the Government is also investing in new ferries. Sources: Cost information provided to IPART by TfNSW; NSW Government News, *Take a peek at Sydney's new ferries*, 23 September 2015, at <https://www.nsw.gov.au/news/sydney-new-ferries>, accessed 26 April 2016; and NSW Government News, *Premier inspects brand new Manly Fast Ferries*, 29 December 2015, at <https://www.nsw.gov.au/media-releases-premier/premier-inspects-brand-new-manly-fast-ferries>, accessed 26 April 2016.

As a result, we recommended increasing the caps on Sunday, and setting the Saturday caps at the same level, in order to spread demand more evenly over the weekend. We also recommended that the weekend caps for Concession Opal and Child/Youth Opal be set lower than the Adult Opal cap. The weekend cap for Child/Youth Opal was set the lowest to mitigate the impact on travelling families.

As noted in the Draft Report, we do not have much information about how customers are likely to respond to the changes to the Sunday/weekend caps. We therefore recommended that the new caps be kept under review over the determination period, to assess whether customers responded as intended and that demand was spread more evenly between Saturday and Sunday.

8.3 Stakeholder feedback on draft recommendations on weekend caps

Many submissions supported the draft proposal to introduce a lower cap on Saturday.¹²⁸ However, while some supported increasing the Sunday cap,¹²⁹ most considered the proposed increase was too great.¹³⁰

Some submissions accepted that crowding on ferries was a problem on Sunday,¹³¹ and one suggested that ferries should be excluded from the Sunday cap.¹³² Others noted that there is still spare capacity on trains, light rail and buses.¹³³ One submission also pointed out that the capacity limits for ferries will soon be alleviated, since the Government has announced purchasing of additional ferries.¹³⁴

¹²⁸ See for example, Individual – Anonymous (W16/857) submission to Draft Report, p 1; Individual – K Chan (W16/909) submission to Draft Report, p 3; and Individual – Anonymous (W15/5300) submission to Draft Report, p 1.

¹²⁹ See for example, Individual – M Johns (W16/433) submission to Draft Report, p 1; Individual – Anonymous (W16/708) submission to Draft Report, p 1; and Individual – Q Ha (W16/900) submission to Draft Report, p 2.

¹³⁰ See for example, Individual – D Behan (W15/5220) submission to Draft Report, p 1; Individual – O Heldon (W16/6) submission to Draft Report, p 2; and Individual – B Randall (W16/933) submission to Draft Report, pp 1-2.

¹³¹ See for example, Individual – R Smith (W15/5233) submission to Draft Report, p 1; Individual – M Johns (W16/433) submission to Draft Report, p 1; and Individual – Anonymous (W16/708) submission to Draft Report, p 1.

¹³² Individual – R Iacopetta (W16/581) submission to Draft Report, p 2.

¹³³ See for example, Individual – R Smith (W15/5233) submission to Draft Report, p 1; Individual – M Bianchino (W15/5324) submission to Draft Report, p 1; Individual – Anonymous (W15/5300) submission to Draft Report, p 1.

¹³⁴ Individual – J Barnes (W16/1090) submission to Draft Report, p 1.

Many submissions argued that increasing the Sunday cap would significantly impact on families travelling by public transport on the weekend.¹³⁵ Some submissions suggested reinstating some form of family discount, like the Family Fare Deal previously available with paper tickets, which let travelling families pay only for the first child while additional children could travel for free.¹³⁶

Some submissions argued that the proposed increase would result in more people travelling by car.¹³⁷

Several submissions suggested retaining a low Sunday cap (but not necessarily the same as the current cap), with a higher cap on Saturday.¹³⁸ One submission noted that service frequency is better on Saturday, justifying a slightly higher Saturday cap.¹³⁹

Some submissions also suggested extending the weekend cap to public holidays.¹⁴⁰

8.4 IPART's response to feedback on weekend caps

We agree that excluding ferries from a lower weekend cap could be an effective way of addressing the Sunday ferry peak, while also encouraging greater use of bus and train services with spare capacity on the weekend. However, TfNSW has advised us that excluding any particular mode from a cap is not currently feasible in the Opal system. In addition, we consider a cap that applies to only some modes of public transport would be confusing for customers.

We recognise that the Government has invested in new ferries, which will reduce the problem of crowding on ferries on Sundays in the near term. However, we consider it important to introduce appropriate pricing signals sooner rather than later, to avoid investment in excess ferry capacity in the future.

¹³⁵ See for example, Individual – Anonymous (W16/260) submission to Draft Report, p 1; Individual – Anonymous (W16/907) submission to Draft Report, pp 1-2; and Individual – P Mehra (W16/287) submission to Draft Report, p 1.

¹³⁶ See for example, Individual – Anonymous (W16/354) submission to Draft Report, p 1; Individual – E Greig (W16/598) submission to Draft Report, p 1; and Individual – Anonymous (W16/255) submission to Draft Report, p 1.

¹³⁷ See for example, Individual – C Panvino (W16/304) submission to Draft Report, p 1; Individual – Anonymous (W16/91) submission to Draft Report, p 1; and Individual – Anonymous (W16/422) submission to Draft Report, p 1.

¹³⁸ See for example, Individual – Anonymous (W16/857) submission to Draft Report, p 1; Individual – L Gupta (W16/273) submission to Draft Report, p 1; and Individual – P Guides (W15/5227) submission to Draft Report, p 1.

¹³⁹ Individual – R Iacopetta (W16/581) submission to Draft Report p 2.

¹⁴⁰ See for example, Individual – Anonymous (W16/857) submission to Draft Report, p 1; and Individual – Q Ha (W16/900) submission to Draft Report, p 2.

While the recommended weekend caps are higher than the existing Sunday cap, we consider the proposal still provides good value for travel on public transport on both Sundays and on Saturdays. For example, under our final recommendations, a return trip Circular Quay to Manly on the ferry would only cost a little more than a one-way trip, and any additional travel would be free of charge.

We agree with the suggestion to reinstate the Family Fare Deal¹⁴¹ for Opal card holders, and recommend that that travelling families only be required to pay for the first child, with additional children travel for free. This would permit families to continue to travel cheaply on the weekend, with the fares for the first child being 50% of the full fare (including off-peak rail fares), up to a maximum of \$3.60 in 2016-17.

Similarly, those holding Concession Opal or Gold Opal would continue to benefit from 50% discount on full fares, and a maximum cap on weekends of \$3.60.

We recognise that service frequency is greater on Saturdays than on Sundays, and that could justify a slightly higher cap on Saturdays. However, we consider the differences in service frequency are not significant enough to warrant different caps on Saturday and Sundays – rather, we consider the simplicity of a single cap across the weekend is of greater benefit to customers.

We have not modelled the impact on congestion on Sundays from increasing the Sunday cap, as the Sydney Strategic Transport Model (maintained by the Bureau of Transport Statistics) currently produces forecasts for travel behaviour on weekdays only.¹⁴² The recommendation to increase the Sunday cap may result in some additional car travel on Sundays. However, the recommended increase in the off-peak discount for rail, as well as the recommendation that families only pay for the first child, would mitigate some of this shift. In addition, we consider the benefits of the recommended Saturday and Sunday caps would outweigh any additional cost from increased car travel on Sundays, by:

1. spreading demand for public transport (in particular for ferries) across both Saturday and Sunday, and
2. encouraging more people to use public transport on Saturdays, helping to alleviate road congestion on Saturdays.¹⁴³

¹⁴¹ Currently, the Family Fare Deal applies to paper tickets only, and means all adult members of the family group and one child must hold a valid ticket, while all additional children travel free. Source: TfNSW, *Family Fare Deal*, at <http://www.transportnsw.info/en/tickets/eligibility-concessions/families.page?>, accessed 28 April 2016.

¹⁴² TfNSW – Bureau of Transport Statistics, *Travel Forecasts*, at <http://www.bts.nsw.gov.au/Statistics/Travel-Forecasts/Travel-Forecasts/default.aspx#top>, accessed 5 May 2016.

¹⁴³ Roads and Maritime Service's Roads Report shows that congestion problems are typically greater on Saturdays than on Sundays. At <http://roadsreport.rms.nsw.gov.au/>, accessed 27 April 2016.

Finally, we agree with stakeholders' suggestion that our recommended caps for Saturdays and Sundays should also apply on public holidays, since travel behaviour and transport timetables on public holidays are likely to be similar to that on the weekend.

9 | Gold Opal

While concession fare pricing is usually outside the scope of IPART's fare reviews, the Minister's referral for this review specifically asked us to consider "whether current concession arrangements for peak and off-peak travel support the optimal use of the network".

There are three types of Opal concession card available: Child/Youth, Concession and Gold. Under the current arrangements, holders of these cards pay concession fares, which are set at half the equivalent Opal adult fare. They also have lower daily and weekly fare caps:

- ▼ For Child/Youth and Concession Opal card holders, the daily and weekly caps are set at half the equivalent adult caps (and so are currently \$7.50 and \$30 respectively).
- ▼ For Gold Opal card holders, the daily cap is set at \$2.50 (and so the effective weekly cap is \$17.50).

We examined the relationship between peak and off-peak pricing for each type of concession card to determine whether it provided appropriate price signals about the higher costs of rail travel in peak periods. We also considered the extent to which the current arrangements for each card are efficient, and so support optimal use of the network more generally.

As our Draft Report discussed, we found that the current arrangements for Child/Youth and Concession Opal provide the same peak and off-peak price signals as adult fares, and therefore support the optimal use of the network. However, we found the arrangements for Gold Opal could be more efficient and better support optimal use of the network. To improve the efficiency of these arrangements, we made draft recommendations to increase the Gold Opal daily cap and link it to the concession weekday cap, and to tighten the Gold Opal eligibility criteria.

The sections below outline our final recommendations on the arrangements for Gold Opal, and then discuss why we reached our draft recommendations, stakeholders' feedback on those recommendations, and our response to this feedback. Box 9.1 provides more information on the current concession arrangements.

9.1 Final recommendations on Gold Opal

After considering stakeholders' comments, we have maintained our recommendation on the Gold Opal daily cap. However, we modified our recommendation on Gold Opal eligibility in response to stakeholder concerns.

We continue to consider that the Gold Opal daily cap should be increased, and should be linked to the Concession Opal daily cap so that the relativity between it and other concession caps are maintained over time. In our view, our recommended increases in this cap over the determination period are affordable, given that the cap has not increased at all for the past 11 years while pensions have increased by 74% over this period.¹⁴⁴

We also continue to consider that Seniors Card holders should be eligible for the Concession Opal rather than the Gold Opal. However, in light of strong stakeholder concerns, we have recommended that if Seniors Card holders continue to be eligible for the Gold Opal, the Government should review the eligibility arrangements for the Seniors Card. We consider that the benefits of the card – particularly the very generous benefits associated with access to Gold Opal – should be better targeted towards people who most need them.

Final recommendations

- 20 The Gold Opal daily cap be set at 40% of the Concession Opal weekday cap (\$3.60 for 2016-17, \$3.80 for 2017-18 and \$4.00 for 2018-19).
- 21 If Seniors Card holders continue to be eligible for Gold Opal, the Government should review the eligibility arrangements for the Seniors Card, so that the benefits of the card are better targeted towards people who most need them.

¹⁴⁴ Rail Corporation NSW, *2004-05 Annual Report*, October 2005, p 27; DSS Maximum Basic Rates of Pension – July 1909 to Present Date: 20/9/2004 \$11,793.60; 20/9/2015 \$20,498.40. Accessed 8/3/16 <http://guides.dss.gov.au/guide-social-security-law/5/2/2/10>

Box 9.1 Current Opal concession arrangements

As noted above, there are three Opal concession cards: Child/Youth, Concession, and Gold. Holders of any of these three cards are entitled to concession fares, which are set at half the equivalent adult fare. For example, a 0-3 km trip on a bus would currently cost \$1.05 compared to \$2.10 for Opal Adult card holders.

For Child/Youth and Concession Opal cards, the **daily and weekly caps** are set at half the equivalent adult cap, and are currently \$7.50 and \$30 respectively. For example, a return 65+ km train trip during peak times would cost only \$7.50 for holders of either of these cards, rather than \$8.30 (twice the concession fare of \$4.15).

For Gold Opal cards, the **daily cap** is set at \$2.50. For example, a return 65+ km train trip during peak times would cost only \$2.50 for a Gold Opal card holder. A return 0-3 km trip on a bus would cost only \$2.10, as the return concession fare is less than the cap.

Gold Opal cards have replaced the paper Pensioner Excursion Ticket (PET) which provided all-day travel for a fixed price of \$2.50 – a price that has remained unchanged since 2005. PETs were withdrawn from sale from 1 January 2016.

Source: <https://www.opal.com.au/en/about-opal/types-of-opal-cards/> accessed 5 May 2016.

9.2 Why did we reach our draft recommendations?

We interpreted the requirement to consider “whether current concession arrangements for peak and off-peak travel support the optimal use of the network” to mean:

- ▼ whether the relationship between peak and off-peak pricing for each type of concession card sends appropriate price signals about the relative costs of peak and off-peak travel, and
- ▼ whether current concession arrangements are efficient, and so support optimal use of the network more generally.

We examined each of these issues, and based our draft recommendations on our findings (outlined below).

9.2.1 Findings on peak and off-peak fares for each type of Opal concession card

We found that concession fares, and the daily and weekly caps for the Child/Youth and Concession Opal cards, provide appropriate indication of the relative costs of travel in peak and off-peak periods. Because concession fares and the Child/Youth and Concession caps are set at half the adult rate, they send the same price signals about the relatively higher costs of peak rail travel as Opal

adult fares. In our view, linking the fares and caps to the equivalent adult fares and caps supports optimal use of the network. Therefore, we made no draft recommendations in relation to concession **fares**, and our draft recommendations on the **caps** for Child/Youth and Concession Opal cards maintained their relationship to the relevant Adult Opal caps.

However, we found that the Gold Opal daily cap, which is set at \$2.50, is so low relative to the concession fares paid by Gold Opal customers that it effectively removes the price signals in these fares. For example, the cap is lower than the concession fares for almost all return rail trips on the Opal system, all single rail peak trips over 35 km, and all off-peak trips over 65 km.

We considered whether this daily cap should be adjusted specifically to provide stronger price signals for Gold Opal card holders to travel on rail outside the peak. We found that available data suggests that only a small proportion of morning peak customers are Gold Opal holders.¹⁴⁵ In addition, the crowding in peak rail services already provides an effective incentive for Gold Opal card holders to shift their discretionary travel to the off-peak. Therefore, we found such an adjustment was not warranted.

9.2.2 Findings on efficiency of concession arrangements more generally

As Chapter 3 discussed, as the first step in our analysis of fares and fare structure, we calculated the 'socially optimal' fares. These are the fares we consider would best encourage both efficient use of public transport and efficient delivery of public transport. The calculated socially optimal fares are based on all customers paying the adult fare, and assume that the balance of the efficient costs of providing public transport services are met by a government subsidy that funds the external benefits of public transport use.

In this context, **concession fares** that are set at half the rate of adult fares are, by definition, substantially lower than is optimal from an efficiency perspective. They also provide an additional direct government subsidy to the groups of customers eligible for concession fares.

In our view, it is appropriate for governments to decide which groups of customers should receive this additional direct subsidy, and the size of the subsidy, based on the government's social policy objectives. We also note that the provision of half price concession fares to economically disadvantaged groups is standard practice in transport fare schemes. Therefore, we made no draft recommendations about **concession fares**, and we have made no final recommendations about them.

¹⁴⁵ Source: patronage data provided by TfNSW.

However, the **Gold Opal daily cap** provides a further direct subsidy to some groups of customers, and is currently set so low relative to concession fares that Gold Opal customers may pay significantly less than half the adult fare. In addition, the eligibility criteria for Gold Opal are relatively broad. For these reasons, we looked closer at the efficiency of these arrangements.

Gold Opal daily cap

We found that the price of all-day travel for seniors and pensioners has not changed since 1 January 2005. Over the same period:

- ▼ the general level of prices (measured by the Consumer Price Index, or CPI) has risen by 32%¹⁴⁶
- ▼ average Sydney public transport fares have risen by a similar amount to CPI,¹⁴⁷ and
- ▼ pensions have increased by almost 74%.

This means that the generous discount provided to seniors and pensioners has become **relatively more** generous compared to discounts available to other concession customers, who may be more economically disadvantaged.

It also means the daily cap has become relatively low compared to Gold Opal concession fares. For example, the cap is lower than the return concession fare for almost all trips on the Opal system. It is also lower than the **single** concession fare for all ferry trips and some single rail trips. Therefore, it is no longer functioning in line with the typical purpose of a daily cap – which is to protect **frequent** public transport users from the impact of higher costs.

We concluded that the current daily cap arrangements are not efficient and not sustainable in the long term. We also concluded that increasing the daily cap and linking it to other concession caps would improve the efficiency of fares and optimal use of the network without compromising the Government's social policy objectives.

Our draft recommendation was that the Gold Opal cap be linked to the level of other daily caps so the relativities are maintained over time. Specifically, we recommended this cap be set at 40% of the daily concession cap (or 20% of the daily adult cap). Given our draft recommendations on the adult cap, this would have resulted in a Gold Opal daily cap of \$3.60 from 1 July 2016, rising to \$3.80 from July 2017 and \$4.00 from July 2018.

¹⁴⁶ Source: ABS 6401.0 Index numbers, all groups CPI, Sydney: Dec-2004 82.3; Dec-2015 108.9.

¹⁴⁷ IPART, *Finding the best fare structure for Opal – Issues Paper*, July 2015, p 83.

Gold Opal eligibility criteria

The eligibility criteria for the Gold Opal card are fairly broad (see Box 9.2). We found that some of the eligible customer groups – specifically holders of a NSW Seniors Card – are not necessarily economically disadvantaged. In particular, we consider they are not necessarily more economically disadvantaged than those eligible for the Concession Opal card, who include full-time tertiary students and job seekers.

We also found that means testing access to the Gold Opal card would more tightly target the deep (additional) discounts it provides to those for whom the cost of travel is a real barrier. The current system allows some customers on relatively high incomes to access concessions that are far more generous than those available to many low income earners, such as job seekers, who are eligible for a Concession Opal card, but not a Gold Opal card.

In line with these findings, we made a draft recommendation that Seniors Card holders who do not also hold a pensioner concession or NSW war widow/ers card should be eligible for a Concession Opal card, rather than a Gold Opal. With a Concession Opal, they would continue to receive half-price concession fares, but would have a higher daily cap than Gold Opal customers. The Concession Opal cap is half the level of the Adult Opal cap.

Box 9.2 Eligibility criteria for Gold Opal

- ▼ Holders of Commonwealth Pension Concession Cards, being people in receipt of:
 - Age Pension, Bereavement Allowance, Carer Payment or Disability Support Pension.
 - Newstart or Youth Allowance as a job-seeker **and** single and caring for a dependent child and looking for work.
 - Parenting Payment (single).
 - some other benefits for more than 9 months **and** aged 60 or over.
- ▼ Holders of a NSW Seniors Card, being people aged 60 or over, permanent resident of NSW and work no more than 20 paid hours a week.
- ▼ Holders of a NSW War Widow/ers Card, being war widows or widowers who are not in receipt of a service pension, income support supplement or age pension and reside in NSW.
- ▼ Interstate seniors (card is valid for 60 days).
- ▼ Registered asylum seekers (card is valid for 12 months).

Source: Opal website, www.opal.com.au, accessed 13 April 2016.

9.3 Stakeholder feedback on draft recommendation on Gold Opal daily cap and IPART's response

Many of the submissions we received commented on our draft recommendation to set the Gold Opal daily cap at 40% of the Concession Opal weekday cap, which would result in the cap increasing from \$2.50 to \$3.60 in 2016-17. These submissions were from pensioners and seniors and their representatives. The sections below summarise their feedback on the draft recommendation, and our response to this feedback.

9.3.1 Stakeholder feedback on Gold Opal daily cap

Stakeholders' views on this draft recommendation were mixed. Some submitters said that a \$3.60 cap was acceptable, as long as it applied to seniors as well as pensioners.¹⁴⁸ However, others said any change from the \$2.50 cap would be unfair and/or unaffordable for pensioners, arguing that:

- ▼ TfNSW promised 'Never pay more than \$2.50'¹⁴⁹
- ▼ in 2005 the PET increased by 150%, so it is wrong to have another big one-off increase now¹⁵⁰
- ▼ the increase from \$2.50 to \$3.60 is much higher than the average fare increase¹⁵¹, or
- ▼ a CPI increase would be fairer.¹⁵²

A third group of submitters, including many groups representing seniors and pensions, said some increase from \$2.50 was fair, but \$3.60 was too much.¹⁵³ For example, the Older Women's Network (OWN) submitted that:

...we would consider well researched recommendations to modestly increase the current cap of \$2.50/day, in line with research and transparent benchmarks, such as the cost of living for older people on limited and fixed incomes *and* estimates of their overall contributions to community well-being through caring and volunteering.¹⁵⁴

¹⁴⁸ For example, Individual – H Rolfe submission to Draft Report, p 1; Individual – D Lees submission to Draft Report, p 1; Individual – K Bible submission to Draft Report, p 1.

¹⁴⁹ For example, Individual – Anonymous (W15/5343) submission to Draft Report, p 1.

¹⁵⁰ For example, Individual – D Brooker submission to Draft Report, p 1.

¹⁵¹ For example, Individual – Anonymous (W16/39) submission to Draft Report, p 1.

¹⁵² For example, Individual – A Phu submission to Draft Report, p 1.

¹⁵³ For example, Individual – Anonymous (W16/439) submission to Draft Report, p 1; Individual – O Heldon submission to Draft Report, p 1; Individual – B Wade submission to Draft Report, p 1.

¹⁵⁴ OWN submission to Draft Report, p 1.

National Seniors Australia, the Combined Pensioners and Superannuants Association (CPSA), and Council on the Ageing (COTA) also argued that the increase to \$3.60 was too much for financially vulnerable pensioners.¹⁵⁵ NSW Council of Social Service (NCOSS) submitted that:

Making the PET widely available to all seniors and consistently capping its fare at an affordable level has played a vital role in improving the lives of older people and, more recently, asylum seekers. As such, current arrangements ought not to change.¹⁵⁶

Many pensioners said they would have to reduce their travel and associated activities such as volunteering if the Gold Opal cap increased to \$3.60.¹⁵⁷ Several pointed out that pension eligibility rules changed recently so they had already experienced a loss of income.¹⁵⁸

CPSA argued that the Gold Opal cap should be set independently from other caps, and OWN suggested that the cap 'be reviewed by an independent and appropriately qualified panel every five years.'¹⁵⁹

9.3.2 IPART's response to feedback on Gold Opal daily cap

We considered the concerns expressed by stakeholders about increasing the daily cap from \$2.50 to \$3.60, and the impacts of this increase on Gold Opal customers. However, we were not persuaded that this increase is not affordable. As discussed above, there has been no change in to the nominal cap for the last 11 years, while prices in the economy have increased by 32% and pensions increased by 74% in this period. Therefore, a \$1.10 increase in the daily cap does not seem unreasonable.

We highlight that under our recommendation, the daily **cap** rather than the **fares** for Gold Opal customers would increase by 44%. Not all Gold Opal customers will experience the maximum possible impact. For example, a Gold Opal customer could take a return trip by bus to the local shops for \$2.12 under our recommended fares for 0-3 km bus trips, an increase of only 2 cents compared to the current return fare of \$2.10.

A Gold Opal card holder would have to take a return trip longer than 8km on a bus, light rail or peak hour rail service or 35 km on an off-peak rail service before the cap is reached. Only about 20% of trips on Gold Opal cards are currently longer than these thresholds.¹⁶⁰

¹⁵⁵ National Seniors Australia submission to Draft Report, p1; CPSA submission to Draft Report, p 8; COTA submission to Draft Report, pp 1-2.

¹⁵⁶ NCOSS submission to Draft Report, unnumbered page, section 8.

¹⁵⁷ For example, Individual – N Mysliouk submission to Draft Report, p 1; Individual – M Davis submission to Draft Report, p 1; Individual – A Sawers submission to Draft Report, p 1.

¹⁵⁸ For example, Individual – A Hill submission to Draft Report, p 1; Individual – E Chambers submission to Draft Report, p 1; Individual – G Hook submission to Draft Report, p 1.

¹⁵⁹ CPSA submission to Draft Report, p 3; OWN submission to Draft Report, p 1.

¹⁶⁰ Source: trip data provided by TfNSW.

We further consider that linking the Gold Opal cap to other caps will minimise impacts on customers in future as small annual increases are easier for consumers to manage than once-a-decade increases.

9.4 Stakeholder feedback on draft recommendation on Gold Opal eligibility and IPART's response

More than half of the over 1,200 submissions we received in response to our Draft Report focused on our draft recommendation to tighten the eligibility criteria for Gold Opal. Under this recommendation, Seniors Card holders who do not also hold a pensioner concession or NSW war widow/ers card would be eligible for a Concession Opal card, not a Gold Opal card.

9.4.1 Stakeholder feedback on Gold Opal eligibility

Nearly all the submissions that commented on this draft recommendation were opposed to it, for a variety of reasons. These included that it was unfair; unaffordable; and would have detrimental flow-on effects. Several submissions also suggested alternative ways to better target the benefits provided by Gold Opal.

Most submissions were from Seniors Card holders who said that the proposal to move them from Gold Opal eligibility to Concession Opal eligibility was unfair. Reasons given for unfairness included:

- ▼ self-funded retirees save the Government money so should get this benefit¹⁶¹
- ▼ self-funded retirees have worked hard and paid taxes all their lives and deserve this benefit¹⁶²
- ▼ this is the only benefit self-funded retirees receive,¹⁶³ and
- ▼ other jurisdictions have free travel for seniors.¹⁶⁴

¹⁶¹ For example, Individual – T Reeve submission to Draft Report, p 1; Individual – R D'Arcy-Irvine submission to Draft Report, p 1; Individual – J Corkery submission to Draft Report, p 1.

¹⁶² For example, Individual – R McNaughton submission to Draft Report, p 1; Individual – G Gibbs submission to Draft Report, p 1; Individual – A Campagna submission to Draft Report, p 1.

¹⁶³ For example, Individual – R Walters submission to Draft Report, p 1; Individual – H O'Neill submission to Draft Report, p 1; Individual – J Forge submission to Draft Report, p 1.

¹⁶⁴ For example, Individual – P Putnam submission to Draft Report, p 1; Individual – D Levy submission to Draft Report, p 1; Individual – M Liu submission to Draft Report, p 1.

Many submitters said that an increase in the daily cap for seniors to \$9.00 was unaffordable. For example, many self-funded retirees said it would put pressure on their personal finances and/or reduce their travel because they could no longer afford it.¹⁶⁵ Several of these submissions appeared to be based on the incorrect assumption that Seniors Card holders would be charged full fares or a \$9.00 flat fare, rather than concession **fares** with a \$9.00 **daily cap**.¹⁶⁶

Several submissions pointed out that some self-funded retirees are just above the pension threshold and don't receive other benefits, and this group would be as adversely affected as pensioners by changes to the daily cap.¹⁶⁷ OWN submitted that 'the extent and nature of poverty amongst older people and particularly amongst older women is not yet well understood and can't be neatly defined via categories such as eligibility for the pension.'¹⁶⁸

Many submissions put the view that increasing the daily cap for Seniors Card holders to \$9 would have detrimental impacts on road congestion and accidents, the economy and seniors' well-being.

Many submissions said that older people would drive more if the Gold Opal card cap went up and/or if non-pensioner seniors went onto a Concession Opal, increasing congestion on the roads.¹⁶⁹ The Australian Cyclists Party and others suggested that there are higher accident externalities from older drivers and that the benefits of active travel for older people are greater.¹⁷⁰ Our analysis of the socially optimal fares included modelling the impact of switching from public transport to cars on road congestion and accidents. See Chapter 3 and Appendix D for further discussion of this point.

Many submissions argued that there would be a flow-on effect for the economy if seniors/pensioners travelled less and spent less money on entertainment or shopping, or undertook fewer volunteering activities.¹⁷¹

¹⁶⁵ For example, Individual – Anonymous (W16/449) submission to Draft Report, p 1; Individual – K Gatliff submission to Draft Report, p 1; Individual – T Gericke submission to Draft Report, p 1.

¹⁶⁶ For example, Individual – J Rowe submission to Draft Report, p 1; Individual – A Braum submission to Draft Report, p 1; Individual – W Kemp submission to Draft Report, p 1.

¹⁶⁷ For example, Individual – M Cosby submission to Draft Report, p 1; Association of Independent Retirees submission to Draft Report, p 2; OWN submission to Draft Report, p 2; National Seniors submission to Draft Report, p 1; CPSA submission to Draft Report, p 6; COTA submission to Draft Report, p 1.

¹⁶⁸ OWN submission to Draft Report, p 2.

¹⁶⁹ For example, Individual – P Kavanagh submission to Draft Report, p 1; Individual – J Conlon submission to Draft Report, p 1; Individual – T Glover submission to Draft Report, p 1.

¹⁷⁰ For example, Australian Cyclists Party submission to Draft Report, pp 1-2; Individual – P Mair submission to Draft Report, p 1; Individual – J Collins submission to Draft Report, p 1.

¹⁷¹ For example, Individual – F Briggs submission to Draft Report, p 1; Individual – G Dodds submission to Draft Report, p 1; Individual – J Rowe submission to Draft Report, p 1.

Several submissions raised the issue that higher prices would increase social isolation of seniors and pensioners. For example, the CPSA said:

An accessible, affordable, well integrated public transport system is paramount in ensuring the social, physical and economic wellbeing of everyone in NSW. Public transport plays a key role in supporting the physical and mental health and wellbeing of individuals, enabling people to access essential services and to remain active and engaged with their communities. This becomes increasingly important for people as they age, particularly for those who have ceased driving. Without a reliable, accessible and affordable transport system, such people are left isolated and unable to independently go about their daily lives. Research has shown that socially isolated individuals generally have poorer health and wellbeing outcomes.

Subsidised public transport has flow-on effects that benefit the entire community, over and above assisting low income individuals. The ability for people to remain active, particularly if they don't have access to a car, enables them to contribute to their communities. This can have a positive impact on keeping people out of hospital and residential aged care. This is preferable not only to the individual, but the wider community. The tightening of eligibility for the Gold Opal card is likely to increase the social isolation of older people, the associated costs of which have not been considered by the IPART draft report.¹⁷²

Similarly, NCOSS argued that there should be no changes to Gold Opal eligibility or the \$2.50 cap, as they had 'played a vital role in improving the lives of older people' by enabling them 'to participate in civil society, through connections with friends and family and engaging in community activities.' NCOSS proposed that, rather than moving seniors off the Gold Opal, Concession Opal card holders should be moved onto the Gold Opal.¹⁷³

The CPSA, NCOSS, OWN and others made the point that the risks of social isolation and inactivity are age-related as well as income-related.¹⁷⁴ More older people are unable to drive and/or are encouraged not to drive (a point that was made in many submissions¹⁷⁵) and therefore are more dependent on public transport whether or not they are also economically disadvantaged.

Several submissions suggested alternative changes to Gold Opal eligibility to that proposed in our Draft Report. Suggestions included making the qualification age older for non-pensioners – in line with pension age, for example – or extending non-pensioner eligibility to Commonwealth Health Care Card holders.¹⁷⁶

¹⁷² CPSA submission to Draft Report, p 4.

¹⁷³ NCOSS submission to Draft Report, unnumbered page, section 8.

¹⁷⁴ For example, NCOSS submission to Draft Report, unnumbered page, section 8; CPSA submission to Draft Report, p 4; Springwood Fitness Walkers submission to Draft Report, p 1; OWN submission to Draft Report, p 5.

¹⁷⁵ For example, Individual – M Stonell submission to Draft Report, p 1 – 'NSW Police recently stated that drivers over 70 were more accident prone and should consider driving less'; Individual – F Briggs submission to Draft Report, p 1; Individual – E Miron submission to Draft Report, p 1.

¹⁷⁶ For example, Individual – H Rolfe submission to Draft Report, p 1; Individual – M Davis submission to Draft Report, p 1; Individual – A Rickersey submission to Draft Report, p 1.

Other submissions argued that setting a Seniors cap that was higher than the Gold Opal cap would be fair, but it shouldn't be as high as the Concession Opal cap.¹⁷⁷

9.4.2 IPART's response to feedback on Gold Opal eligibility

Seniors' eligibility for the Gold Opal card is clearly a popular and highly valued benefit. However, we were asked to consider concession arrangements on the basis of their support for optimal use of the network and our view continues to be that the additional discount for non-pensioner seniors does not support optimal use of the network.

We consider that there is a policy argument for providing concessions to customer groups, such as economically disadvantaged people, who are at higher risk of social exclusion. We also note that the risk of social exclusion and the cost of accident externalities increase with age, independent of economic disadvantage. We consider that these are sufficient justifications for concession fares and concession weekly caps applying to these customer groups. However, we do not consider that there is sufficient justification for non-economically disadvantaged seniors to receive an additional deep discount via the Gold Opal cap. (Box 9.3 provides more information about our consideration of concession arrangements and the external benefits of public transport throughout the course of this review.)

Ultimately, decisions about concession levels and eligibility are matters of social policy judgement for the Government. Nevertheless, it is our view that if seniors continue to be eligible for the Gold Opal card, the Government should review eligibility for the Seniors Card, to ensure its benefits are targeted to people who need them most.

¹⁷⁷ For example, Individual – Anonymous (W16/451) submission to Draft Report, p 1; Individual – A Michaelis submission to Draft Report, p 1; Individual – C Longfoot submission to Draft Report, p 1.

Box 9.3 Concession arrangements and the external benefits of public transport

We considered the issues of social inclusion and wider economic benefits of transport during the review of external benefits of public transport that formed part of our current fare review. We concluded that:

- ▼ some benefits associated with improved mobility and social inclusion are external, but many are private
- ▼ the benefits largely arise from physical access to public transport and frequency of services rather than fare levels, and
- ▼ no valuation studies of the external benefits have been undertaken to our knowledge, so quantifying them would be very difficult.

Therefore, we did not include an estimate of social inclusion or wider economic benefits when we assessed the marginal external benefits of public transport travel as part of our calculation of socially optimal fares.

However, we also noted that the risk factors for social exclusion include household income, supporting the view that well-targeted concession fares are an appropriate way of incorporating these externalities into fare-setting (rather than lowering fares for all customers and not just those who require the additional subsidy).

Source: IPART, *Review of external benefits of public transport – Draft Report*, December 2014.

10 | Maximum change in average fare

Once we developed our recommended package of fares and fare arrangements, we then calculated its impact on the average fare across the determination period.

Rather than determining individual fares, we have used this calculation to determine the maximum increase in the average fare that TfNSW can implement. Implementing our recommended package of fares would be one way of complying with this determination; however, TfNSW has the flexibility to decide on the levels of individual fares as long as the resulting average fare increase is no more than the determined maximum.

The sections below explain our final decisions on the maximum change in the average fare and how it will apply.

10.1 Overview of final decision

Consistent with Government's announced policy position, we have adopted a weighted average price cap for our final determination. Under this form of regulation, we determine the maximum amount by which the average fare can increase (in percentage terms).

Under our package of fares and fare arrangements the average fare would increase by a total of 13% over the determination period including the effect of inflation. Therefore, we are determining this as the maximum increase in the average fare permitted over the determination period. This means that fares can increase by an average of 4.2% a year (including inflation) over the next three years.

Within this overall cap, we have also decided to limit the increase in the average fare in 2016-17 to 6.6% including inflation.

We note that TfNSW can increase some fares by more than these average amounts, provided that these increases are offset by changes in other fares that are lower than the average.

IPART final decision

- 1 The maximum change in the average fare over the determination period is 13% including the effect of inflation.
- 2 The maximum change in the average fare in 2016-17 is 6.6% including the effect of inflation.

10.2 What is the maximum change in average fare and how will it be measured

A weighted average price cap (WAPC) provides greater flexibility to TfNSW to set individual prices as long as the average price does not exceed the WAPC.

We decided to determine the WAPC as a single cumulative figure across all modes for the 3-year period of the determination (13%), with the additional constraint that:

- ▼ the average increase in 2016-17 cannot exceed 6.6% compared to the average fare in 2015-16.

Our determination includes the effect of forecast inflation. The maximum allowed changes in the average fare will not be adjusted for differences between actual annual inflation and forecast during the determination period.

We consider that it is appropriate to give TfNSW flexibility of pricing across modes to allow them to implement a more integrated fare structure.

We consider that TfNSW should also have flexibility between years of the determination to allow structural changes to fares.

However, we also consider that it is appropriate to mitigate the impact of large changes in the average fare in 2016-17 through limiting the maximum change to 6.6%, the maximum single year average increase in our proposed package of fares.

We also considered whether to place this limit on the second and third years of the determination period. We decided that these limits are not needed because if TfNSW does not put up fares in the first year, then customers pay less in present value terms over the determination period.

10.2.1 Services and customers that are included

The maximum changes in the average fare applies to trips made across all Opal services excluding Gold Opal and Pensioner Excursion tickets (PETs) and travel on the School Student Travel Scheme. That is:

- ▼ rail services operated by Sydney Trains and NSW TrainLink Intercity
- ▼ government and private bus services in Sydney, Newcastle, the Central Coast, Wollongong, the Blue Mountains and the Hunter regions
- ▼ ferry services operated by Sydney Ferries
- ▼ light rail services in Sydney, and
- ▼ the Stockton Ferry in Newcastle.

This is different to the current determinations that have separate allowed increases for each mode of transport.¹⁷⁸ We consider that a maximum change in the average fare across *all modes* is more suitable as it allows TfNSW sufficient flexibility to implement a more integrated fare structure including introducing a rebate for customers using more than one mode.

The maximum change in the average fare includes trips taken using Adult, Child/Youth and Concession Opal cards¹⁷⁹, existing magnetic strip paper tickets, and the new single use Opal cards or paper tickets. It would also apply to any future contactless payment methods where customers pay for trips by tapping on and off with their credit and debit cards.¹⁸⁰

10.2.2 Compliance with the determination

TfNSW will be required to demonstrate to IPART's reasonable satisfaction that it complies with the determination.

TfNSW can change fares at any time (eg, midway through a year) so long as it demonstrates to IPART's reasonable satisfaction that the average fares do not exceed the levels set out in the final determination. TfNSW will be required to submit a pricing proposal before fares can change.

¹⁷⁸ See IPART CityRail and Multi Modal tickets from January 2013 Transport – Determination, November 2012, IPART, Sydney Ferries services Transport – Determination, November 2012, IPART, Sydney Metropolitan and Outer Metropolitan Bus Services Transport – Determination, November 2013.

¹⁷⁹ For the purposes of calculating the average change in fares, all journeys made on concession fares will be added to the journeys taken on the equivalent adult fare.

¹⁸⁰ TfNSW, Media release - *Future Transport Summit: pushing the boundaries for technology in transport*, Available from: <http://www.transport.nsw.gov.au/media-releases/future-transport-summit-pushing-boundaries-technology-transport>, Accessed 26 April 2016.

The proposal must include a spreadsheet setting out all proposed fares and the weightings used to calculate average fares. The average fares will be calculated using weights based on the proportion of trips made at different fares. Box 10.1 gives an example of how this would be done. The spreadsheet would need to include the impact of any changes to daily and weekly caps, weekly travel rewards and weekend travel.

Pricing proposals must be received 20 business days before a proposed change and approved by IPART before the changes apply. We will review compliance in order to ensure that fare levels do not exceed the increases allowed under our determination. We may publish a compliance statement and TfNSW's pricing proposal on our website.

Box 10.1 How we check that the proposed fares do not exceed our average fare increase

Consider a hypothetical example where there are two fares for two different types of trips. In 2015-16, the average Adult Fare is calculated multiplying the Fares for a particular Trip by the proportion of passengers paying that fare, and summing the products.

Fares for year 2015-16

Trip	Fare	Number of Trips	Proportion of Trips	Price x Proportion of Trips
A	\$4.00	60	60%	\$2.40
B	\$6.00	40	40%	\$2.40
Sum		100	100%	Average Adult Fare: \$4.80

To check compliance with our determination in the first year (2016-17) in the table below we multiply the proposed Fares for a particular Trip by the proportion of the number of passengers that would pay that Fare, and sum the products. In this example, the average fare would be \$5.10, which is a 6.3% fare increase compared to 2015-16. These proposed Fares would comply, because the average change in Adult Fares is less than 6.6%.

Fares for year 2016-17

Trip Type	Fares	Number of trips	Proportion of trips	Price x Proportion of trips
A	\$4.20	66	55%	\$2.31
B	\$6.20	54	45%	\$2.79
Sum		120	100%	Average Fare: \$5.10

In the second year (2017-18) the average Fare is \$5.22, which is 8.8% higher than 2015-16. These proposed Fares would also comply because the average change in Adult Fares is less than 13%.

Fares for year 2017-18

Trip Type	Fares	Number of trips	Proportion of trips	Price x Proportion of trips
A	\$4.30	80	58%	\$2.49
B	\$6.50	58	42%	\$2.73
Sum		138	100%	Average Fare: \$5.22

11 Impacts of our recommendations on cost recovery

Under the *Passenger Transport Act 2014*, IPART is required to consider the cost of providing public transport services and the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers. We are also required to consider the effect of the determination or recommendation on the level of Government funding.

This chapter describes the impacts of our final recommended package of fares on both of these aspects over the determination period. It explains our approach to calculating the actual and efficient costs of providing public transport services in Sydney and surrounding areas, and how our approach to calculating revenue, including how we forecast patronage over the determination period. Cost recovery describes the relationship between these elements by expressing revenue as a proportion of costs.

As noted in Chapter 10, the Government may set fares differently to our recommended package of fares, so long as the change in the average fare does not exceed the maximum change determined by IPART. A different set of fares will have a different impact on revenue and cost recovery compared to the impacts presented in this chapter.

11.1 Cost recovery

Consistent with the impact under our draft decisions, cost recovery is likely to fall slightly over the determination period as a result of our final recommendations, even if efficiency savings are made. This is because the increase in costs is significant over the determination period mainly due to planned capital investment for the Sydney Metro Northwest and the CBD and South-East Light Rail extension (CSELR).

We have calculated cost recovery both as a proportion of actual costs, and also the costs of providing the same services if efficiency savings are made and costs fall to efficient levels. Efficient costs are forecast to increase around 5%¹⁸¹ per year, from \$4.8 billion in 2015-16 to \$5.6 billion in 2018-19. Under our final recommendations revenue will increase by less than costs, at around 3.7% per year.¹⁸²

¹⁸¹ Before inflation.

¹⁸² Excluding the impact of Government policy on Gold Opal.

In 2015-16, total fare revenue is forecast to recover around 22% of actual costs, and 25% of costs if efficiency savings are made (Tables 11.1 and 11.2).

Cost recovery declines slightly over the determination period to 24% of efficient costs in 2018-19. If efficiency savings are not made by 2018-19, average cost recovery would be around 2.9% lower by the end of the determination period.¹⁸³

Tables 11.1 to 11.2 also show that a portion of the under-recovery comes from concession policy, because around 15% of trips pay half price, and around a further 15% of trips are made using a Gold Opal card (currently has a daily cap of \$2.50). If notional concession subsidies¹⁸⁴ are treated as revenue when we calculate the level of cost recovery, overall cost recovery in 2018-19 is equal to 25% of actual costs, and 28% of efficient costs.¹⁸⁵

IPART finding

- 1 Under our final recommendations, fares will continue to cover around 25% of efficient costs, with taxpayers funding the remaining 75%.

Table 11.1 Forecast recovery of actual costs in 2015-16
(\$million, real \$2015-16)

	Sydney Trains & NSW Trains	All metro and outer metro buses	Ferries	Light rail	Total/ Weighted average
Revenue from fares	762.2	372.2	47.3	12.1	1,193.8
Actual costs	3,820.8	1,512.0	146.2	45.5	5,524.5
Concession subsidy	116.2	120.8	13.9	1.6	252.5
Remaining subsidy	2,942.4	1,018.9	85.0	31.8	4,078.2
Actual cost recovery (%) from fares	20%	25%	32%	27%	22%
Actual cost recovery from fares and concession subsidies (%)	23%	33%	42%	30%	26%

Note: Total costs are net of a proportion of revenue earned from commercial sources such as advertising or charter services. Revenue from concession subsidies are notional, and is equal to the difference between the adult fare and the concession fare paid.

Source: Data provided by TfNSW. IPART calculations.

¹⁸³ Cost recovery in Table 11.1 and Table 11.2 is slightly higher than reported in our draft, due to updated 2015-16 farebox data. Our updated 2015-16 farebox data is higher than what was used in the draft report. This has meant that while revenue is forecast to increase by the same amount for our draft and final package of fares, the absolute level of revenue is higher.

¹⁸⁴ A notional concession subsidy is equal to the difference between the adult fare and the concession fare paid.

¹⁸⁵ In previous reviews where we used the building block model to set fares, we also included a notional contribution from Government for concession and School Student Transport Scheme (SSTS) fares in fare revenue, as a CSO. Cost recovery can be estimated with or without this CSO.

Table 11.2 Forecast recovery of efficient costs in 2015-16 and 2018-19 (\$million, real \$2015-16)

	Sydney Trains & NSW Trains	All metro and outer metro buses	Ferries	Light rail	Total/ Weighted average
2015-16					
Revenue from fares	762.2	372.2	47.3	12.1	1,193.8
Efficient costs	3,392.8	1,256.2	140.1	45.5	4,834.7
Concession subsidy	116.2	120.8	13.9	1.6	252.5
Efficient cost recovery from fares (%)	22%	30%	34%	27%	25%
Efficient cost recovery from fares and concession subsidies (%)	26%	39%	44%	30%	30%
2018-19					
Fare revenue	859.8	401.6	52.6	42.1	1,356.1
Efficient costs	4,046.3	1,294.3	152.0	128.2	5,620.8
Concession subsidy	104.0	104.8	13.8	4.7	227.3
Efficient cost recovery from fares (%)	21%	31%	35%	33%	24%
Efficient cost recovery from fares and concession subsidies (%)	24%	39%	44%	37%	28%

Note: Total costs are net of a proportion of revenue earned from commercial sources such as advertising or charter services. Revenue from concession subsidies are notional, and is equal to the difference between the adult fare and the concession fare paid.

Source: Data provided by TfNSW. IPART calculations.

11.1.1 Loss of revenue if fares are not increased

Under the *Passenger Transport Act 2014*, we are required to assess and report on the likely annual cost to the Consolidated Fund if the fare were not increased to the maximum permitted. If the Government does not put up fares in line with our determined maximum average fare increase, then we estimate funding would need to increase by:

- ▼ \$284 million if it holds fares constant in nominal terms over the next three years.
- ▼ \$115 million if it increases the average fare only in line with inflation over the next three years.¹⁸⁶

¹⁸⁶ Excluding the impact of any changes to the Gold Opal, and behavioural responses to fares.

11.2 Costs

We calculated the actual costs of providing services for each mode using a building block approach. This sums operating costs, depreciation and a return on capital costs, an allowance for working capital and notional taxation consistent with IPART's standard approach. We deducted a proportion of revenue earned from commercial sources from the share of costs to be recovered from passengers and taxpayers. More information on our building block model is explained in *Information Paper 2: Cost Recovery*, available on our website.

However, not all of these costs involved in delivering transport services are efficient. We engaged the Centre for International Economics (CIE) to provide advice on the efficient operating costs for each mode and TfNSW ticketing costs. CIE compared operators' cost metrics against those of benchmark operators and with previous efficiency studies. CIE's final report is available on our website. We also analysed Sydney Trains and NSW Trains total factor productivity and how this has changed over time. *Information Paper 3: Total Factor Productivity – Sydney's rail network* is available on our website.

We did not review the efficiency of capital expenditure. We consider that capital expenditure decisions, generally made by the NSW Government (eg, the Sydney Metro Northwest, new fleet and depots/wharfs/stations) are a matter of government policy and note that procurement of works is subject to the NSW Government Procurement Policy Framework 2015.

In undertaking our analysis, we experienced some difficulties in obtaining relevant and consistent cost data. For example, TfNSW did not collect some data in a consistent format across transport modes. In addition, some cost categories had changed over time, particularly as a result of the restructuring of Sydney Trains and NSW Trains. To reduce the time and resources involved with collating cost data for future reviews, we recommend that IPART work with TfNSW to develop a standard set of regulatory accounts for each mode that can be updated annually. This is similar to what we do with regulated water businesses.

Final recommendation

- 22 That IPART works with TfNSW to develop a standard set of regulatory accounts for each mode that can be updated annually.

11.2.1 CIE findings on efficient costs

In their Draft Report CIE reported that costs of inefficiency in the provision of public transport services are in the order of \$859 million comparing current costs (2014/15) to efficient costs in 2018-19. In their final report, CIE concluded by 2018-19 the efficiency gap reduces to \$603 million, as rail, bus and ferry services are all projected to become more efficient from 2014-15 to 2018-19. These inefficiencies if unaddressed would cost the NSW Government \$1.8 billion over the three years to 2018-19. For further details on CIE's calculation of these costs, see CIE's report on our website.

The difference between actual costs and the benchmark efficient operator for each mode is shown in Table 11.3.

Table 11.3 Difference between actual and efficient costs of providing public transport (\$million, \$2015)

	2014-15	2015-16	2016-17	2017-18	2018-19
Rail	702	520	451	465	468
Light Rail	0	0	0	0	0
Bus	156	151	145	140	135
Sydney Ferries	14	8	2	0	0
Stockton ferry	1	1	1	1	1
Total	872	680	599	606	603

Source: CIE Final Report, *Efficiency of NSW Public Transport Services*, p 3.

CIE found that the cost of rail, bus and ferry services all cost more to operate than a benchmark efficient operator.¹⁸⁷ However, CIE found that efficiency had improved markedly where competitive tendering of services had been introduced, such as in some parts of the bus system and ferries.¹⁸⁸ For rail, inefficiencies included the cost of government policies of having guards on trains and staffing low patronage stations, as well as a low level of driver utilisation and higher maintenance costs.¹⁸⁹

For Sydney Ferries, higher fuel and maintenance costs from not undertaking partial fleet renewal as recommended in LEK's 2011 review for IPART were responsible for current cost inefficiencies, although ferry costs are forecast to reach efficient levels by the end of the determination period.¹⁹⁰

¹⁸⁷ To account for differences in size and patronage of networks, CIE applied Sydney Trains and NSW Trains cost metrics to other networks' kilometres and patronage to calculate what the total cost would be under Sydney Trains and NSW Trains cost profile.

¹⁸⁸ CIE, *Efficiency of NSW public transport services*, December 2015, p 4.

¹⁸⁹ Ibid, p 41.

¹⁹⁰ Ibid, pp 72-73.

TfNSW's ticketing costs are also currently higher than electronic ticketing systems in other jurisdictions due to the higher costs associated with implementation, but are forecast to fall to an efficient 'steady state' level by 2020-21.¹⁹¹

Based on CIE's findings, we estimate that the operation of public transport services is becoming more efficient, with the operating costs per trip forecast to fall by around 5% over the period 2015-16 to 2018-19. However, by 2018-19, we forecast a gap between actual and efficient operating costs of around 15%.

Finding

- 2 The operation of public transport services is becoming more efficient, with the operating costs per trip forecast to fall by around 5% over the period 2015-16 to 2018-19.
- 3 The gap between actual and efficient operating costs is around 15% by 2018-19.

11.3 Revenue

As a result of our recommended changes to fare structure, we expect some passengers to use public transport more as they respond to cheaper fares such as for multi-modal journeys. We also expect that some passengers will reduce their public transport use, for example frequent travellers may take less trips as they will have to pay for more of their journeys over a week. There will also be more passengers using public transport in total as a result of population growth, and new services.

Table 11.4 shows the expected impact of these revenue drivers as a result of our fare recommendations by the end of our determination. In total, fare revenue is forecast to increase by 11.4% in 2018-19 compared to 2015-16 revenue, excluding the impact of any changes to the Government's policy on Gold Opal. If the Government adopts our recommendations on Gold Opal, revenue is forecast to increase by an extra 2.2% to 13.6%.

Table 11.4 Overview of forecast change in revenue in 2018-19 compared to 2015-16 (real \$2015-16)

	Rail	Bus	Ferry	Light Rail	Total
Fare increase %	2.0%	9.8%	8.2%	3.7%	4.6%
Response to price %	0.0%	-3.5%	-2.6%	-3.3%	-1.2%
Patronage growth %	9.1%	-2.2%	3.9%	241.7%	8.0%
Revenue change %	11.1%	4.0%	9.5%	242.2%	11.4%

Note: Totals may not add due to rounding.

Source: IPART calculations.

¹⁹¹ Ibid, p 89.

Under our final recommended package of fares, we forecast that revenue would be approximately constant in the first year of the determination on average across all modes of transport as the structural changes are introduced. However, over 2017-18 and 2018-19 fares would increase to transition towards the optimal fare levels.

Table 11.5 shows the change in fare revenue for each year of the determination period, and compares the differences under our draft and final package of fares.

Table 11.5 Change in revenue by mode and year (real \$2015-16)

	Rail	Bus	Ferry	Light Rail	Total
Draft					
2016-17	-0.2%	-1.8%	3.8%	-6.8%	-0.6%
2017-18	3.8%	5.3%	4.3%	7.1%	4.3%
2018-19	7.6%	-1.3%	3.7%	272.0%	7.5%
Cumulative	11.5%	2.0%	12.2%	271.3%	11.4%
Average annual increase	3.7%	0.7%	3.9%	54.9%	3.7%
Final					
2016-17	-0.7%	1.6%	4.5%	-6.1%	0.1%
2017-18	4.0%	4.2%	2.5%	6.4%	4.0%
2018-19	7.6%	-1.8%	2.3%	242.5%	6.9%
Cumulative	11.1%	4.0%	9.5%	242.2%	11.4%
Average annual increase	3.6%	1.3%	3.1%	50.7%	3.7%

Note: This table does not match the forecast revenue table in the Draft Report because we have excluded Opal Gold changes from this analysis. Totals may not add due to rounding.

Source: IPART calculations.

Under our final recommended package of fares:

- ▼ Rail revenue falls slightly in the first year, largely as a result of increasing the off-peak discount from 30% to 40%, which applies to around 55% of rail trips that are taken in the off-peak.
- ▼ Revenue is forecast to increase for rail in the final year, because of additional patronage when Sydney Metro Northwest opens.
- ▼ Revenue is forecast to fall in the final year for buses, as some bus passengers switch to the Sydney Metro Northwest.
- ▼ Revenue is forecast to increase more in the first year for ferries, because of the impact of our recommended change to the Saturday and Sunday caps.
- ▼ Revenue is forecast to fall for light rail in the first year, because a large proportion of light rail journeys are multi-mode journeys, and we propose a \$2 rebate for multi-mode journeys. However, there is a forecast increase in revenue in the final year when the CSELR opens.

Table 11.5 shows that the cumulative change in revenue across all modes is the same between our draft and final package of fares – changing by 11.4%¹⁹² between 2015-16 and 2018-19, or an average of 3.7% per year. However, there are differences in how much forecast revenue growth comes from each mode, mainly due to the differences in the recommended frequency discounting arrangements between draft and final reports.

Specifically, under the draft recommendations, customers paid for their 10 most expensive trips over the week, which meant that more ferry trips were paid for because ferry journeys are generally the most expensive mode. For the same reason, less bus trips were paid for because buses are the cheapest mode, which reduced revenue for buses. Under our final determination, the frequency discounting is based on the order that the modes are taken, rather than the costs of the journeys. Therefore, relative to our Draft Report, more revenue comes from bus fares, and less from ferry fares.

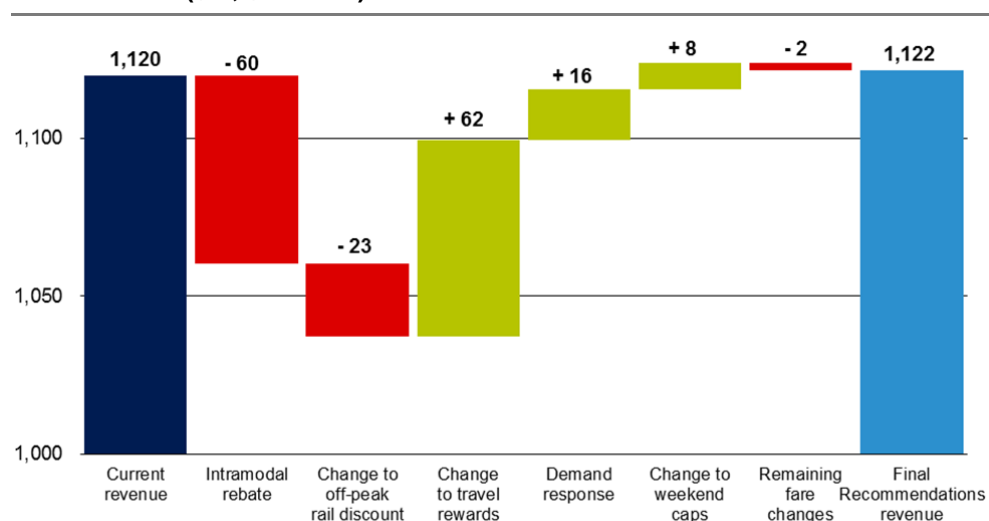
11.3.1 Changes in revenue due to changes in the fare structure in the first year of the determination

Figure 11.1 shows the impact of each of the changes to fare structure. It shows that the reductions to some aspects of the fare structure are offset by increases to others, so that the overall impact on revenue in 2016-17 is forecast to be approximately constant in real terms, at around \$1.12 billion¹⁹³ (excluding revenue from Gold Opal). For example, revenue is forecast to fall by \$60 million as a result of introducing a \$2 rebate on multi-modal fares, but increase by \$62 million as a result of reducing the discount from 100% to 50% on each journey after eight journeys have been taken in a week.

¹⁹² We note that the change in revenue was reported as 13.2% in our draft report, because we had also included the impact of higher revenue as a result of our recommendation on increasing the Gold Opal daily cap.

¹⁹³ The forecast in revenue is different from the draft mainly as changes Gold Opal fares have been excluded.

Figure 11.1 Revenue impacts of recommended fare changes in 2016-17 (\$m, \$2015-16)



Source: IPART calculations.

11.3.2 Changes in patronage from underlying growth

We primarily estimated patronage growth based on long-term average trends, with adjustments for one-off events, including the opening of the Sydney Metro Northwest and the CSELR. Table 11.6 shows our forecast patronage assumptions.

Table 11.6 Forecast annual patronage (%)

Mode	2015-16 (current)	2016-17	2017-18	2018-19	Cumulative to 2018-19
Rail	1.6%	1.6%	1.6%	5.5% ^a	10.3%
Bus	1.1%	1.1%	1.1%	-4.3% ^{a,b}	-1.0%
Ferry	1.2%	1.2%	1.2%	1.2%	4.8%
Light rail	1.6%	1.6%	1.6%	183% ^b	188.3%

^a Sydney Metro Northwest opens.

^b CBD and South-East light rail opens.

Our estimates are based on the following:

- ▼ Rail and light rail: Actual annual average historical growth from 2005 to 2015.
- ▼ Bus: BTS long-term average forecast 2011 to 2046.¹⁹⁴
- ▼ Ferry: BTS average annual growth from 2008 to 2014.¹⁹⁵

¹⁹⁴ BTS dataset, *Sydney Strategic Transport Model, Household Travel Survey*, December 2013.

¹⁹⁵ BTS dataset, *Ferries patronage*, June 2015.

In 2018-19, we made adjustments for bus and rail to account for the expected impact of the opening of the Sydney Metro Northwest. We adjusted patronage for buses down to reflect the anticipated drop in bus patronage as more customers move to the Metro. We also made a large adjustment to account for the expected impact of the opening of the CSELR.

11.3.3 Change in patronage in response to change in fares

Forecast patronage may also change in response to changes in fares. We modelled how our estimates of patronage for each mode would change in response to our proposed fares. We only modelled the impact of changes in patronage in response to a change in fares on that mode. For the purpose of forecasting cost recovery and revenue we did not include how patronage on one mode would change in response to a change in fares on another mode (ie, we did not consider how patronage on buses might change if rail fares became cheaper). However, we do include this in our fare optimisation model.

We used the following price elasticity assumptions for each mode (Table 11.7). The price elasticity is a measure of how sensitive passengers on that mode are to changes in price.

Table 11.7 Price elasticities per mode

	Peak	Off-peak	Opal Sunday	Gold Opal
Rail	-0.35	-0.44	-0.44	-0.10
Buses	-0.38	-0.51	-0.51	-0.10
Ferries	-0.38	-0.48	-0.12	-0.10
Light rail	-0.38	-0.51	-0.26	-0.10

Source: IPART calculations.

12 Impacts on customers

This chapter describes the impacts of our final recommended package of fares on customers over the determination period. On average, customers would face an increase of 13% over the determination period (in nominal terms). However, the impact would vary for different customers depending on how far they travel, which modes they use, and how many times they travel over a week.

As noted in Chapter 10, the Government may set fares differently to our recommended package of fares, so long as the change in the average fare does not exceed the maximum change determined by IPART. Some fares may increase by more, while other may increase by less, or decrease, provided the overall average change in prices is less than the cap. A different set of fares will have a different range of impacts on customers.

12.1 Overall impacts of our recommended package of fares

Table 12.1 shows the fare changes faced by customers on average for each year.¹⁹⁶ It shows that in the first year of the determination, fares would fall slightly, and then increase by between 4.5% and 9.1%, depending on the mode used. Over the entire determination period, fares in 2018-19 would be 13% higher than current fares on average. These price increases are lower than we allowed under our draft fares.

Our recommended fare package would result in an average fare reduction in 2016-17 to facilitate changes to fare structure while managing impacts on customers. In addition, we are recommending reducing the fares for customers that switch modes to complete a journey, and fares for off-peak rail customers.

While fares would fall in the first year under our recommended package of fares, revenue remains constant, due to patronage growth.

¹⁹⁶ Assuming that the distribution of journeys by distance and mode stays the same throughout the determination period. That is, it does not account for people changing travel behaviour as price relativities change between different types of journeys.

Table 12.1 Change in average fare by mode and year (nominal)

	Sydney Trains & NSW Trains	All metro and outer metro buses	Ferries	Light rail	Total/ Weighted average
Draft					
2016-17	1.1%	0.0%	4.0%	-8.3%	0.8%
2017-18	6.2%	9.6%	7.6%	11.5%	7.4%
2018-19	6.0%	8.6%	6.8%	9.9%	7.4%
Cumulative	13.7%	19.0%	19.5%	12.5%	16.3%
Final					
2016-17	-2.3%	2.6%	6.5%	-4.6%	-0.5%
2017-18	6.1%	7.5%	4.7%	9.1%	6.5%
2018-19	5.7%	7.0%	4.5%	8.3%	6.6%
Cumulative	9.5%	18.0%	16.4%	12.7%	13.0%

Note: Assuming that the distribution of journeys by distance and mode stays the same throughout the determination period. That is, it does not account for people changing travel behaviour as price relativities change between different types of journeys.

Source: IPART calculations.

12.1.1 Distribution of impacts under our final recommended of fares

Different customers would face different impacts under our recommended package of fares, depending on how far they travel, which modes they use, and how many times they travel over a week.

Figure 12.1 shows our range of customer impacts for customers that use just one mode of transport over a week. It indicates that under our final recommendations, in 2016-17:¹⁹⁷

- ▼ Around 40% of single-mode customers would pay less than they currently pay – many of these customers are off-peak rail customers.
- ▼ 97% of single mode customers travelling up to 10 times a week would pay a maximum of 20% more than they currently pay. Those travelling more than 10 times a week would face increases greater than 20%. Customers who travel more than 10 times a week make up around 14% of single mode adult customers.¹⁹⁸

As explained in Chapter 5, almost all customers making multi-modal journeys would pay less under our recommended package for 2016-17 compared to 2015-16 (although some journeys would cost more compared to our draft recommendations).

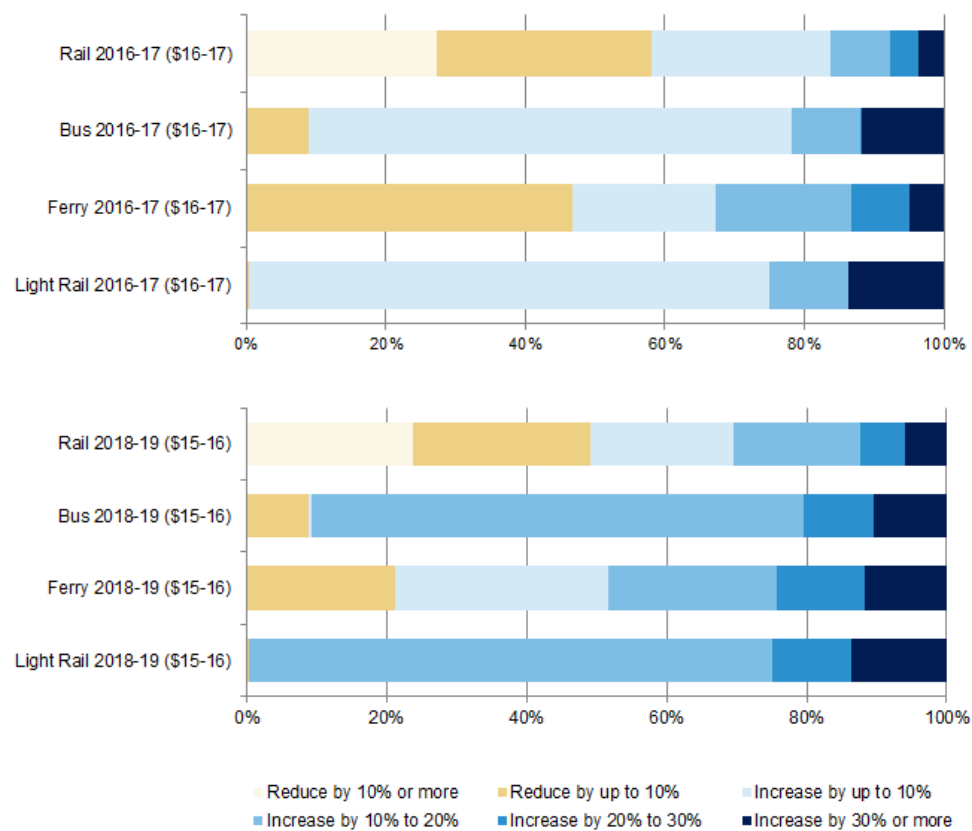
¹⁹⁷ Including the effect of inflation.

¹⁹⁸ TfNSW, data received 16 March 2016.

By 2018-19 (after the effect of inflation has been removed):

- ▼ Around half of rail customers would pay less than they are paying now.
- ▼ Around 20% of ferry customers and around 10% of bus customers would pay less than they are currently paying.

Figure 12.1 Changes in weekly customer spending on public transport under our final recommended fares (single-mode customers only)



Source: IPART calculations.

12.2 How our final recommended fares mitigate impacts on individual customers compared to our draft package of fares

Even though the average impact across all customers is similar between our draft and final package of fares, we have made significant changes to some of the fare arrangements in response to stakeholder feedback. These changes would reduce the largest impacts felt by a small number of customers.

Under our draft, the combination of the following changes produced some significant impacts:

- ▼ Customers paying for their 10 most expensive journeys over a week, rather than only for the first eight journeys that they make.
- ▼ Measuring train journeys based on the straight line distance between the origin and destination, rather than the track distance travelled.
- ▼ Significant increases in fares for long distance journeys.

Examples of customers who faced the largest impacts under our Draft Report include:

- ▼ **10x single trip weekly commute from Mount Druitt to Blacktown.** This journey is 9.1 km as measured by track distance, and currently falls within the 0 -10 km distance band. Under our draft package of fares, this customer would travel 8.1 km as measured by straight line, moving into the 8-15 km distance band. In addition, paying for 10 journeys instead of eight journeys in a week increased the weekly spend from \$27.04 to \$41.60 (54% increase).
- ▼ **10x single trip weekly commute from Seven Hills to Central.** This journey is 32.1 km as measured by track distance, and currently falls within the 20-35 km distance band. Under our draft package of fares, this customer would travel 27.7 km as measured by straight line, moving into the 25-35 km distance band. In addition, paying for 10 journeys instead of eight journeys in a week increased the weekly spend from \$38.56 to \$57.00 (48% increase).

Under our final recommendations, we have made the following changes to mitigate these impacts:

- ▼ Changing the frequency discounting arrangements, so that rather than pay for their 10 most expensive trips, customers will pay for the first eight trips that they make in full, and then 50% of each trip thereafter.
- ▼ Train journeys continue to be measured as track distance while other changes to fare structure are implemented. We expect that after these other changes have been implemented, the isolated effect of moving to straight line distance would be significantly lower for affected journeys.
- ▼ Lower fare increases for longer distance rail and bus customers compared to our Draft Report.

The impact of these changes in 2016-17 reduces the highest increase to customers travelling 10 trips a week from 54% to 23% compared to our Draft Report. Only 3% of customers travelling 10 trips a week would face increases above 20% under our final package of fares.

In 2016-17 for the journeys above:

- ▼ **The weekly spend for a 10x single trip weekly commuter from Mount Druitt to Blacktown** would rise from \$27.04 to \$33.21 or 23% instead of 54% under our draft.
- ▼ **The weekly spend for a 10x single trip weekly commuter from Seven Hills to Central** would rise from \$38.56 to \$45.99 or 19% instead of 48% under our draft.

12.2.1 Redistribution of impacts between infrequent travellers, and 10 trip per week commuters between draft and final decisions

Under our final package of fares, customers travelling 10 times a week would effectively pay for nine trips a week, rather than 10. However, to offset the reduction in revenue from these journeys, our recommended single fares are higher on average than they were in our Draft Report.

Table 12.2 uses bus fares to illustrate this trade-off. The maximum change for customers making a bus journey 10 times a week has fallen from 36% to 20%, however rather than single fares falling by up to 9%, most infrequent customers face modest increases to their bus fares.

Table 12.2 Changes to bus fares – 2016-17 (\$ nominal including GST)

	Single					10x trips				
	Current 2015	Draft	Final	Draft	Final	Current 2015	Draft	Final	Draft	Final
	\$	\$	\$	%	%	\$	\$	\$	%	%
0 - 3 km	2.10	1.98	2.12	-6%	1%	16.80	19.80	19.08	18%	14%
3 - 8 km	3.50	3.34	3.52	-5%	1%	28.00	33.40	31.68	19%	13%
8 - 15 km	4.50	4.11	4.50	-9%	0%	36.00	41.10	40.50	14%	13%
15 - 25 km	4.50	4.69	4.69	4%	4%	36.00	46.90	42.21	30%	17%
25+ km	4.50	4.91	4.80	9%	7%	36.00	49.10	43.20	36%	20%



Appendices

A Minister's referral



The Hon Andrew Constance MP
Minister for Transport and Infrastructure

PR15/05990

Mr Peter Boxall AO
Chairman
Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop NSW 1240

Dear Mr Boxall

I am writing to refer to the Independent Pricing and Regulatory Tribunal (IPART) the task of determining appropriate maximum fares for classes of Opal fares from 1 July 2016 to 30 June 2019. This referral, which is attached, has been approved by the Premier, the Hon Michael Baird MP, in accordance with the requirements of s123 of the *Passenger Transport Act 2014*.

Now that the implementation of the Opal electronic ticketing system (Opal) has been substantially completed, the NSW Government wishes to consider options for fare structure reform that would achieve greater levels of fare integration, including the benefits and costs of these options.

This referral, therefore, requires IPART to consider fare structure reform options for Opal following IPART's usual engagement with the community. It is intended that, if Government decides to make changes to the structure of Opal fares, IPART's final maximum fare determination would allow for those changes to be implemented from the middle of next year.

I look forward to the commencement of this important review, to considering IPART's advice with respect to fare structure options for the Opal system, and to receiving IPART's final report in due course.

Yours faithfully

Andrew Constance MP
Minister for Transport and Infrastructure

52 Martin Place, Sydney NSW 2000
Phone: (61 2) 8574 5807 Fax: (61 2) 9339 5512 Email: office@constance.minister.nsw.gov.au



Passenger Transport Act 2014
Section 123(1)(a)

Referral

I, the Hon Andrew Constance MP, Minister for Transport and Infrastructure, with the approval of the Hon Michael Baird MP, Premier of New South Wales and Minister administering the *Independent Pricing and Regulatory Tribunal Act 1992*, under section 123(1)(a) of the *Passenger Transport Act 2014*, refer to the Independent Pricing and Regulatory Tribunal (IPART) the following matter for investigation and report:

The determination of appropriate maximum fares for Opal Services.

In addition to the matters contained in s124 of the *Passenger Transport Act 2014*, in undertaking this investigation, IPART is, under s123(2)(b) of the *Passenger Transport Act 2014*, to consider:

1. The benefits of fare structures that support network integration to increase network efficiency and reduce overall costs;
2. The benefits and costs of spreading demand for public transport to increase efficiency in service delivery and the likely impact of different fares on the travel behaviour of customers, including whether current concession arrangements for peak and off-peak travel support the optimal use of the network;
3. Whether there are strong arguments for or against full integration of fares across all Opal Services, given that some modes have significantly different costs and/or externality benefits;
4. The relative contributions that customers and taxpayers should make to the cost of delivering Opal Services, including light rail as an Opal Service;
5. The technical feasibility of making changes to the current fare structure, given the features of the Opal system and the contracts in place for its implementation and operation;
6. The most appropriate method or methodology for determining maximum fares for Opal Services, including the need for sufficient flexibility to implement any changes to the current fare structure (where relevant);
7. Where relevant, transitional arrangements from the current fare structure to a new fare structure, assuming that new fares would apply from 1 July 2016 and including any customer impacts and technical limitations; and
8. The need to ensure consistency between:
 - (i) the structure of fares in the final determination of appropriate maximum fares for Opal Services; and
 - (ii) the NSW Government's announced policy position on the structure of fares for Opal Services.

For the purposes of this referral, Opal Services means the following services:

1. Train services operated by Sydney Trains;
2. NSW Trains services operated under the business name NSW TrainLink Intercity;

3. Sydney Ferries services operated under the authority of a service contract with Transport for NSW (TfNSW);
4. The Stockton Ferry;
5. Bus services operated under the authority of a Metropolitan Bus Service Contract with TfNSW;
6. Bus services operated under the authority of a Outer-Metropolitan Bus Service Contract with TfNSW; and
7. The Sydney Light Rail service.

IPART is to publish a draft report as soon as practicable but no later than 18 December 2015. The draft report is to include appropriate mode specific maximum fares for Opal Services and any integrated fare structure options developed by IPART.

IPART is to submit its final report and determination under this referral to the Minister for Transport and Infrastructure as soon as practicable but no later than 31 March 2016, or such later date as notified in writing by the Minister for Transport and Infrastructure.

This referral ceases to have effect on 30 June 2019, unless earlier varied or withdrawn.

Signed: 

Hon Andrew Constance MP
Minister for Transport and Infrastructure

Date: 16/6/15

Signed: 

Hon Michael Baird MP
Premier

Date: 8.7.15

B Government policy letter



Mr Peter Boxall
Chair
Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop
NSW 1240

Dear Mr Boxall,

I refer to the Independent Pricing and Regulatory Tribunal's December 2015 draft report *More Efficient, More Integrated Opal fares*. I am writing to advise IPART that the Government has considered the draft report. The Government thanks IPART for its comprehensive report and thorough examination of the issues. While the Government does not agree with some of the detail of proposals in the draft report, the Government notes and supports the overall intent to make changes that deliver a fairer, more efficient and more integrated fares system.

In finalising your review and making your determination with respect to appropriate maximum Opal fares from 1 July 2016 to 30 June 2019, it is the Government's policy position that IPART continue to regulate Opal fares with a weighted average price cap.

Under the current determinations for rail, bus and ferry, IPART determined maximum fares using a weighted average price cap. These determinations allow the Government to set the price of individual fares, provided the overall average change in prices is less than the cap. This approach provided Government with greater flexibility to facilitate the introduction of Opal and respond to changes in the way customers travel during this transition.

The Government continues to require flexibility in managing changes to fares so it can respond to changes in the way customers travel and transition issues if a more integrated fare structure is adopted.

Therefore, the determination will need to provide additional flexibility over the three year period, and 2016/17 in particular, to manage any such issues.

Flexibility is also required to ensure that the Government can implement over the coming three years further changes to the Opal system to benefit customers such as contactless payment of fares with credit and debit cards.

Such an approach is consistent with IPART's recent approach to setting maximum public transport fares.

The Government looks forward to receiving your final report and determination in May.

Yours sincerely,


Tim Reardon
Secretary

29 APR 2016

Transport for NSW
18 Lee Street, Chippendale NSW 2008 | PO Box K659, Haymarket NSW 1240
T 02 8202 2200 | F 02 8202 2209 | W transport.nsw.gov.au | ABN 18 804 239 602

C Submissions

Submissions to the Issues paper, Methodology Paper and Draft Report are available on the IPART website at:

http://www.ipart.nsw.gov.au/Home/Industries/Transport/Reviews/Public_Transport_Fares/Public_Transport_Fares_in_Sydney_and_Surrounds

C.1 Submissions to the Issues Paper

We received 99 submissions to the Issues Paper *Finding the best fare structure for Opal: Public transport fares in Sydney and surrounds* released in July 2015.

C.2 Submissions to the Methodology Paper

We received 15 submissions to the *Transport Methodology Paper – A new methodology for setting fares* released in September 2015

C.3 Submissions to the Draft Report

We received over 1200 submissions to the *Draft Report – More efficient, more integrated Opal fares* released in December 2015.

D Our final estimates of socially optimal fares

As Chapter 3 discussed, the first step in our approach for making our final determination and recommendations was to estimate the ‘socially optimal fares’. Section 3.4 explained what we mean by that term. The sections below:

- ▼ provide an overview of our final estimates of these fares
- ▼ outline how we estimated these fares
- ▼ explain how we used these estimates to develop our final package of recommended fares, and
- ▼ discuss our final social optimal fare estimates for each mode of public transport, and compare them to the current fares and our recommended fares.

D.1 Overview of final estimates of socially optimal fares

We estimated the socially optimal fares for each mode and each of our recommended distance bands (discussed in Chapter 4) and in peak and off-peak periods. These fares are set out in Table D.1 to Table D.8 (see below). As the tables show, the socially optimal fares vary more with distance than the current fares, and for some modes significantly more. The socially optimal fares also show there is clear case for rail fares to vary in peak and off-peak rail periods, but not for bus or light rail fares.

Broadly speaking, the socially optimal fares include a ‘flag fall’ charge and a ‘per km’ charge.¹⁹⁹ In peak periods, they vary significantly across modes, due to the different cost and usage profiles of each mode. For example, in peak times:

- ▼ **Marginal bus costs** are primarily driven by the number of passenger kilometres rather than by the number of passenger journeys. This is because a high proportion of bus costs are variable costs that increased with the distance travelled (eg, fuel, driver labour, vehicle costs). As a result, the socially optimal bus fares include a low flag fall and a higher per km charge.

¹⁹⁹ The optimisation model solves for optimal fare for four discrete distances: 2 km, 5 km, 15 km and 25 km. While there is not a linear function underpinning the optimal fares at these distances, we have estimated a linear relationship between them to align the optimal fares with our final recommended fare bands. This has produced a ‘flag fall’ and ‘per km’ rate for each mode for peak and off-peak fares.

- ▼ **Marginal rail costs**, however, depend much more on the number of passenger journeys. A much higher proportion of rail costs with the number of journeys, rather than the length of the journey (eg, track and station maintenance costs). Therefore, the socially optimal rail fares include a higher flag fall and a lower per km charge. In addition, the socially optimal fares for short distances are lower for bus than for rail, while those for longer distances are higher for bus than for rail (consistent with the current fares).
- ▼ **Marginal ferry costs** are the highest of all the modes, both per passenger journey, and per passenger kilometre. Therefore, the socially optimal ferry fares are the highest across all distances.
- ▼ **Long-run marginal light rail costs** include the costs of expanding the light rail network (eg, the CBD and South-East light rail extension). As a result, the long-run socially optimal light rail fares are very high.

In off-peak periods, the optimal fares also vary across modes but for different reasons. **For rail**, there is a very small difference between the off-peak socially optimal fares for long and short journeys – the distance rate is less than a cent per km. This is because in the off-peak, the external benefits that vary with distance travelled (congestion and pollution) almost completely offset the variable operation costs (fuel, labour).

For the other modes, the socially optimal off-peak fares increase significantly with distance travelled because the operational costs (which are not driven by peak capacity requirements) are a much larger proportion of all costs. For these operational costs:

- ▼ those that vary with number of passenger journeys (corporate overhead, timetabling, customer interface and ticketing) are lower than the external benefits that vary with passenger journeys (congestion, active transport), and
- ▼ those that vary with the number of passenger kilometres (fuel, driver, vehicle maintenance costs) are higher than the external benefits that vary with passenger kilometres (congestion, pollution).

D.2 How we estimated the socially optimal fares

There is a well-established economic framework for describing the socially optimal level of consumption and price for any good or service, which underpins our approach for estimating the optimal fares. More information on this framework is provided in *Information Paper 4: Optimal consumption and prices*, available on our website.

For this review, we developed a mathematical optimisation model that we used to estimate the socially optimal fares for single journeys on each mode. This model takes account of the specific context in which we are setting fares, including:

- ▼ the competition between cars and public transport modes
- ▼ the existing and planned public transport capacity
- ▼ the current utilisation of this capacity, and
- ▼ taxpayer subsidisation of public transport.

It aims to identify the fares that will balance two effects. First, setting fares above the socially optimal level would lead to excessive use of private cars and underutilisation of existing and planned public transport capacity, leading to higher external costs associated with road congestion, emissions and road accidents. And second, setting fares below the socially optimal level would lead to excessive crowding on public transport, underutilisation of existing and planned road capacity, and excessive public transport operating losses which must be funded from taxation.

The optimisation model requires a significant number of inputs and several simplifying assumptions. For each mode, we estimated the following key inputs:

- ▼ **The marginal social cost**, which is the full cost to society of one additional passenger journey. This cost is equal to:
 - **The efficient marginal financial cost** (the additional efficient financial cost of one additional passenger journey).
 - *Plus* **the marginal external cost** (the additional cost imposed on third parties as a result of one additional passenger journey).
 - *Less* **the marginal external benefit** (the additional benefit enjoyed by third parties as a result of one additional passenger journey).
- ▼ **The marginal excess burden of taxation**, which is the cost to society of raising taxes for the purpose of providing a Government subsidy for one additional passenger journey.
- ▼ **The demand for the services** during the peak and off-peak periods, and for journeys of different distances.
- ▼ **The responsiveness of demand to changes in the price** (known as the ‘price elasticity of demand’).

We estimated optimal fares from both a medium-run perspective, and a long-run perspective. The key difference between these perspectives is the degree to which public transport capacity can be adjusted:

- ▼ In the medium-run, capacity could be adjusted by varying the size of public transport vehicle fleets and service frequency, but infrastructure capacity remains fixed.
- ▼ In the long run, infrastructure capacity could also be adjusted.

As a result, the marginal social cost of public transport journeys for the peak is different in the medium run and the long run. Because the peak demand drives the need for infrastructure capacity expansions, we have not allocated any of the infrastructure capacity to the off-peak costs. This means that the marginal social cost for off-peak journeys is the same in the medium run and the long run.

Box D.1 and Box D.2 provide an overview of how we estimated the marginal social costs for the medium run and for the long run. For more information see Information Papers on medium run financial costs, long run marginal financial costs and marginal external costs.

Box D.1 Marginal social cost in the medium run

To calculate the medium-run marginal social cost for each mode, we first had to estimate the key inputs. The bases for our estimates of these inputs were as follows:

- ▼ **Marginal financial cost (MFC):** We used an average incremental cost methodology to estimate the marginal costs. We used aggregate cost information provided by TfNSW, and applied an efficiency adjustment to many of the costs based on an efficiency study undertaken by the CIE. We then made judgements on the extent to which the costs relate to capacity versus usage, and whether the costs are incurred per passenger journey or per passenger kilometre. Finally, we divided the aggregate capacity and usage costs by the number of passenger kilometres or passenger journeys for 2014-15 as appropriate.
 - ▼ **Marginal external costs (MEC):** Our estimates of the marginal external costs for each mode were based on data about traffic congestion and pollution (largely from buses and ferries), modelled using the Sydney Strategic Transport Model.
 - ▼ **Marginal external benefits (MEB):** External benefits of public transport mainly relate to reduced road congestion and pollution from displacing car use. Our estimates of the marginal external benefits for each mode were based on data about traffic congestion and pollution, modelled using the Sydney Strategic Transport Model.
-

Box D.2 Marginal social cost in the long run

Most of the costs associated with the provision of public transport services are the same in the medium run and in the long run. The exception is the costs and benefits associated with public transport infrastructure. To find the long-run marginal social cost for each mode, we added the costs of the relevant infrastructure net of associated benefits to our medium-run marginal social cost estimates.

The basis for our estimates of these net social infrastructure costs varied by mode, depending on the information available:

- ▼ **For rail**, we based our estimate on the publicly reported costs of the Sydney Metro Stage 2 (CBD and South West), our own forecast of future patronage, and our own estimate of road costs avoided because of this investment. We identified that one of the key benefits of this project is to avoid (or delay) the need for augmenting road capacity across Sydney. We estimated the value of this benefit and subtracted it from the costs of the Metro Stage 2, to give us the net social cost for each future rail journey made possible by this investment.

To allow us to use our estimate of the net social infrastructure cost of Sydney Metro Stage 2 in our fare optimisation model, we had to make an adjustment to avoid double counting the benefits of avoided road congestion. Further detail about this adjustment is provided in our technical papers on the long-run marginal social cost of public transport, and on our fare optimisation model.

- ▼ **For light rail**, we based our estimates largely on commercial-in-confidence information received from TfNSW. We also made a number of our own assumptions and estimates in relation to costs, benefits and future patronage.
 - ▼ **For bus and ferry**, TfNSW was unable to provide us with sufficient information for us to calculate the net social infrastructure costs. However, our medium-run financial cost estimate for buses already includes costs associated with bus priority measures. In addition, for both buses and ferries, the majority of capital costs are vehicle costs, and these costs are already captured in our medium-run cost estimates.
-

D.3 How we used the socially optimal fares to make our final recommendations

As Chapter 4 explained, the socially optimal fares vary significantly across modes. Therefore, we set different recommended fares for each mode.

Theoretically, we consider that Opal fares should be set in line with our estimates of the socially optimal levels. However, in some cases, these estimates are quite different from current fare levels, particularly for longer distance journeys. For example:

- ▼ The current peak fare for a 35 km rail journey is around 20% to 60% lower than our estimated range for the socially optimal fare in peak periods.
- ▼ The current fare for a 15 - 25 km bus journey is around 40% to 60% lower than our estimated socially optimal fare.

Therefore, setting all fares at the socially optimal level in this determination period would lead to very large impacts on customers.

In addition, for some services, the socially optimal level of patronage is lower than current levels. While for other services, it would be socially optimal to stop providing them, because their social cost is higher than the private and external benefits they generate.

Theoretically, the number of these services could be reduced (particularly in off-peak times), resulting in cost savings, a lower taxpayer subsidy, and a net welfare gain. This effect is captured by the optimisation model. However, in most cases, a contract for the provision of these services during the determination period is already in place. This means the number of services cannot be adjusted in response to changes in patronage. Therefore, in the medium run, significant fare increases that reduce patronage may worsen cost recovery and increase the burden on taxpayers (assuming costs remain steady).

Setting fares that result in large impacts on customers, significant patronage reductions, and falling fare revenue would be contrary to our assessment criteria this review. Therefore, we recommend gradually transitioning fares towards the socially optimal levels to minimise the impacts on customers, patronage and fare revenue.

While our recommended fares for some short journeys are set at the optimal levels in 2018-19, most fares are still significantly below optimal fares. For example, under our recommendations, bus fares for journeys 15 km – 25 km would increase by 17% over the determination period. But they are still between 37% and 56% lower than the optimal levels in 2018-19. Transitioning these fares to the socially optimal levels may take many years.

In addition, the socially optimal fares will change over time, as the Opal network changes and the way customers use it changes. For example, the socially optimal fares will increase as the capacity of the network becomes more constrained and the need for additional investment increases. But once the capacity is expanded, the socially optimal fares will fall as the costs of the next upgrade would be further into the future. Therefore, most likely a different set of socially optimal fares should guide fare decisions in future reviews to reflect the characteristics of the network at that time.

D.4 Our final social optimal fare estimates for each mode

For each mode, we have compared our final estimated socially optimal fares to the current fares and our final recommended fares in 2018-19, the final year of the determination period for each mode (see Table D.1 to Table D.8).²⁰⁰

²⁰⁰ Our estimate of socially optimal fares in 2018-19 are equal to those in 2014-15 in real terms.

The tables for the different modes differ in terms the way the socially optimal fares are expressed. For example, some show both medium-run and long-run optimal fares while others show only medium-run optimal fares. And some show the optimal fares as a point estimate while others show them as ranges. The reasons for these differences are outlined in Box D.3.

In addition, because our estimated socially optimal fares rely on a large number of input assumptions, the point estimates and ranges for socially optimal fares shown in the tables potentially lie within significantly wider ranges. We have released information papers that provide further information on our analysis and considerations in developing our estimates, and how we arrived at our point estimates and ranges for the socially optimal fares.²⁰¹

²⁰¹ See *Information Paper 5: Medium-run marginal financial costs*; *Information Paper 6: Long-run marginal social costs*; *Information Paper 7: External benefits and costs*; *Information Paper 8: Public transport fare optimisation model*; and *Information Paper 9: Elasticities*.

Box D.3 Why do the tables present socially optimal fares in different ways?

The way the socially optimal fares are presented in Table D.1 to Table D.8 differ across modes, due to differences in the way we estimated them. In particular:

- ▼ **For rail and light rail**, we estimated the socially optimal fares in peak periods for the medium run and the long run. This is because on these modes, additional capacity expansions can occur in the long run. The long run fares reflect the additional costs of these expansions. However, the expansions aren't necessary to provide off-peak services (as there is already spare capacity on these services) so there is no difference between the socially optimal rail and light rail fares in off-peak periods.
- ▼ **For bus, light rail and ferry**, we estimated a range of socially optimal fares in the peak periods. The fares at the lower end of the range are our estimates of the socially optimal fares when 'network frequency benefits' are included, and the higher end are the range when frequency benefits are excluded.
- ▼ **For rail**, we did not include network frequency benefits in the medium-run estimates because the network will remain at capacity for most of the 2016-19 determination period. This means that additional services cannot be added to accommodate new passengers. However, our range of long-run optimal rail fares includes network frequency benefits as expanded capacity would allow new services to be added in response to increasing patronage.

For all modes, we assume that network frequency benefits do not arise in the off-peak periods, because additional demand is likely to be accommodated on existing services. Therefore, the socially optimal off-peak fares are expressed as a point estimate, rather than as a range.

In addition, because our estimated socially optimal fares rely on a large number of input assumptions, the point estimates and ranges for socially optimal fares shown in the tables potentially lie within significantly wider ranges. We have released information papers that provide further information on our analysis and considerations in developing our estimates, and how we arrived at our point estimates and ranges for the socially optimal fares.²⁰²

D.4.1 Rail optimal fares

Our final estimates of the socially optimal peak and off-peak rail fares are shown in Table D.1 and Table D.2. In both tables, these optimal fares are presented in two ways – first, with distance measured as a straight-line and second, with distance measured as track distance.

²⁰² See *Information Paper 5: Medium-run marginal financial costs*; *Information Paper 6: Long-run marginal social costs*; *Information Paper 7: External benefits and costs*; *Information Paper 8: Public transport fare optimisation model*; and *Information Paper 9: Elasticities*.

Table D.1 Rail peak fares – Comparison of current, IPART socially optimal in 2018-19 and IPART recommended in 2018-19 (\$ nominal including GST)

Distance (km)	Final report - Distance measured straight line			Final report - Distance measured track distance			
	Current 2015	Socially optimal 2018-19		Current 2015	Final 2018-19	Socially optimal 2018-19	
		Medium run	Long run			Medium run	Long run
0 to less than 3	3.38	3.60	5.15 - 10.95	3.38	3.36	3.62	5.16 - 10.93
3 to less than 8	3.49	4.44	6.00 - 11.86	3.38	3.71	4.30	5.86 - 11.67
8 to less than 15	4.25	5.70	7.28 - 13.22	4.02	4.25	5.32	6.90 - 12.79
15 to less than 25	4.82	7.48	9.09 - 15.15	4.53	5.01	6.77	8.37 - 14.37
25 to less than 35	5.74	9.57	11.22 - 17.42	4.92	5.90	8.47	10.10 - 16.23
35 to less than 45	6.50	11.67	13.35 - 19.68	6.46	6.79	10.18	11.83 - 18.10
45 to less than 55	7.07	13.76	15.48 - 21.95	6.46	7.69	11.88	13.56 - 19.96
55 to less than 65	8.29	15.86	17.61 - 24.22	6.60	8.58	13.58	15.29 - 21.82
65 to less than 85	8.30	19.00	20.80 - 27.62	8.30	9.92	16.14	17.89 - 24.61
85+	8.30	23.19	25.06 - 32.16	8.30	11.70	19.55	21.35 - 28.34

Table D.2 Rail off-peak fares – Comparison of current, IPART socially optimal in 2018-19 and IPART recommended in 2018-19 (\$ nominal including GST)

Distance (km)	Final report – distance measured straight line		Final - distance measured track distance		
	Current 2015	Socially optimal 2018-19	Current 2015	Final 2018-19	Socially optimal 2018-19
0 to less than 3	2.36	1.42	2.37	2.01	1.42
3 to less than 8	2.44	1.50	2.37	2.23	1.48
8 to less than 15	2.97	1.61	2.82	2.55	1.58
15 to less than 25	3.37	1.77	3.15	3.01	1.71
25 to less than 35	4.02	1.96	3.43	3.54	1.86
35 to less than 45	4.55	2.15	4.52	4.08	2.02
45 to less than 55	4.95	2.34	4.52	4.61	2.17
55 to less than 65	5.80	2.53	4.65	5.15	2.33
65 to less than 85	5.81	2.81	5.81	5.95	2.56
85+	5.81	3.19	5.81	7.02	2.87

The socially optimal fares for the final report are different to the Draft Report largely because of our final decision to set fares based on track distance.

Our draft decision was that distance travelled should be measured as the longest straight line distance between any tap-on and tap-off on the journey. For the final report we decided that, on balance, rail fares should be measured as the track distance between tap-on and tap-off. We also recommend that they exclude the current 3.21 km that is added to all journeys through gateway stations into the CBD.

This means that for our final report on rail fares, optimal fares are presented using track distance. We used the trip-weighted relativities between the straight line distance and track distance for each of the optimal fare distance points. For example, a straight line journey of 15 km equals a track distance of 18.5 km on average. For comparison with the Draft Report, we have also included optimal fares measured using straight-line distance.

Our socially optimal peak rail fares when measured using track distance continue to vary significantly with distance compared to current peak rail fares. They include a higher peak rate per km of 17 to 19 cents than is implicit in current fares (5 cents).

Our final peak fares in 2018-19 include a per km rate of 9 cents. As a result, the final peak fares for journeys less than 8 km fall within the estimated range for the socially optimal fares by 2018-19, but the final peak fares for longer journeys do not. This was also the case in our Draft Report. Fares for these longer journeys will require a longer transition path to reach optimal levels.

As was the case in our Draft Report, there is a very small difference between the off-peak socially optimal fares for long and short journeys – the distance rate is around one cent per km.

This is because in the off-peak, the external benefits that vary with distance travelled (congestion and pollution) almost completely offset the variable operation costs (fuel, labour). As a result, these fares are between 61% and 90% lower than the socially optimal peak fares for rail.

In many cases, significant reductions in off-peak rail fares would be efficient because this would encourage better utilisation of spare rail capacity in off-peak periods. However, setting off-peak rail fares in line with optimal fares would lead to a marked deterioration in cost recovery. This is because the majority (around 60%) of journeys are taken in off-peak times, and the revenue from these passengers would fall significantly. We estimate that setting off-peak rail fares in line with the socially optimal off-peak fare would cause revenue to fall by around \$70 million, or 10% in the first year of the determination (taking into account the impact of additional demand).

To avoid this significant impact on fare revenue, we recommend continuing as we did in the Draft Report, taking a more incremental approach to improving utilisation on off-peak rail services. In particular, we recommend the final decisions to:

- ▼ Increase the off-peak discount from 30% to 40%. The revenue impact of this change is around (\$26 million, or 3% in the first year of the determination).
- ▼ Introduce a Saturday cap of \$7.20.

D.4.2 Bus fares

The socially optimal peak and off-peak bus fares are shown in Tables D.3 and D.4. The tables also compare the estimates to current fares, and our final recommended fares.

The optimal fares for buses in the peak are slightly higher than the optimal fares in our Draft Report. This is largely a result of updates to the marginal external costs for buses. See *Information Paper 7: External benefits and costs* for further details on these updates.

The socially optimal bus fares include a lower flag fall than is implied in the current fares – between \$0.49 and \$1.64, compared to \$2.10. These fares also vary significantly more by distance than the current fares. The socially optimal fares include a per km rate of 40 to 52 cents, compared to 5 to 12 cents implied in current fares. This means that to transition to the socially optimal bus fares, fares for short distance journeys should decrease slightly and fares for longer distance journeys should increase.

However, we have decided to increase fares for short distance journeys (less than 3 km) slightly to prevent a decline in cost recovery. It is our view that this should be maintained for the final report. And, while we have increased fares for bus journeys longer than 15 km, our final fares are still below socially optimal levels, to minimise impacts on customers. In order to manage these impacts, we have not used a flag fall and per km rate to set bus fares (as we have for other modes). However, the implied per km rate is around 10 cents in 2018-19.

Because almost 50% of bus journeys are shorter than 3 km, setting these fares within the range of optimal fares would lead to revenue growth of 3.7% by 2018-19, rather than 4% under our proposed final fares (this estimate includes the additional revenue from increasing demand for these bus journeys in response to cheaper fares.)²⁰³ On the other hand, increasing them slightly would have only a small impact on customers, while improving farebox revenue. The proposed final fare increase for these customers is only 2 cents per journey in the first year, and 34 cents over three years, which is an annual fare change of only 11 cents.

²⁰³ This estimate may overstate the price response to lower bus fares, given that buses are already the cheapest form of transport. If demand did not increase, the revenue would fall by more.

We also made a draft decision to set off-peak bus fares equal to peak bus fares. Unlike for rail, the socially optimal bus fares in the off-peak fall within the range of socially optimal fares for the peak. For our final report, we continue to recommend that we set off-peak bus fares equal to peak bus fares for this determination period.

While several stakeholders have argued that there should be off-peak bus fares, we maintain that optimal fares do not suggest that there is a clear case for different bus fares in the peak and off-peak. We also note that for rail, TfNSW collects and publishes information on load statistics by line which can be used to identify the extent of crowding issues in the peak and assist in defining peak periods. We recommend that TfNSW publish similar information on load statistics for buses and light rail (so that this information would be available for all modes). This would inform decisions on peak and off-peak fares in future fare reviews. With information on crowding and loading levels for buses for the next review there may be stronger evidence to propose an off-peak fare.

Table D.3 Bus peak – Comparison of current, IPART socially optimal in 2018-19 and IPART recommended in 2018-19 (\$ nominal including GST)

Distance (km)	Final		
	Current 2015	Final 2018-19	Final socially optimal 2018-19
0 to less than 3	2.10	2.44	1.08 - 2.40
3 to less than 8	3.50	4.10	2.66 - 4.40
8 to less than 15	4.50	4.70	5.03 - 7.41
15 to less than 25	4.50	5.25	8.39 - 11.68
25 to less than 35	4.50	5.60	12.34 - 16.70
35 to less than 45	4.50	5.60	16.29 - 21.72
45 to less than 55	4.50	5.60	20.25 - 26.74
55 to less than 65	4.50	5.60	24.20 - 31.75

Table D.4 Bus off-peak – Comparison of current fares, 2018-19 recommended and socially optimal fares (\$ nominal including GST)

Distance (km)	Final		
	Current 2015	Final 2018-19	Final socially optimal 2018-19
0 to less than 3	2.10	2.44	1.25
3 to less than 8	3.50	4.10	3.27
8 to less than 15	4.50	4.70	6.29
15 to less than 25	4.50	5.25	10.58
25 to less than 35	4.50	5.60	15.62
35 to less than 45	4.50	5.60	20.65
45 to less than 55	4.50	5.60	25.69
55 to less than 65	4.50	5.60	30.73

D.5 Light rail fares

The socially optimal peak and off-peak light rail fares are shown in Tables D.5 and D.6. The tables also compare the estimates to current fares, and our final recommended fares.

Table D.5 Light rail peak – Comparison of current, IPART socially optimal in 2018-19 and IPART recommended in 2018-19 (\$ nominal including GST)

Distance (km)	Final report			
	Current 2015	Final decision 2018-19	Socially optimal 2018-19	
			Medium run	Long run
0 to less than 3	2.10	2.44	1.39 - 2.72	8.95 - 8.98
3 to less than 8	3.50	4.10	3.27 - 5.09	11.42 - 11.62
8 to less than 15	4.50	4.70	6.08 - 8.65	15.07 - 15.62

Table D.6 Light rail off-peak – Comparison of current fares, 2018-19 recommended and socially optimal fares (\$ nominal including GST)

Distance (km)	Final report		
	Current 2015	Final decision 2018-19	Socially optimal 2018-19
0 to less than 3	2.10	2.44	0.74
3 to less than 8	3.50	4.10	3.27
8 to less than 15	4.50	4.70	7.07

The peak medium run optimal fares for light rail are higher than in our Draft Report. This is because the Draft Report estimate of peak journeys for light rail was overstated, leading to lower average incremental costs (or marginal financial costs) per passenger journey and passenger km in peak periods. Using this updated data results in a higher marginal financial cost in the peak and hence higher optimal fares. More information on this update is set out in *Information Paper 5: Medium run marginal financial costs*.

Our draft decision was to set light rail fares at the same level as bus fares. We maintain this recommendation for our final report.

In our Draft Report, we noted that light rail trips currently make up only a small proportion of public transport trips (around 2%) and that light rail will be replacing significant portions of the bus network during the determination period. One Individual questioned this reasoning and noted that ferry trips also make up a small proportion of public transport journeys.²⁰⁴

We note that this decision is a transitional measure only. At each new price review, we expect to update our optimal fares modelling with new information on costs, patronage and external benefits and costs.

We also note that there continues to be a very large spread between the medium run and the long run optimal light rail fares, which also means that our bus fares fall within the range of optimal light rail fares.

In the long run, the marginal cost of a light rail services is around \$8 per journey, plus around 60-70 cents per kilometre, leading to optimal fares of more than \$20 for a 8-15 km trip. Given our price elasticity estimates in our optimal fare model, patronage would fall to zero at these prices, and the services would not be provided.

D.5.1 Ferry fares

The socially optimal peak and off-peak ferry fares are shown in Tables D.7 and D.8. The tables also compare the estimates to current fares, and our final recommended fares.

The socially optimal ferry fares are largely unchanged from the Draft Report.

The socially optimal peak ferry fares for longer distances are much higher than the current fares. This is because they include a per km rate of 57 to 69 cents, which is significantly higher than the rate implicit in current fares (around 9 cents).

²⁰⁴ Individual - R Sandell (W16/1182) submission to Draft Report, p 4.

To begin to transition ferry fares to the socially optimal level, we have set our fares using a per km rate of 23 cents in 2018-19. We have also used a flag fall of \$5.40, which falls within the range of the flag fall implicit in the socially optimal fares. This means that by 2018-19, the fare for a 0 to 3 km ferry journey would be equal to the bottom of the socially optimal fare range. However, the fares for longer ferry journeys would remain below the socially optimal range.

We also recommend maintain our draft decision to set off-peak ferry fares equal to peak ferry fares in the final report. Unlike for rail, the socially optimal fares for ferries do not suggest there is a clear case for different fares in peak and off-peak periods. In addition, the optimisation model assumes that the peak and off-peak periods for ferry services are aligned with other modes. However, this is not the case, as there is high demand for ferry services on Sundays as well as during the weekday morning and afternoon peaks. Therefore, the only 'off-peak' period for ferry travel occurs during weekdays in the middle of the day, and late evenings.

Table D.7 Ferry peak – Comparison of current, IPART socially optimal in 2018-19 and IPART recommended in 2018-19 (\$ nominal including GST)

Distance (km)	Final		
	Current 2015	Final decision 2018-19	Socially optimal 2018-19
0 to less than 3	5.74	5.74	5.77-7.12
3 to less than 8	5.74	6.66	8.06-9.82
8 to less than 15	7.18	8.03	11.49-13.94
15 to less than 25	7.18	9.98	16.36-19.62

Table D.8 Ferry off-peak – Comparison of current, IPART socially optimal in 2018-19 and IPART recommended in 2018-19 (\$ nominal including GST)

Distance (km)	Final		
	Current 2015	Final 2018-19	Socially optimal 2018-19
0 to less than 3	5.74	5.74	2.19
3 to less than 8	5.74	6.66	5.77
8 to less than 15	7.18	8.03	11.15
15 to less than 25	7.18	9.98	18.77

E | Draft recommendations single fares

As Chapter 4 discussed, in making our final recommendations, we adjusted our draft recommendations on single mode fares in response to stakeholder comments on them, and to changes in our recommended fare structures.

This appendix sets out the tables of recommended fares that were in our Draft Report.

Table E.1 Draft Adult Opal fares – single rail journeys in peak periods (\$ nominal including GST)

Current distance bands	Current fares	Draft distance bands	Draft fares from		
Route distance (km)	2015	Longest straight-line distance between any tap on and tap off points (km)	July 2016	July 2017	July 2018
0-10	\$3.38	0 to less than 3	3.30	3.38	3.46
		3 to less than 8	3.36	3.62	3.88
10-20	\$4.20	8 to less than 15	4.16	4.33	4.50
20-35	\$4.82	15 to less than 25	4.74	5.06	5.39
35-65	\$6.46	25 to less than 35	5.70	6.06	6.43
65+	\$8.30	35 to less than 45	6.24	6.86	7.47
		45 to less than 65	7.55	8.29	9.03
		65 to less than 85	8.87	9.99	11.12
		85 to less than 100	9.96	11.45	12.94
		100+	10.86	12.55	14.24

Table E.2 Draft Adult Opal fares – single bus and light rail journeys (\$ nominal including GST)

Draft distance bands	Current fares	Draft fares from		
Longest straight-line distance between any tap on and tap off points (km)	2015	July 2016	July 2017	July 2018
0 to less than 3	2.10	1.98	2.22	2.46
3 to less than 8	3.50	3.34	3.67	3.99
8 to less than 15	4.50	4.11	4.38	4.65
15 to less than 25	4.50	4.69	4.99	5.29
25 to less than 35	4.50	4.91	5.30	5.69
35 and over	4.50	4.91	5.30	5.69

Table E.3 Draft Adult Opal fares – single Sydney Ferries journeys (\$ nominal including GST)

Draft distance bands Longest straight-line distance between any tap on and tap off points (km)	Current fares	Draft fares from		
	2015	July 2016	July 2017	July 2018
0 to less than 3	5.74	5.14	5.24	5.34
3 to less than 8	5.74	5.63	5.99	6.34
8 to less than 15	7.18	6.36	7.10	7.85
15 to less than 25	7.18	7.39	8.69	9.98
25 and over	7.18	7.39	8.69	9.98

Table E.4 Draft Adult Opal fares – single Stockton Ferry journeys (\$ nominal including GST)

Journey distance (km)	Current fares	Draft fares from		
	2015	July 2016	July 2017	July 2018
0 to less than 1	2.10	1.98	2.22	2.46

F Public transport user survey – key findings

We engaged Roy Morgan Research to conduct a survey of public transport users who are residents of Sydney and surrounding areas. Roy Morgan's report is available on the IPART website.²⁰⁵ This Appendix summarises some key findings of the survey.

F.1 Integrated fares for different modes of transport

Respondents were told that currently fares for the same distance are different on each transport mode due to different underlying costs in providing these services. Three alternative options were presented and respondents were asked to select the fare option they most agreed with.

- ▼ 46% said the same fares should apply for the same distance on all modes
- ▼ 35% said fares for the same distance should be different for each mode, and
- ▼ 19% said fares should be the same for buses, trains and light rail, but more expensive for ferries.²⁰⁶

Respondents who indicated that fares for the same distance should differ by mode were then asked to think about a public transport journey that involved using more than one mode. Four options were presented and respondents were asked to select which option they preferred.

Of those who indicated that fares for the same distance should differ by mode:

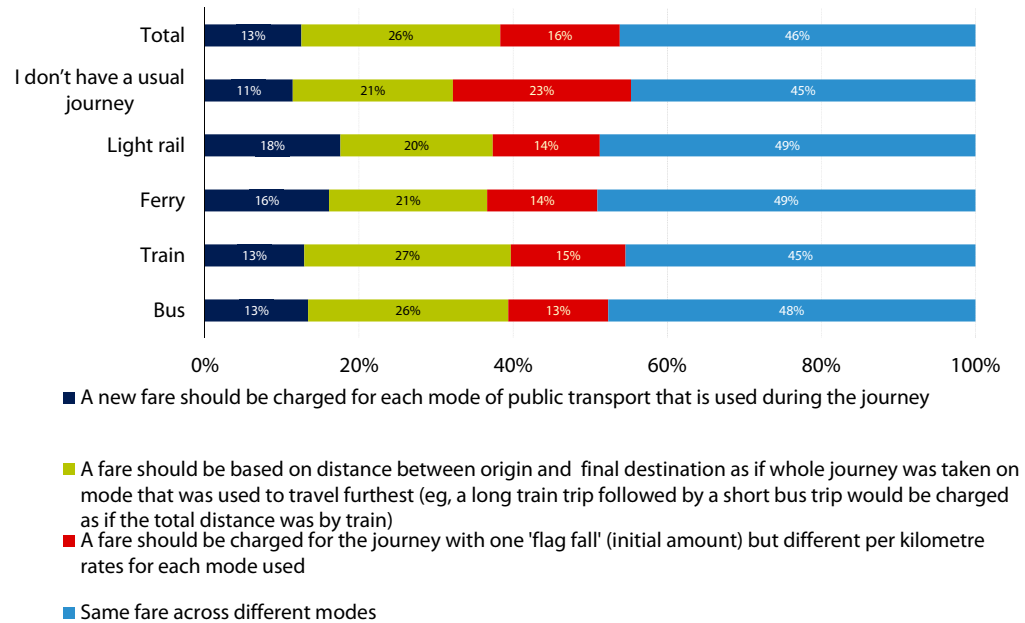
- ▼ 48% thought a fare should be charged based on the distance from origin to destination on the mode that was used to travel the furthest:
 - this represents just over a quarter of all public transport users (26%).
- ▼ 29% thought a fare should be charged using one flag fall (ie, initial amount), but different per km rates for each mode used:
 - this represents 16% of all public transport users.
- ▼ 23% thought that a new fare should be charged for each mode used during the journey:
 - this represents 13% of all public transport users.²⁰⁷

²⁰⁵ http://www.ipart.nsw.gov.au/Home/Industries/Transport/Reviews/Public_Transport_Fares/Public_Transport_Fares_in_Sydney_and_Surrounds

²⁰⁶ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, p 123.

²⁰⁷ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, p 125.

Figure F.1 Alternative Pricing for Multi-mode Travel by General Public Transport Modes Used



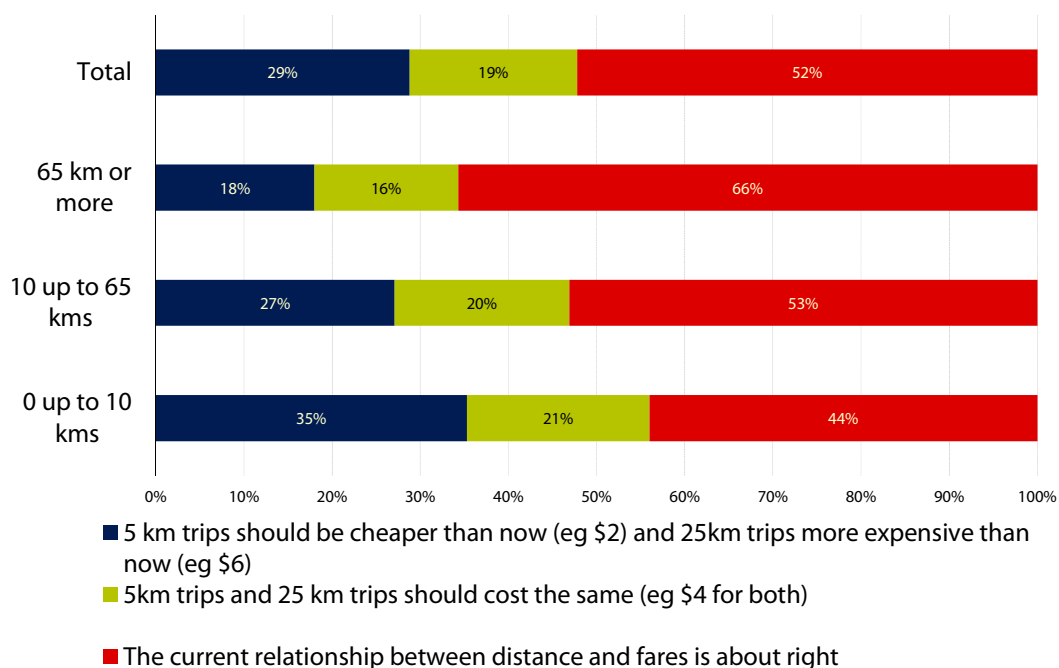
Data source: Roy Morgan Research, *Sydney Public Transport User Survey 2015*, December 2015, p 127.

F.2 Fares based on distances

Respondents were asked how fares should relate to distance travelled (Figure F.2).

- ▼ 52% thought that the current relationship between distance and fares is about right.
- ▼ 29% thought 5 km trips should be cheaper than now (eg, \$2) and 25 km trips more expensive than now (eg, \$6).
- ▼ 19% indicated that 5 km and 25 km trips should cost the same (eg, \$4 for both).
- ▼ There was more support for fares varying by distance travelled by those travelling shorter distances than long distance travellers (35% of those travelling less than 10 kms vs 18% of those travelling 65 kms or more). The majority of long distance travellers (66%) thought the current fares relationship between distance and fares is about right.

Figure F.2 Fares Based on Travel Distance by Distance of Usual Journey



Data source: Roy Morgan Research, *Sydney Public Transport User Survey 2015*, December 2015, p 119.

F.3 Off-peak discounts

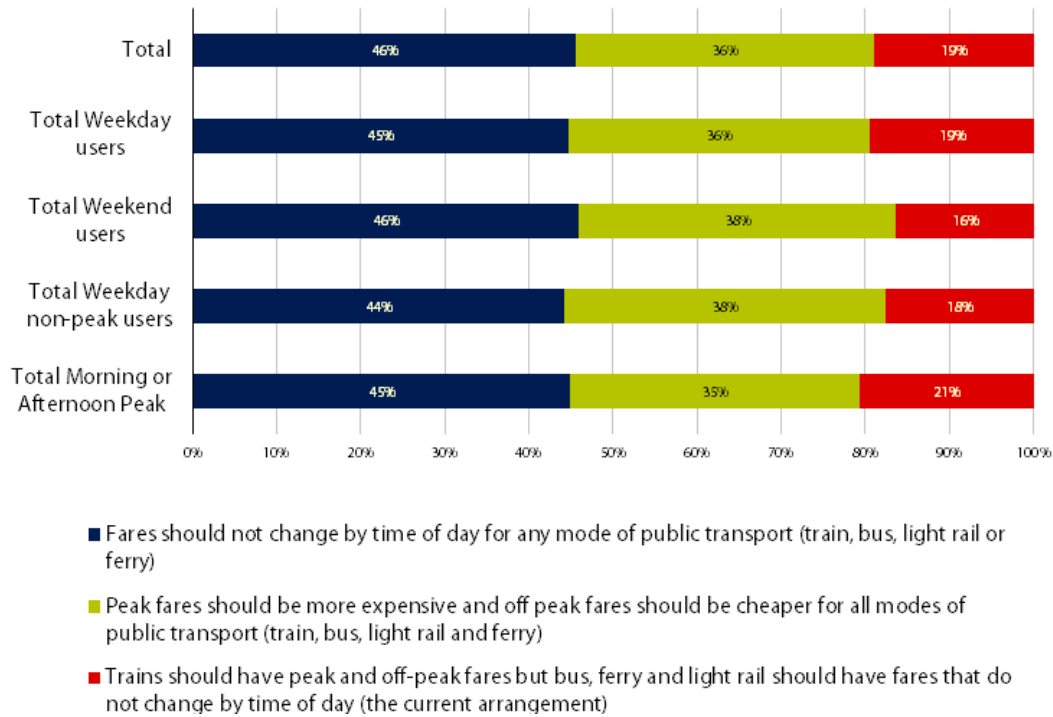
- ▼ 46% consider that fares should *not* change by time of day for any mode.
- ▼ 36% claim that peak fares should be more expensive and off-peak fares should be cheaper across all modes.

19% consider that the current fare arrangement is appropriate.²⁰⁸

Respondents' attitudes to off-peak fares tended not to vary based on when they typically travelled.

²⁰⁸ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 104-105.

Figure F.3 Attitudes to Peak and Off-peak Prices in General by Time on Usual Journey



Data source: Roy Morgan Research, *Sydney Public Transport User Survey 2015*, December 2015, p 105.

F.4 Weekly caps and frequency discounts²⁰⁹

Receiving free travel after making eight trips

- ▼ 41% of Opal card users (excluding Gold Opal) *always* or *often* receive free travel after making eight journeys. (25% *always* reach it.)²¹⁰
- ▼ 73% of those who always or often receive free travel after making eight journeys are employed full time.²¹¹
- ▼ People who receive free travel after making eight journeys often are those:
 - Who make shorter trips.
 - Use more than 1 mode.
 - Travel in the peaks.²¹²

²⁰⁹ This analysis excludes Gold Opal card holders as the \$2.50 daily cap for Gold Card holders makes the frequency discounts and week caps irrelevant.

²¹⁰ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, p 51.

²¹¹ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, p 52.

²¹² Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 49-53.

Reaching the Opal \$60 weekly cap

- ▼ Around 15% of Opal card users (excluding Gold Opal) always or often reach the Opal \$60 weekly cap.
- ▼ Over half never reach it.
- ▼ Frequency in reaching the weekly travel cap increases with:
 - Number of modes used.
 - Using ferries and light rail.²¹³

Reaching the Opal daily travel cap

Opal card users who reach the daily travel cap (\$15 adults, \$7.50 concession)

- ▼ 20% always or often reach it.
- ▼ 35% never reach it.
- ▼ Frequency of reaching the daily travel cap increases with:
 - Distance travelled.
 - Number of modes used.²¹⁴

Changing travel patterns due to frequency discounts and caps

- ▼ Around 10% of people always alter their travel pattern to benefit from free trips. (Table F.1)

²¹³ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 58-59.

²¹⁴ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 60-65.

Table F.1 Changing Travel patterns due to Opal incentives – Opal Card Holders (excluding Gold Opal)

	Always	Often	Occasionally	Rarely	Never
I make more cheaper/shorter journeys early in the week	12.4%	14.7%	21.1%	17.6%	34.2%
I make journeys outside the peak if I can so I can get the off-peak discount (trains only)	10.3%	19.6%	24.2%	19.1%	26.7%
I make more journeys on Sundays when the fare is \$2.50	9.4%	14.8%	26.2%	21.6%	28.1%
I make more journeys late in the week and over the weekend after I have reached the weekly travel reward	8.0%	15.2%	21.9%	20.4%	34.5%
I make more journeys on ferries later in the week once I have reached the weekly travel reward	6.2%	7.9%	13.8%	15.4%	56.7%
I make longer journeys or more journeys that use more than one mode of public transport (ie train, bus, ferry, light rail) once I have reached the weekly travel reward	7.5%	12.5%	18.2%	21.6%	40.3%
Average change to travel patterns due to Opal incentives	9.0%	14.1%	20.9%	19.3%	36.8%

Note: Excludes Opal Gold card holders.

Source: Roy Morgan Research, *Sydney Public Transport User Survey 2015*, December 2015, p 69.

- ▼ People who make cheaper/shorter trips early in the week:
 - 27% of Opal card holders always or often do it, 34% never do it.
 - Ferry and light rail users do this more regularly.
- ▼ People making more journeys late in the week once they receive free trips:
 - 23% always/often do this, 35% never do it.
- ▼ People making longer journeys or more multi-mode journeys once they receive free trips:
 - 20% always/often do this, 40% never do it.
- ▼ These adaptations are more frequent among those:
 - whose usual trip is short²¹⁵
 - with lower household income²¹⁶
 - using more than 1 mode²¹⁷, or
 - peak hour travelers.²¹⁸

²¹⁵ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 72, 77, 94.

²¹⁶ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 74, 79, 95.

²¹⁷ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 75, 80, 97.

²¹⁸ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, pp 75-76, 80, 97.

Preferred discounts

People were asked about preferences for alternative travel discounts. They were in order of popularity:

1. Unlimited free journeys after a certain number of paid journeys (35%).
2. Slightly lower fares at all times – no frequency discounts or price caps (27%).
3. Unlimited free journeys for the rest of week after a weekly cap (23%).
4. Limited number of free journeys after a certain number are made (not time limited) (15%).²¹⁹

Gold Opal card daily cap

- ▼ Almost 70% of public transport users think the \$2.50 cap for Gold Opal/PET should remain.²²⁰
- ▼ Responding to a scenario of a \$5 daily cap for Gold Opal cards when used in peak hour and \$2.50 cap when only used off-peak, Gold Opal card users said:
 - 50% - they would not change their travel patterns.²²¹
 - Over 25% - they would change when they travelled.

²¹⁹ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, p 116.

²²⁰ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, p 107.

²²¹ Roy Morgan Research, *Sydney public transport user survey 2015*, December 2015, p 110.

Glossary

Daily cap	The maximum amount that a traveller is charged for public transport journeys on a single day. Proposed to be \$18 for adults and \$9 for concessions from July 2016.
Distance bands	How journey distances are grouped into fare bands (eg, 0-3 kms, 3-8 kms, 8-15 kms). For example, the fare for a 0.5 km journey is the same as for a 2.5 km journey on the same mode as the distances are within the same band.
Efficient costs	How much it costs efficient operators to provide public transport services. Efficient costs may differ from actual costs incurred by operators.
External costs and benefits/externalities	The costs and benefits to third parties that are not reflected in the price of travel, and therefore not accounted for by motorists and public transport users in their decisions to drive or use public transport.
Fare integration	The way fares for journeys on different or multiple modes, or of different distances relate to each other.
Journey	Under Opal, a journey consists of one or more trips on eligible services where transfers between services occur within 60 minutes. <i>(60 minutes applies to all services except the Sydney Ferries Manly ferry service where the standard transfer time is 130 minutes from tap on.)</i>
Medium run	Refers to the term of the fare determination, from July 2016 to June 2019.
Multi-mode customers	Travellers who use more than one mode per journey (eg, bus and train or ferry and bus).
Multi-trip journeys	Journeys that consist of two or more trips eg bus and another bus, bus and train, train and ferry.
Off-peak	Weekends, public holidays and week day times before or after peak times (see below).

Peak times	<p>Sydney trains network peak hours are:</p> <ul style="list-style-type: none"> ▼ Weekdays, 7am to 9am and 4pm to 6:30pm <p>NSW TrainLink Intercity Services area peak hours are:</p> <ul style="list-style-type: none"> ▼ Weekdays, 6am to 8am and 4pm to 6:30pm
Price elasticity of demand	How responsive the demand for a good/service is to changes in its price. For example, a price elasticity of -0.5 means that for a 1% increase in price there will be a 0.5% decrease in the quantity demanded.
Network frequency benefits	The benefit of additional services being added as more people use public transport.
Socially optimal fares	The fare level where the cost of providing the service to the last passenger is equal to the benefit to that passenger and the wider community.
Weekly cap	The maximum amount a traveller may be charged for all public transport journeys in one week.