IPART

Independent Pricing and Regulatory Tribunal
New South Wales

Maximum fares for rural and regional bus services

From 1 January 2018

Draft Report
Transport

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Invitation for submissions

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

Submissions are due by 8 November 2017

We would prefer to receive them electronically via our online submission form <www.ipart.nsw.gov.au/Home/Consumer_Information/Lodge_a_submission>.

You can also send comments by mail to:

Review of rural and regional bus fares
Independent Pricing and Regulatory Tribunal
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Contents

1 Executive Summary

The Independent Pricing and Regulatory Tribunal (IPART) is currently reviewing fares for public bus services provided by private bus operators in rural and regional NSW. We will determine the maximum fares to apply for the 3 years commencing from 1 January 2018.

The NSW Government currently spends a substantial amount of money to provide these services. We estimate the total cost of providing both school and regular passenger services is $414 million per annum. However, the patronage of regular passenger services is very low. As a result, the Government (and NSW taxpayers) spend an average of around $20 dollars per passenger journey to provide services in rural and regional areas.

We consider that there is scope to improve value for money from these services – both for people living in rural and regional areas and for taxpayers across NSW. Therefore, for this review, we aim to improve value for money by setting fares to increase the patronage of the services in the short-term and raising their cost effectiveness over time.

This report sets out our draft fare decisions and recommendations, and explains how and why we reached them.

1.1 Draft decisions on maximum fares

We made a draft decision to reduce the maximum level of fares for almost all single journeys, and to maintain those for the shortest journeys (0-3 km) at their current level. We also made draft decisions to simplify the fare structure by consolidating the current 220 fare sections into just 10 fare bands, to set a three-year determination period, and to change fares in the second and third years by the expected change in the Consumer Price Index (CPI).

Under these decisions, the adult fare for a single journey would decrease by an average of around 25% from 1 January 2018. No passenger would pay more than they currently do, and many would pay noticeably less. Adult passengers taking the most common journey in rural and regional NSW (2 to less than 10 km) would pay up to half of what they do today.

In addition, we made a draft decision to introduce a daily fare cap. Under this decision, maximum fares for frequent travel should fall in most instances. We set the daily cap equal to the return fare for the longest journey the passenger makes on the day (two times the single fare), plus a single 0-2 km fare ($2.30 in 2018). For example, if a passenger made a return 15 km journey, plus a return 3 km journey, they would pay a maximum of $12.10,[1] compared to $16.60 if they paid for all fares individually.

Our draft decision on the maximum fares for single journeys is set out in Table 1.1, and our draft decision on daily fare caps is set out in Table 1.2.

[1] Two times the single 15 km fare of $4.90, plus $2.30.

Table 1.1 Draft decision on adult fares for single journeys from 1 January 2018 (nominal, including GST)

Fare band	Route distance (km)	Old sections (for information) *each section is approximately 1.6km*	Current maximum fares	Draft maximum fares 2018	2019	2020
1	0 to less than 2	1-2	$2.30 - $3.40	$2.30	$2.40	$2.40
2	2 to less than 10	2-7	$3.40 - $6.90	$3.40	$3.50	$3.60
3	10 to less than 25	7-16	$6.90 - $10.80	$4.90	$5.00	$5.10
4	25 to less than 40	16-25	$10.80 - $13.90	$7.20	$7.40	$7.60
5	40 to less than 60	26-38	$14.20 - $17.50	$9.60	$9.80	$10.10
6	60 to less than 90	38-57	$17.50 - $21.90	$14.40	$14.80	$15.10
7	90 to less than 120	57-75	$21.90 - $30.00	$20.80	$21.30	$21.90
8	120 to less than 160	76-100	$30.00 - $40.70	$29.20	$29.90	$30.70
9	160 to less than 200	101-125	$40.70 - $48.20	$38.70	$39.70	$40.70
10	200 or more	126+	$48.20 - $60.00	$48.20	$49.40	$50.60

Note: Our draft determination sets fares based on route distance not sections.

Table 1.2 Draft decision on adult daily ticket (nominal, including GST)

Fare band	Route distance (km) for longest trip during day	Draft daily ticket 2018	2019	2020
1	0 to less than 2	$6.90	$7.20	$7.20
2	2 to less than 10	$9.10	$9.40	$9.60
3	10 to less than 25	$12.10	$12.40	$12.60
4	25 to less than 40	$16.70	$17.20	$17.60
5	40 to less than 60	$21.50	$22.00	$22.60
6	60 to less than 90	$31.10	$32.00	$32.60
7	90 to less than 120	$43.90	$45.00	$46.20
8	120 to less than 160	$60.70	$62.20	$63.80
9	160 to less than 200	$79.70	$81.80	$83.80
10	200 or more	$98.70	$101.20	$103.60

We found that the price of the Regional Excursion Daily (RED) ticket should be adjusted so that price relativities are maintained over time. Our draft recommendation on the RED ticket is set out in Table 1.3.

Table 1.3 Draft recommendations on the RED ticket

Determination year	RED Ticket price
2018	$2.50
2019	$2.60
2020	$2.70

1.2 Why we made these fare decisions

We consider the main purpose of providing taxpayer-subsidised bus services in rural and regional areas is to ensure people with limited travel options – such as those who can't drive or can't afford a car or taxi services – have reasonable access to transport within their local communities. To improve the value for money provided by the services, the fares should be set to meet this purpose.

To do this, we used an approach for setting fares that places significant weight on people's willingness and capacity to pay for the services. We assessed this by examining a range of evidence - including feedback from surveys and stakeholder submissions, comparisons of the current fares with those in metropolitan NSW and bordering jurisdictions, and analysis of the expected elasticity of travel with respect to fares. We also had regard to the other matters we were required to consider in our letter of referral, including the need for greater efficiency in the supply of services and issues related to travel across borders.

We found that most current fares are higher than people are willing and able to pay, particularly those who are ineligible for concession fares. Therefore, they are a barrier to using the services, and impede achievement of their main purpose. We also found that most current fares are substantially higher than those in other areas and jurisdictions. For example, the current maximum adult fare for a return 10 km journey in rural and regional NSW is $13.80, which is double the fare for an equivalent journey in the ACT, Queensland and Victoria. In line with these findings, we set the draft fares for most journeys below the current fares.

The exception is the fare for very short journeys of up to 2 km. The current maximum fare for these journeys is much lower than in the ACT and Queensland, and therefore is likely to be lower than people's willingness to pay. Therefore, we decided to keep this fare at the current level in 2018, and to reconsider the appropriate level at the next fare review.

1.3 Likely impact of these fare decisions

Our draft decisions to reduce maximum fares for most journeys and introduce daily fare caps should help improve the value for money rural and regional bus services provide. By lowering current price barriers to using the services, these decisions should improve the patronage of the services. This should improve access to transport services within rural and regional communities, particular for people with limited transport options, and reduce the cost per passenger journey.

The draft decisions will also improve equity between fares in rural and regional areas and those in metropolitan NSW, and help to alleviate issues related to bus travel across borders by more closely aligning fares with those in other jurisdictions.

Our draft decisions set the maximum fares that rural and regional bus operators can charge their customers. The impact of these decisions on bus operators will depend on the fares they currently charge passengers compared to our proposed maximum fares. We note that a number of bus operators currently charge fares below the maximum.

Our draft decisions should not affect the level of Government funding for rural and regional buses in the current contract period. We expect more passengers to travel on the buses as a

result of substantially lower fares. But the additional fare revenue from this increase in patronage may not fully offset the revenue impact of reducing fares. The impact on each operator depends on how patronage responds to lower fares. However we expect the impacts would be small compared to contract costs – for all operators in total around $1-1.5 million a year or less than 1% of costs under the current contracts across all rural and regional areas.

In addition, we have identified several areas where operators can improve the cost-effectiveness and efficiency of the services they provide (discussed below). The fare revenue impacts are a small proportion of the savings possible from these efficiency improvements.

1.4 Draft recommendations delivering current bus services for less cost over time

Over time, there is an opportunity for Government to improve the cost-effectiveness of contracted rural and regional bus services. We estimate that efficiency savings of around 19% to 26% on average can be achieved by better understanding the route distances and reducing the choice of bus makes and models available under the contracts. In addition to these savings, further reductions may be possible through better matching of bus size to patronage.

Not all of these savings can be achieved immediately and, in some cases, may not be possible until buses are retired or the current contracts expire in 2024. However, over the next three years, we consider that Government should focus on improving the efficiency of operators with cost structures that are significantly higher than their peers.

1.5 Draft recommendations on developing on demand services for the same cost

On demand transport is a more flexible and customer-focused way to meet people's travel needs. It differs from traditional public transport services in that some aspects of the service vary according to customer needs and demand – for example, the departure time, route, pick-up and drop-off points and vehicle type.

We consider that on demand services can be used to deliver better value for money for passengers and taxpayers in rural and regional areas. However, they need to be targeted to identified community needs, and designed to ensure that high-cost, low-patronage fixed route services are not simply replaced by even higher cost, on demand services. To assist the Government in better targeting and designing on demand services, we have developed frameworks and a cost model to improve the procurement of transport services in rural and regional areas in both the short and longer term.

In the short term, Transport for NSW can negotiate with bus operators to vary existing high-cost, low-patronage fixed route bus services to deliver a better service to customers, potentially by adding on demand components, without increasing the existing government subsidy. During this period, we consider that fares for on demand components should reflect the better level of service delivered to passengers. We are recommending operators be able to set an optional surcharge of between $0 and $5 (including GST) on top of the fixed route fare for on demand components.

We consider that bus operators know their costs and passengers best and are in the best position to understand how much they are willing to pay for an on demand service, and what level of surcharge is likely to generate sufficient additional demand.

In the longer term, we consider that market driven solutions to providing transport services would deliver innovative operating models that provide a better quality of service for passengers in a cost effective manner. Introducing competition in and for rural and regional transport services market would ensure the right mix of transport – bus, ride share, taxi and community transport – is delivered. We are recommending that, at the end of the current bus contract period, Transport for NSW seek proposals from the market to provide transport services in each area, including on demand services. This would improve the cost-effectiveness of the current bus contracts, improve service outcomes for passengers and provide better value for taxpayers.

1.6 Our process for this review

Our review process to date has involved detailed analysis and public consultation:

- In May 2017 we released an Issues Paper which set out our proposed approach for the review. We received 14 submissions.
- At the same time, we released online questionnaires for bus operators and passengers. We received over 200 responses.
- We appointed AECOM to provide expert advice on the efficient costs of rural and regional bus services. AECOM's draft report is available on our website.
- We appointed ORIMA to undertake a survey of rural and regional areas to understand current demand for public transport and the potential for greater use of more flexible, on-demand services. ORIMA's report is available on our website.

1.7 How you can have your say

We are seeking written submissions on this Draft Report, and encourage all interested parties to comment on the matters it discusses, or any other issue relevant to the review. Page iii of this report provides more information on how to make a submission. Submissions are due by 8 November 2017. We will hold two public hearings during November. Further information on the hearings will be available from IPART's website (www.ipart.nsw.gov.au).

1.8 Structure of this report

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

- Chapter 2 outlines key contextual information on current bus services in rural and regional areas including levels of utilisation, cost recovery and the impact of fares
- Chapter 3 explains the approach we have used to set fares and make our recommendations for this review

- Chapter 4 discusses our draft decisions on maximum fares for single journeys, and explains how our analysis of customers' willingness and capacity to pay supports these decisions
- Chapter 5 explains our draft decisions on daily and weekly fare caps
- Chapter 6 sets out our draft recommendations on delivering the current bus services for less cost over time
- Chapter 7-9 discuss our draft recommendations on delivering better services for the same cost, particularly by developing on demand services
- Chapters 10 and 11 discuss our draft recommendations for improving bus services in cross border areas, and the Regional Excursion Daily (RED) ticket.

1.9 List of draft decisions and recommendations

Draft decisions on maximum fares for single journeys and frequent travel

1 The maximum adult fares for single journeys be set as shown in Table 1.1 25

2 The maximum adult daily ticket be set as shown in Table 1.2 36

Table 1.1 Draft decision on adult fares for single journeys from 1 January 2018 (nominal, including GST)

Fare band	Route distance (km)	Old sections (for information) *each section is approximately 1.6km*	Current maximum fares	Draft maximum fares		
				2018	2019	2020
1	0 to less than 2	1-2	$2.30 - $3.40	$2.30	$2.40	$2.40
2	2 to less than 10	2-7	$3.40 - $6.90	$3.40	$3.50	$3.60
3	10 to less than 25	7-16	$6.90 - $10.80	$4.90	$5.00	$5.10
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5	40 to less than 60	26-38	$14.20 - $17.50	$9.60	$9.80	$10.10
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7	90 to less than 120	57-75	$21.90 - $30.00	$20.80	$21.30	$21.90
8	120 to less than 160	76-100	$30.00 - $40.70	$29.20	$29.90	$30.70
9	160 to less than 200	101-125	$40.70 - $48.20	$38.70	$39.70	$40.70
10	200 or more	126+	$48.20 - $60.00	$48.20	$49.40	$50.60

Note: Our draft determination sets fares based on route distance not sections.

Table 1.2 Draft decision on adult daily ticket (nominal, including GST)

Fare band	Route distance (km) for longest trip during day	Draft daily ticket		
		2018	2019	2020
1	0 to less than 2	$6.90	$7.20	$7.20
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9	160 to less than 200	$79.70	$81.80	$83.80
10	200 or more	$98.70	$101.20	$103.60

Draft recommendations

Delivering current bus services for less cost over time

1 TfNSW require bus operators to report annually on patronage by IPART's proposed new fare bands, and by service kilometres and dead running kilometres by route, on a consistent basis across all operators. 50

2 TfNSW require bus operators to report annually on costs incurred to provide the services, and TfNSW define clearly what cost items operators should include in each cost category. 50

3 TfNSW review the reported patronage of bus services to determine whether the size of the bus allocated to routes is appropriate. This review should occur when: 51

- A bus operator seeks to replace a new bus under its existing contract. 51
- Bus utilisation over a six-month period is less than 10%. In this instance, TfNSW should require operators to demonstrate why they need to maintain the current bus size. 51

4 When a bus operator seeks to purchase a more expensive bus from the procurement panel, TfNSW require the operator to demonstrate that the benefits exceed the costs over the life of the bus. 51

5 TfNSW consider extending the maximum service life of buses under the contracts to better match the duty, distance travelled and useful life of buses in rural and regional areas. 51

Delivering a better service for the same cost

6 Bus operators be able to charge customers who book an on demand service a surcharge of between $0 and $5 (including GST) on top of the fixed route fare. 69

- Bus operators should set the level of surcharge based on customers' willingness to pay, the likely impact of the surcharge on the level of demand, and the likely

14 TfNSW negotiate with the relevant secondary school, TAFE, VET or university in Queensland, NSW and ACT to facilitate the processing of student travel concession applications. 93

15 When seeking proposals from the market in cross border regions from 2024, TfNSW should ensure that: 93

- service levels meet the need for connectivity to transport links across borders 93
- tickets cover travel across borders, and 93
- administrative arrangements facilitate sharing fare revenue with state jurisdictions. 93

Concession eligibility and fares

16 TfNSW adjust the price of the RED ticket by the change in the CPI to reflect the adjustment to maximum fares and to maintain price relativities as indicated in Table 1.3. 95

Table 1.3 Draft recommendations on the RED ticket

Determination year	RED Ticket price
2018	$2.50
2019	$2.60
2020	$2.70

Draft findings

Our approach for this review

1 The purpose of providing subsidised public bus services in rural and regional NSW is to ensure people with limited transport options have reasonable access to their local communities. 21

Delivering current bus services for less cost over time

2 The efficient costs of providing rural and regional bus services in 2017 are on average 19% lower than contract costs of providing school only services and on average 26% lower than contract costs for school and regular services. 43

Delivering a better service

3 In the short term, for on demand bus services to be cost-effective in rural and regional NSW, they would need to: 60

- attract sufficient additional usage and fare revenue to offset the additional costs of provision 60
- be well-targeted to address an identified community need 60
- be well-marketed to ensure the community is aware of them and understand how they work. 60

4 The estimated cost per passenger journey is a useful indicator of the likely cost-effectiveness of an on demand service, as it takes account of both additional usage and additional costs. In general, an on demand service should only be pursued where TfNSW is satisfied it can be delivered for a lower cost per passenger journey than a fixed route service. 60

5 In the short term: 66

- Bus operators and TfNSW should explore opportunities to develop on demand services that provide a better service for the same or similar cost through service variations under the existing contracts 66
- While bus operators should be free to explore any service design they think best targets community needs and can be delivered efficiently, services that add a flexible, on demand component to an existing fixed route are most likely to be feasible and cost-effective. 66

2 Context

In rural and regional areas, the NSW Government contracts private bus operators to provide public bus services. Transport for NSW (TfNSW) administers the contracts, which define the services the operators provide and the payments they receive. There are two types of services – 'dedicated school services' and 'regular passenger services'.

Typically, operators provide **dedicated school services only,** or a combination of both **dedicated school services** and **regular passenger services**. IPART determines the maximum fares for the regular passenger services only.

To develop our approach for the review, we considered the requirements in our letter of referral, as well as other important context for the review. Overall, we found that the Government's costs in providing rural and regional bus services are high, and the utilisation of these services is low. Therefore, we consider that there is scope to improve the value for money of the services, both for those who could use them and NSW taxpayers who subsidise them.

The sections below outline the requirements in the letter of referral, and provide more information on:

- the contract arrangements for rural and regional bus services
- the cost of each regular passenger journey provided, and how much of the total costs are recovered from fare revenue (known as cost recovery)
- the utilisation of regular passenger services, and
- the changes occurring in the transport industry that may affect the provision of public transport services in rural and regional areas in the future, including the development of more flexible, on demand services.

2.1 Requirements in our letter of referral

In making our fare determination, we are required to consider the matters set out in section 124(3) of the *Passenger Transport Act 2014* (the Act). These are the matters we typically consider in all our transport price reviews, including the cost of providing the services, the need for greater efficiency to reduce costs for the benefit of consumers and taxpayers, the need to protect consumers from abuses of monopoly power, and the effect of the determination on the level of Government funding.

The Minister's referral (Appendix A) also asks us to consider six additional matters, including:

- the equity of current rural and regional bus fares compared to Sydney metropolitan bus fares
- the benefits and costs of simplifying the current fare structure

- issues related to travel across borders, including concession fares and different eligibility criteria between states
- the development of on demand services in regional areas
- issues related to eligibility of concession fares in NSW and the level of subsidy provided by the NSW Government, and
- customers' willingness and capacity to pay given demographics and current service quality in regional NSW.

2.2 Contract arrangements for rural and regional buses

Last year, TfNSW negotiated new contracts with the bus operators already providing rural and regional services. Unlike for some Sydney metropolitan bus contracts, it did not use a competitive tender process. The new contracts generally commenced between April 2016 and June 2016.

The new contract system includes four types of contract – Large, Medium, Small and Very Small – based on the number of buses in the operator's contracted fleet (see Appendix B for further information). Each contract specifies the services the operator is to provide (including the routes and timetables) and the payments they will receive for this. They also allow the bus operator to keep any fare revenue it collects (in addition to its contract payments).

The new contracts specify largely the same routes and timetables as the previous ones. Depending on the geography of the routes and the timetables, operators may use a dedicated bus for each route, use several buses on the same route across the day, or use the same bus to service multiple routes across the day.

As the current contracts have only been in place a short time, most of the information available for our cost and utilisation analysis relates to the previous contract system. Under this system, there were two types of contracts – Contract A (for operators providing dedicated school routes only) and Contract B (for operators providing both dedicated school services and regular passenger services).

The information on payments to Contract B operators does not separate payments related to dedicated school services from those for regular passenger services. Where possible, we have attributed the costs to regular passenger services based on the route and timetable information in the contracts. Throughout this report, we have used the following terms to clearly distinguish which services our analysis relates to:

- school only – relates to dedicated school services provided under Contract A
- regular passenger – relates to regular passenger services provided under Contract B
- school and regular passenger – relates to both dedicated school services and regular passenger services provided under Contract B.

2.3 Costs per passenger journey and cost recovery

Under the current contracts and levels of patronage, the costs per regular passenger journey are high and levels of cost recovery are low. The current cost of providing all rural and regional bus services is around $414 million a year (see Table 2.1).[2] We estimate that around 51% (or $211 million) of these costs are for operators providing school only services.

Table 2.1 Key features of rural and regional bus services

	$2017
Total costs - contracted	$414 million
School only costs - contracted	$211 million
School and regular passenger costs - contracted	$203 million
Contract total costs per regular passenger journey[a]	$25
Contract variable costs (labour, fuel and oil) per regular passenger journey[a]	$15
Average distance per trip – regular passenger	5 km
Efficient cost recovery - school only and school and regular passenger[b]	5%
Efficient cost recovery – regular passenger[a]	18%

a Based on large and medium operators. Excludes costs and patronage for school students. For further information see Appendix E.

b Based on large and medium operators.

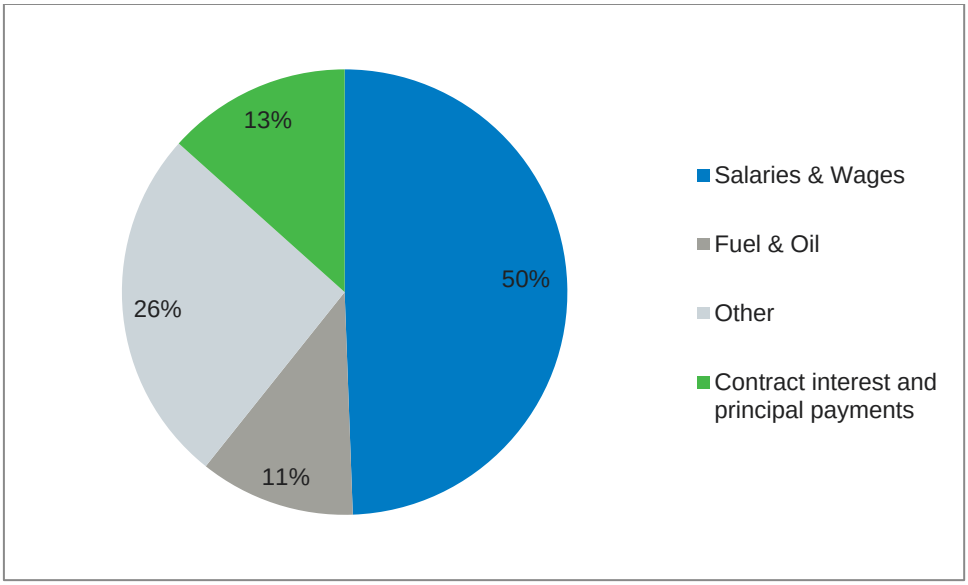
Source: IPART analysis of information provided by TfNSW April-July 2017.

The contract costs cover both the operating and capital costs of delivering the services. Operating costs include day-to-day costs such as driver salaries and wages; fuel costs; bus-related costs including registration, insurance, repairs and maintenance; overheads and administration costs (such as depot rent, accountancy/legal fees, non-bus insurance and utility costs). Capital costs include largely bus fleet costs and other equipment (such as ticketing and IT).

Contract costs are broken into four categories (see Figure 2.1), with salaries and wages forming the largest category of costs (50%).

2 We note an estimate of fare revenue was deducted from total costs when establishing the Annual Contract Prices for the new contracts. See BusNSW Submission to IPART Issues Paper, June 2017, p 3.

Figure 2.1 Contract cost categories (2017)



Note: Based on large and medium operators.
Data source: Information provided by TfNSW and IPART analysis.

Operators purchase buses from a panel of approved vehicle makes and models that is maintained by TfNSW. The buses fall into four categories depending on the number of seats in the bus (see Table 2.2). Operators receive contract payments over the maximum service life of the buses to cover the cost or purchasing the vehicles. These maximum service lives are specified in the contract and range from 15 years (for Category 1 and 2 buses) to 25 years (for Category 3 and 4 buses).[3]

The new contracts require operators to obtain TfNSW's approval prior to acquiring a new bus.[4] They must acquire buses from a prequalification scheme or procurement panel maintained by TfNSW.[5] At the end of the contract term, if an operator's contract is not renewed, the contract allows for all buses to be transferred to the new operator or to TfNSW.[6]

As noted above, some operators tend to use one bus per route, while others make use of the same bus across multiple routes.

Table 2.2 Rural and regional bus categories

Bus Category	Number of seats
1	8 to 14
2	15 to 28
3	29 to 43
4	44 +

Source: See Appendix B

3 See for example TfNSW, Rural & Regional Bus Service Contract (Large), p 165.
4 See for example TfNSW, Rural & Regional Bus Service Contract (Large), clause 14.1 (b), p 32.
5 Unless TfNSW otherwise notifies the operators in writing. See for example Rural & Regional Bus Service Contract (Large), clause 14.2, p 33.
6 See for example TfNSW, Rural & Regional Bus Service Contract (Large), clause 15.5 (a), p 34.

As Table 2.1 shows, the average contract cost for regular passenger services is currently about $25 per regular passenger journey. Based on labour, fuel and maintenance costs only the average cost is currently $15 per passenger journey. However, average fares are currently around $5 per passenger journey.[7]

The revenue bus operators collect from fares represents around 18% of the efficient costs for regular passenger services, and around 5% of the efficient costs (including school only and school and passenger services).

2.4 Utilisation of regular passenger services

Regular passenger services in rural and regional areas currently have very low levels of utilisation. These low levels of utilisation are one of the key reasons for the high cost per passenger journey discussed above. (The other key reason, higher than efficient costs to provide the services, is discussed in Chapter 6.)

As part of the review of efficient costs, AECOM examined the levels of utilisation across school only and school and passenger services. It estimated utilisation by comparing reported patronage to the seats available for a selection of routes. It found the reported patronage for school and passenger services is substantially lower:

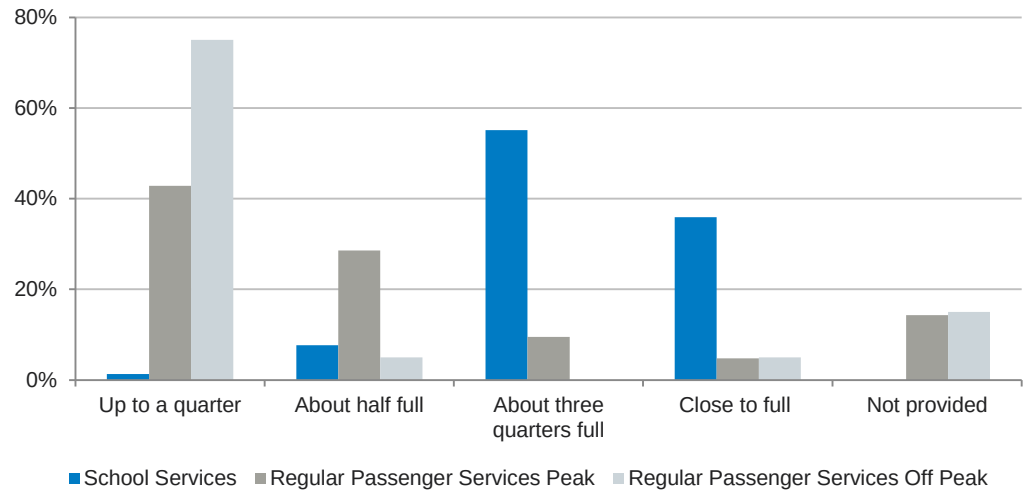
- For school only services, 12% of all routes have average bus utilisation at less than 60% of capacity.
- For school and passenger services, 96% of routes providing regular passenger services have average bus utilisation at less than 60% of capacity, and 50% have average bus utilisation at less than 10%.[8]

In addition, as part of our online survey, we asked bus operators how full their services are on a typical day. For school only services, 55% of the respondents said their bus services are about three-quarters full, and 36% said they are close to full capacity. For school and passenger services:

- Nearly all respondents said their regular passenger services run about or less than half full during both peak and off-peak periods,
- In peak periods, 43% said these services run about a quarter full and 5% said they run close to full, and
- In the **off-peak**, 75% said their regular passenger services run less than about a quarter full, and 5% said they run close to full.[9]

7 This assumes that all fare paying passengers pay paid the adult fare, rather than pensioner and concession fares.
8 AECOM, *Efficient costs of rural and regional bus operators – Draft Report*, September 2017 p 9.
9 IPART online survey of bus passenger and operators, June 2017.

Figure 2.2 Bus utilisation for different services



Note: Not provided means that no response was provided to these questions.
Data source: IPART rural and regional bus operator survey, June 2017.

ORIMA's survey of people living in rural and regional areas asked those who had used bus services in the last six months how full the bus was for their most recent bus trip. The majority (83%) said the bus was less than or about half full – and 3% said they were the only passenger on the bus.[10] Among all respondents, only 6% said that they commonly used buses.[11]

There are several reasons why bus patronage in rural and regional areas is so low. The first is that most people in these areas have access to cars. In ORIMA's survey 98% of respondents said they commonly used private vehicles.[12]

Another reason is that bus services are much less convenient than private vehicles. For example, Table 2.3 shows the time of the first and last service and timetabled frequency for selected routes in regional centres. Many routes provide the last service on Monday to Friday at around 5-6 pm and in the early afternoon on Saturdays. In many cases services are not provided on Sunday and public holidays. At times, some services are only provided once every two hours.

10 ORIMA, *IPART Regional transport survey*, September 2017, p B12.
11 ORIMA, *IPART Regional transport survey*, September 2017, p B8.
12 ORIMA, *IPART Regional transport survey*, September 2017, p B8.

Table 2.3 Service coverage and frequency for selected routes in Albury, Dubbo, Grafton and Wagga Wagga

	Monday-Friday		Saturday		Other notes
	First and last service	Frequency (approx.)	First and last service	Frequency (approx.)	
Quicks Hill to Albury (907)	7.28 am to 5.13 pm	Every 45-65 mins	8.13 am to 12.13 pm	Every 60 mins	No service Sundays or public holidays
Lake Albert to Wagga Wagga (960)	7.18 am to 4.42 pm	Every 30-60 mins	7.42 am to 3.31 pm	Every 50-60 mins	No service Sundays or public holidays
Grafton – South Grafton (374)	7.16 am to 7.40 pm	Every 30-60mins	8.15 am to 5.40 pm	Every 60 mins	4 services a day Sunday and Public Holidays
Dubbo - South from CBD (570)	7.45 am to 5.35 pm	Every 30- 75 mins	8.50 am to 1.55 pm	3 services a day	No service Sundays

Source: Martins Travel Group Albury, *Timetables & Network Map*, at http://www.martinsalbury.com.au/timetables-maps/907 , accessed on 13 September 2017, Dubbo Buslines, *Local Town Services*, at http://www.buslinesgroup.com.au/images/pdf/dubbo/Dubbo%20TT%202014.pdf , accessed 13 September 2017. Busways, Route 374 timetable, at https://www.busways.com.au/travelling_with_us/route/374/route-374-town-centre-south-grafton-town-centre-bimble-av , accessed 29 September 2017. Busabout, Route 960 timetable, at https://busaboutwagga.com.au/pdf/timetables/960.pdf , accessed 29 September 2017.

In addition, because the bus routes are often designed to provide coverage to a wide area, they can be circuitous. As a result, the journey time can be several times longer than if the journey was made by car. For example, on route 963 in Wagga Wagga, the timetabled bus route from Dalman Pkwy at Glenfield Rd to Wagga Wagga Marketplace takes around 30 mins, when a direct journey by car would take 10 minutes.[13]

ORIMA's survey also asked people about their level of satisfaction with the service provided by buses, community transport, courtesy transport and taxi. Respondents were least satisfied with bus services.[14] Those living further away from major regional centres were more likely to be dissatisfied.[15] Across all regions, respondents were most dissatisfied with the availability and the quality of the nearest bus stop.[16] People living further away from major regional centres were more likely to be sensitive to the distance to their nearest stop, whereas those living close to a regional centre may be more sensitive to the quality of the bus stop.[17]

Our online questionnaire asked people how to improve their local bus services. Many people commented, and in general, the most common answers were:

- more regular bus services, including outside of business hours and on weekends
- more affordable fares
- more reliable bus services.[18]

13 See Busabout Wagga, Route 963 timetable, https://busaboutwagga.com.au/pdf/timetables/963.pdf, accessed 27 September 2017. Journey by car based on a 6 km journey at an average speed of around 35 km/h

14 ORIMA, *IPART Regional transport survey*, p B14

15 ORIMA, *IPART Regional transport survey*, p B15

16 ORIMA, *IPART Regional transport survey*, p B20

17 ORIMA, *IPART Regional transport survey*, p B21

18 IPART rural and regional bus passenger survey, June 2017.

2.5 Developments in the public transport industry

Since our last review, there have been developments in how public transport can be delivered, including the emergence of more flexible, on demand services. On demand transport services are a more flexible and customer-focused way to meet people's travel needs. They differ from traditional public transport services in that some aspects of the service vary according to customer needs and demand – for example, the departure time, route, pick-up and drop-off points, type of vehicle, and payment method. The customer experience of on-demand services sits somewhere between travelling by private car and catching a traditional, fixed-route public transport service.

The NSW Government is working towards incorporating on demand services into the package of transport options it provides for people in regional areas. For example, it has developed a policy framework for delivering public transport services in these areas that recognises the important role on demand services can play. It already provides one type of on demand transport services in these areas through contracts with 92 community transport organisations and funding of $74 million a year.[19] Community transport organisations provide support to those 65 years or older, young people with a disability and their carers, as well financially disadvantaged people or those living in remote or isolated areas of NSW.

The Government also recently announced eight pilot trials of on demand bus services in Sydney. The pilots will start from October 2017 and allow customers to book transport from or near their home to a local transport hub or other centres including local hospitals.[20]

Further changes are also occurring for point to point transport services. From 1 November 2017, [21] a new regulatory framework will apply to all point to point service providers including:

- **taxis,** which can provide booked trips and accept hirings from taxi ranks and street hails (rank and hail services), and
- **hire vehicles,** which include traditional hire cars and rideshare providers, and can only provide booked trips.[22]

Under this new framework, the fares for booked taxi trips will no longer be regulated. Like hire vehicles, taxis will be able to set their own charges for these trips, and customers can readily shop around to find a price and service that best suits their needs.

In the context of these changes, the Government asked us to consider the development of on demand services are part of this review. Our findings and recommendations are discussed in Chapters 7 to 10.

19 Correspondence with Transport for NSW on 21 April 2017.
20 TfNSW, *Media Release - A bus stop outside your door: On demand transport is here*, at https://www.transport.nsw.gov.au/newsroom-and-events/media-releases/a-bus-stop-outside-your-door-on-demand-transport-here , accessed 29 September 2017.
21 TfNSW, *Media Release - NSW to welcome a fairer playing field for taxis and hire vehicles*, 18 August 2017.
22 *Point to Point Transport (Taxis and Hire Vehicles) Act 2016*.

3 Our approach for this review

In our Issues Paper, we proposed to set maximum fares for rural and regional bus services using elements of the approach we use in most other industries we regulate and our current approach for setting fares for public transport services in metropolitan NSW (Opal services). It involved setting fares based on the efficient costs and external benefits of the services, so that they recover an appropriate share of the costs from customers and encourage the efficient use and delivery of the services.

However, after doing further analysis, we found that given the high costs and very low usage of these services (discussed in Chapter 2), there is unlikely to be a fare or set of fares that would recover the efficient costs **and** that customers would pay. In addition, the external benefits associated with the use of the services are likely to be low, due to the lack of traffic congestion in rural and regional areas. (See Box 3.1 for more information.)

Therefore, we have developed a revised approach for this review. This approach is designed to help improve the value for money that the provision of rural and regional bus services provides to the customers who could use them and the NSW taxpayers who subsidise them. It involves the following steps:

1. Consider the primary purpose of providing subsidised public bus services in rural and regional NSW
2. Set maximum fares at levels that will enable the current services to better meet this purpose
3. Consider how transport services can be delivered more cost-effectively over time, including by developing on demand services
4. Consider issues related to cross border travel and concession eligibility and fares.

This approach takes account of all the factors we are required to consider for this review. Appendix C outlines how we considered these factors, and where they are discussed in this report.

The sections below discuss our draft decision on the first of these steps, and outline our approach for the remaining steps.

Box 3.1 Price-setting approaches used in other industries are not suitable for rural and regional bus fares

As discussed above, we have developed a revised approach for setting rural and regional bus fares. For other industries we regulate[a] we often consider the total efficient costs of providing the services (including a reasonable profit), and then to set prices to reflect these efficient costs (taking into account forecast use of the services). This approach protects consumers by ensuring the regulated businesses cannot make excessive profits, ensures that these businesses can recover their efficient costs, and encourages them to improve their efficiency.

However, our analysis shows that there is unlikely to be a fare or set of fares for rural and regional bus services that would recover rural and regional bus operators' efficient costs **and** that customers would pay. The average efficient cost of providing these regular passenger services in 2017 is around $12 per passenger journey, for an average distance travelled of 5km. If we set average fares in line with this average cost, catching a bus would be only marginally cheaper than using a taxi. At this price, some users would choose to use taxi services for their better service standard, and others would choose not to take some journeys. This would result in lower usage so the total fare revenue would still not recover the total efficient costs.

Our current approach for setting fares for Opal services is to consider the external benefits and the efficient marginal costs of the services. External benefits are the community-wide benefits that arise when people use the service instead of driving, such as reduced traffic congestion. Marginal costs are the costs of providing one extra passenger journey, which depend on how close to capacity the services are. When the external benefits are significant and the marginal costs vary across transport modes (rail, bus, ferry and light rail) services and time (peak and off-peak), this approach shares the costs fairly between the users and NSW taxpayers, and encourages more efficient use and delivery of the services.

However, this approach is not appropriate for rural and regional buses because the lack of traffic congestion in these areas and the low patronage of the services means both the external benefits and marginal costs are likely to be small. Using this approach would likely result in fares that are close to zero. While this would maximise patronage, it would not take appropriate account of the other factors we are required to consider in setting fares. For example, setting zero fares would likely have an unreasonable impact the level of government funding for the services and the impact on operators who retain farebox revenues.

[a] For example, the metropolitan water industry and the private ferry industry.

3.1 Consider the purpose of providing rural and regional bus services

In busy metropolitan areas like Sydney, governments choose to subsidise public transport services because when people use these services instead of driving their own car it creates external benefits for the wider community. The most significant external benefit is avoided traffic congestion, which not only saves time for those who choose to drive but also creates productivity benefits for the whole community.

Conversely, if governments did not subsidise public transport in these areas, fares would need to recover the full costs of delivering the services. These higher fares, combined with the greater convenience of driving, would encourage many more people to drive. The resulting increase in traffic congestion would impose a cost on the whole community.

However, in rural and regional areas, the use of public bus services does not create significant external benefits. Because these areas are largely unaffected by traffic congestion, it makes little difference to the wider community whether people take a bus or drive (see Appendix D for further analysis on the impact of congestion in rural and regional areas). In addition, even if bus services were free, people with ready access to a vehicle would probably still choose to drive due to:

- the relatively low costs of driving in these areas, where there are few additional costs such as parking and road tolls compared to city areas
- the greater convenience of driving, as people don't have to plan around infrequent services, or make their way to a bus stop
- the longer time required to make the journey by bus, due to circuitous routes and poor connections.

So why do governments choose to subsidise bus services in rural and regional areas? In our view, the primary reason is that communities value the benefits associated with ensuring that people with limited transport options have reasonable access to their local communities for employment and education opportunities, health services, shopping and social and community activities. People with limited transport options include those unable to drive themselves – due to age, disability, or lack of access to a car – and unable to afford regular use of commercial transport services, such as taxis.

Another possible reason is that subsidising public transport services can result in savings in other areas of government spending, such as Centrelink benefits. However, this is not likely to be the case for rural and regional buses, because the cost of providing the bus services probably outweighs any savings in other areas. (See Box 3.2 for further information.)

Draft finding

1 The purpose of providing subsidised public bus services in rural and regional NSW is to ensure people with limited transport options have reasonable access to their local communities.

Box 3.2 Bus services may reduce the need for other government assistance

In previous public transport reviews, some stakeholders have submitted that one reason governments subsidise public transport services is because it can result in savings in other areas of government spending. For example, if public transport enables people to get to work where they would have otherwise had no other option, the Government can save on Centrelink benefits for these passengers. Another example that is often raised is that if public transport can enable people better access to social activities, then the mental health costs associated with social isolation could be avoided.

These potential savings to government can be distinguished from the external benefits that arise from general use by all passengers who would have otherwise driven or caught a taxi. This is because they would only arise from bus use by a particular subset of passengers who **would not** have otherwise been able to make their journeys, **and** as a result, would have required subsidies in other areas of government spending. They would not arise for journeys that would have been made by other means (such as by car or walking), had a bus service not been available.

In many cases, the cost of providing bus services is greater than other costs that might be offset. We consider that given that these services are being provided, fares should be set at levels which enable the target group of users to access these services.

3.2 Set fares for current bus services to improve access to current bus services for local communities

In line with the above finding, we consider the maximum fares for NSW rural and regional bus services should be set at levels that better ensure people with limited transport options have reasonable access to their local communities. Therefore, for this review we have set fares using an approach that places significant weight on the willingness and capacity of users (and potential users) of rural and regional bus services to pay for the services, while still having regard to the other factors we are required to consider.

Our approach involved:

- Assessing rural and regional bus users' willingness and capacity to pay for the services based the available evidence, including:
  - feedback from submissions and surveys, including the survey we commissioned by ORIMA
  - comparisons of the current maximum fares with Sydney metropolitan bus fares, other Opal fares, and fares in other jurisdictions
  - analysis of the current fares as a proportion of weekly disposable income, and
  - analysis of how use of the current services is likely to change in response to fare changes.
- Assessing the benefits and costs of simplifying the current fare structure.
- Setting fares for single journeys for the year starting 1 January 2018 by adjusting the current maximum fares based on the findings of steps 1 and 2 above, and with regard to the other factors we are required to consider in setting fares.
- Considering whether to set discounted fares for frequent travel and journeys that involve transferring services based on willingness to pay and reasonable access.

- Considering the appropriate length of the determination period and method for setting fares over this period.

This fare setting approach is consistent with the feedback we received from stakeholders, most of which supported an approach that prioritises improving people's access to bus services and affordability over other factors (see Box 3.3). Our draft decisions on fares are discussed in Chapters 4 and 5.

Box 3.3 Stakeholder views on fare setting approach

Most stakeholders who commented on the approach for setting rural and regional bus fares supported prioritising access to affordable services over other factors. For example:

- Brewarrina Shire Council submitted that we should place greater significance on the essential nature of the service being provided rather than cost recovery.[23]
- BusNSW submitted that there needs to be better incentives for customers to use bus services in rural and regional areas.[24]
- Byron Shire Council submitted that benefits to customers should be maximised and noted that those using public transport are more vulnerable.[25]
- The Combined Pensioners & Superannuants Association of NSW submitted that for many people, public transport is their main connection to the broader community.[26]

3.3 Consider how public transport can be provided more cost-effectively over time

Our third main step for this review was to consider how public transport that ensures people have reasonable access to their local communities can be delivered more cost-effectively over time. We explored two main possibilities:

1. Delivering the same level of service – that is, the contracted bus services – for a lower cost by improving the efficiency of bus contract costs over time.
2. Delivering a better level of service – and thus attracting higher usage – for the same cost by developing on demand services.

Our draft findings and recommendations on delivering the same level of service for less cost are discussed in Chapter 6, while those on delivering a better service for the same cost are set out in Chapters 7 to 9.

23 Brewarrina Shire Council submission to IPART Issues Paper, June 2017, p 1.
24 BusNSW submission to IPART Issues Paper, June 2017, p 1.
25 Byron Shire Council submission to Issues Paper, June 2017, p 7.
26 Combined Pensioners & Superannuants Association of NSW submission to IPART Issues Paper, June 2017, p 3.

3.4 Consider issues related to cross border travel and concession eligibility and fares

The steps outlined above cover all the issues the Minister's letter of referral requires us to consider for this review except for those related to:

- travel across borders, and
- eligibility of concession fares in NSW and the level of subsidy provided by the NSW Government

Therefore, the final main step for this review was to consider each of these issues. Our draft findings and recommendations are discussed in Chapters 10 and 11.

4 Setting maximum fares for single journeys

As Chapter 3 discussed, our approach for rural and regional bus fares aims to set these fares at levels that ensure people with limited travel options have reasonable access to their local communities. This approach involves setting maximum fares based on:

- our assessment of people's willingness and capacity to pay for these services (and having regard to the other factors we are required to consider), and
- our assessment on the benefits and costs of simplifying the current fare structure.

The sections below provide an overview of our draft decisions on fares for single journeys, and then explain why we reached these decisions, based on the findings of these assessments.

4.1 Overview of draft decisions on fares for single journeys

The draft fares for most journeys are considerably lower than the current maximum fares. They are likely to better reflect people's willingness and capacity to pay for the bus services in rural and regional areas, which should help facilitate reasonable access to communities for those with limited travel options. Our draft fares should improve value for money for bus users, and improve equity between rural and regional bus users, and those in other areas, as the draft fares are more closely aligned with metropolitan (Opal) bus fares and fares in other jurisdictions.

Under our draft decisions, we expect the average adult fare to decrease by around 25% in 2018.[27]

Draft decision

1 The maximum adult fares for single journeys be set as shown in Table 4.1.

27 This assumes that all concession journeys are taken at the adult fare.

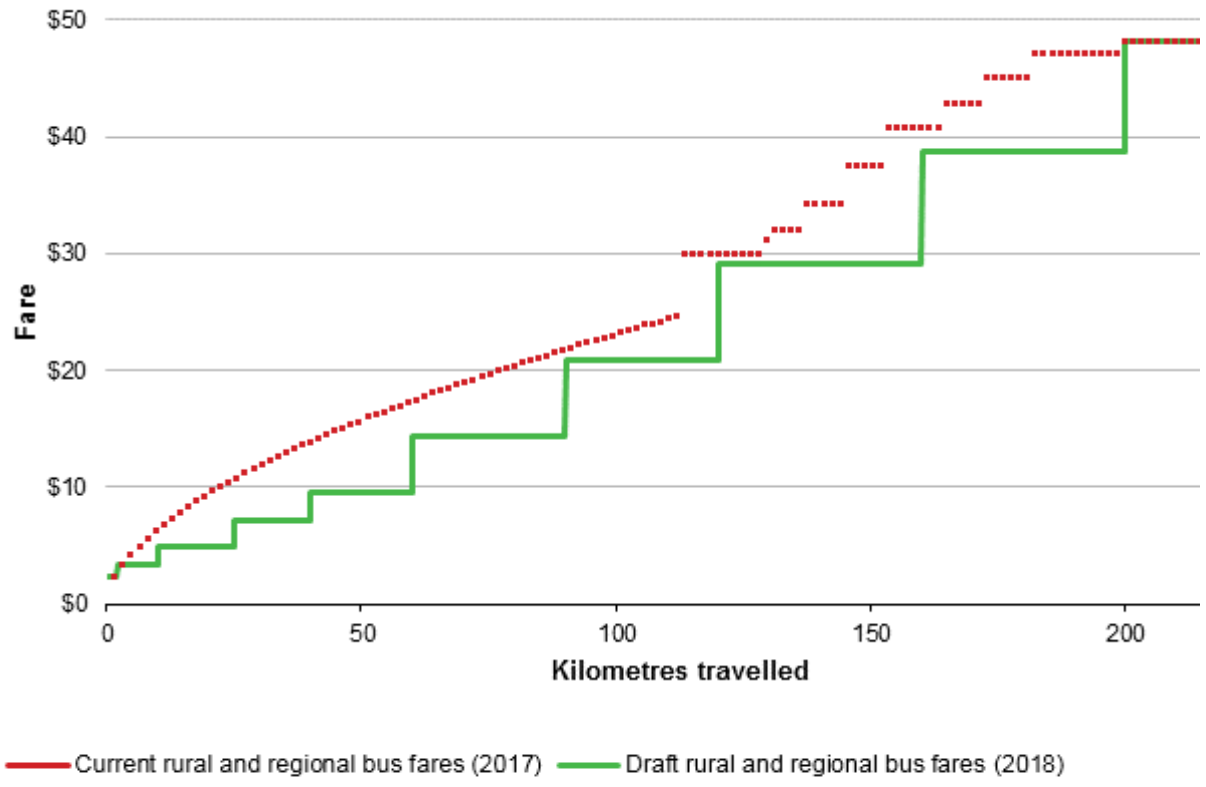
Table 4.1 Draft decision on adult fares for single journeys from 1 January 2018 (nominal, including GST)

Fare band	Route distance (km)	Old sections (for information) *each section is approximately 1.6km*	Current maximum fares	Draft maximum fares		
				2018	2019	2020
1	0 to less than 2	1-2	$2.30-$3.40	$2.30	$2.40	$2.40
2	2 to less than 10	2-7	$3.40 - $6.90	$3.40	$3.50	$3.60
3	10 to less than 25	7-16	$6.90 - $10.80	$4.90	$5.00	$5.10
4	25 to less than 40	16-25	$10.80 - $13.90	$7.20	$7.40	$7.60
5	40 to less than 60	26-38	$14.20 - $17.50	$9.60	$9.80	$10.10
6	60 to less than 90	38-57	$17.50 - $21.90	$14.40	$14.80	$15.10
7	90 to less than 120	57-75	$21.90 - $30.00	$20.80	$21.30	$21.90
8	120 to less than 160	76-100	$30.00 - $40.70	$29.20	$29.90	$30.70
9	160 to less than 200	101-125	$40.70 - $48.20	$38.70	$39.70	$40.70
10	200 or more	126+	$48.20 - $60.00	$48.20	$49.40	$50.60

Note: Our draft determination sets fares based on route distance not sections.

While the draft fares for longer journeys are significantly lower than the existing fares, draft fares for very long distance travel (over 160km) will not change significantly. These journeys will continue to be around $40 and $50 because we consider that passengers travelling these distances have a higher willingness to pay for these journeys. This is because they are likely to provide occasional access to other communities rather than regular access to local communities, and people are generally willing to pay more for occasional trips (because they represent a lower proportion of their budget overall). The draft fares are also comparable to the cost of taking similar distance journeys on commercial coach services.

Figure 4.1 Comparison of draft fares and current fares from 1 January 2018 ($2018)



Data source: IPART, *Bus Industry Cost Index (BICI) Fare change from 1 January 2017*, https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/pricing-reviews-compliance-rural-and-regional-bus-fares-for-2017/rural-and-regional-buses-maximum-fares-from-january-2017-bici.xls, accessed 28 September 2017.

Given the significant changes to fare levels, we are proposing to set fares for three years only. This will allow us to review the impacts of fares on patronage, operators and the Government, and also consider new developments in the market. Over each year of the determination period, our draft decision also indexes fares in each year of the determination by CPI, which should reflect the change in customers' willingness to pay over time.

Our draft decision on fares for single journeys should assist in achieving better taxpayer value for money by increasing the patronage of rural and regional bus services and thus lowering the cost per passenger journey.

4.2 No passengers will pay more than they currently do

Our draft decision to set lower maximum fares reflects our assessment of people's willingness and capacity to pay, particularly our findings that:

- current fares for rural and regional bus services in NSW are a barrier to their use, and lower fares are likely to increase patronage of these services, and
- these fares are significantly higher than bus fares charged elsewhere in Australia and NSW.

4.2.1 Current fares for rural and regional bus services are a barrier to use

The overwhelming theme we heard from stakeholders was that current fares are too high for the services offered. Some argued that the cost of fares "is a major barrier to use public transport for people who can't get a concession".[28] Under the current fares, some passengers with limited transport options are choosing not to travel by bus because it is too expensive. Instead, they are choosing to forgo some journeys, or waiting until they can get a lift into town with friends or family.

In our online survey, when asked about the changes they would like to see in their local bus service, many respondents said a reduction in fares. Many also said cheaper fares would encourage them to use bus services more often. For example:

- "For myself and 3 kids to get return trip from home to CBD, it is cheaper to get taxi... If it wasn't so expensive, I would probably use the bus service regularly."
- "I currently don't use the bus, but if it were cheaper cost and included on the Opal network it would mean I was more likely to use the bus…"

In submissions to our Issues Paper, many stakeholders highlighted the high cost of bus services to their local communities. For example,

- "Unlike the Metropolitan areas people in regional NSW generally catch the bus because they have no choice. They are generally on fixed incomes, never held a drivers licence, etc. The best public transport service in the world is no good if the target group of passengers cannot afford the service. Many regional fares are unattainable for the people that need to access basic services such as Centrelink."[29]
- For those using bus services to access work or study, many need to travel multiple times a week from one town to the next.[30] Travelling from Mullumbimby to Lismore's Southern Cross University (65 km) currently costs $58 per week for 8 bus journeys at the concession (student) fare.

Lower fares are likely to increase the number of trips

We found that the demand for rural and regional bus services is likely to be reasonably sensitive to fare changes, and so fare reductions are likely to increase the number of trips made on these services.

28 Confidential source.
29 Anonymous submission to IPART Issues Paper, 30 May 2017, p 1.
30 Byron Shire Council submission to IPART Issues Paper, 27 June 2017, p 9.

The demand for public transport services is affected by the demographic characteristics of the area, including the number of potential users (residents and visitors), their age and income profile, and the employment rate. The price elasticity of demand (ie, the extent to which demand responds to changes in fares) also tends to vary by the reason for the trip and type of traveller. Previous studies have found that demand for discretionary trips (such as shopping or recreational activities) tends to be more responsive to fare changes than the demand for non-discretionary trips (eg for work, business, or medical reasons).

The ORIMA Research survey we commissioned for this review found that the common reasons respondents gave for bus travel were shopping (63%), followed by social/recreation (39%). Bus trips for work/business represented a smaller proportion (28%).[31] This finding suggests many current users of the services are price sensitive, and therefore it would be reasonable to expect that these users may travel more often as a result of lowering fares.

In our view, additional trips as a result of fare reductions are more likely to be made by existing customers, who may take a couple of extra journeys during a week, rather than by customers switching from cars. This is because even with lower fares, cars are likely to provide more value to customers than using a bus to make the same journeys, due to:

- the relatively low costs of driving, with few additional costs such as parking and tolls, unlike city areas,
- significantly faster journey times than buses – many of which have circuitous routes, infrequent services and poor connections
- greater convenience as it provides a 'door-to-door' service.

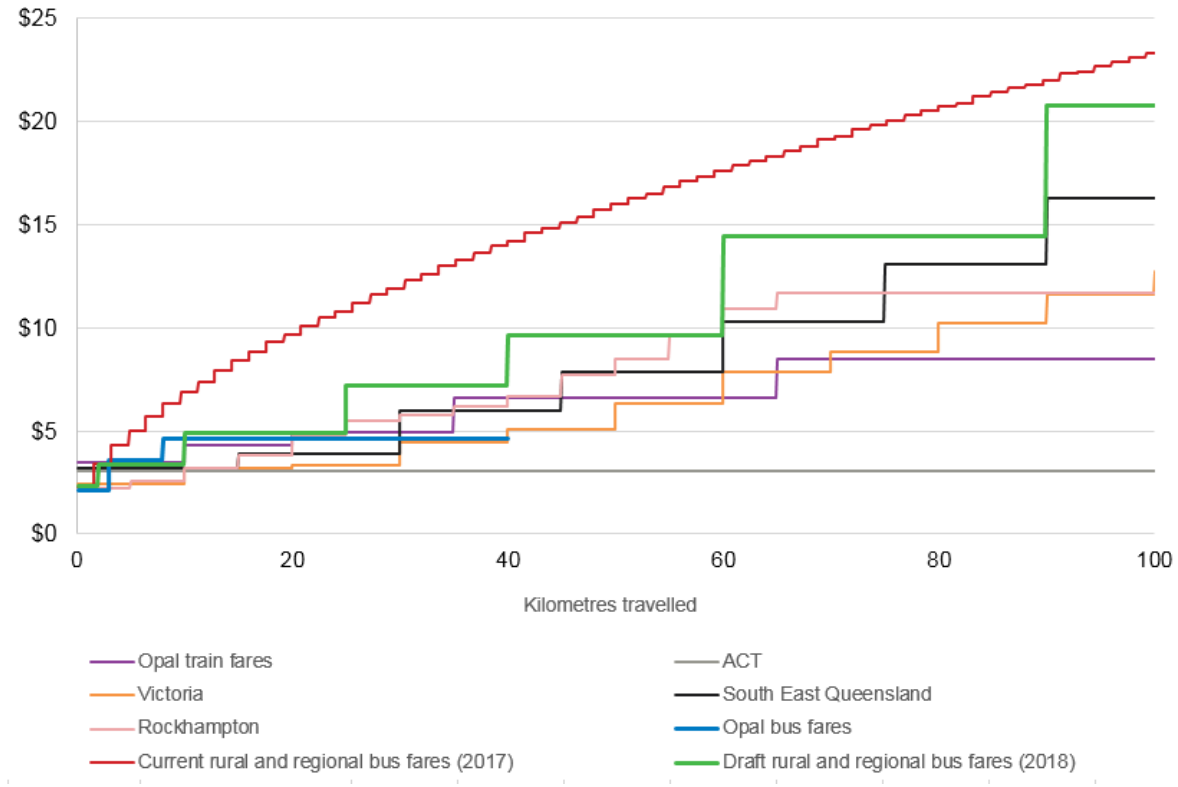
4.2.2 Current fares for rural and regional buses are significantly higher than elsewhere

We found that the current maximum fares are significantly higher than bus fares in the bordering jurisdictions – Queensland, Victoria, and the ACT. For example, the fare for a return 10 km journey in NSW is $13.80, which is double the fare ($6-7) for an equivalent journey in these other jurisdictions. The current fares are also much higher than Opal fares for most journeys.

Figure 4.2 compares the current maximum fares with bus fares in these other jurisdictions and our draft fares. It shows that for all journeys over 5 km, the current fares are materially higher than these other fares.

31 ORIMA, *Survey of rural and regional buses and on-demand transport services*, 9 August 2017, pg 11. Multiple responses were allowed so the percentages of responses do not add up to 100%.

Figure 4.2 Current maximum bus fares in rural and regional NSW compared with fares in other areas and jurisdictions and draft fares (up to 100 km)



Source: NSW Government, Opal, *Opal fares,* https://www.opal.com.au/en/opal-fares/, accessed 28 September 2017, Translink, *Fares,* https://translink.com.au/tickets-and-fares/fares-and-zones/current-fares, accessed 28 September 2017, ACT Government TC Transport Canberra, *MyWay and Cash Fares,* https://www.transport.act.gov.au/myway-and-fares/fares, accessed 28 September 2017, Public Transport Victoria, *Victorian Regional Bus Fares Supplement,* Effective 1 January 2017, https://static.ptv.vic.gov.au/PTV/PTV%20docs/Ticketing/1488156190/PTV_Regional-Bus-Fare-Supplement_2017.pdf, accessed 28 September 2017.

For very short distance journeys fares in south east Queensland and the ACT are higher than in NSW. The current maximum fare for a 2 km journey in rural and regional NSW is $2.30 compared to $3.06 in the ACT and $3.20 in Queensland.

We note that the higher fares in these other jurisdictions suggest that people in NSW are likely to have the capacity to pay more for these short trips. Setting fares in line with other jurisdictions could also facilitate improved service provision across borders.

For these reasons, we considered whether shorter distance fares should be higher in line with fares in other states.

We are making a number of other substantial changes as part of this review, including simplifying the number of fare bands, and how fares should be changed from year to year. In order to properly assess the impact of each of these individual changes, our draft decision is to stage substantial changes over time. Therefore our draft decision is that the fare for very short distance trips will remain constant for 2018, and we will reconsider whether very low fares for short trips remain appropriate when we determine fares again in three years' time.

4.3 For longer distances, draft fares are comparable with those for commercial coach services

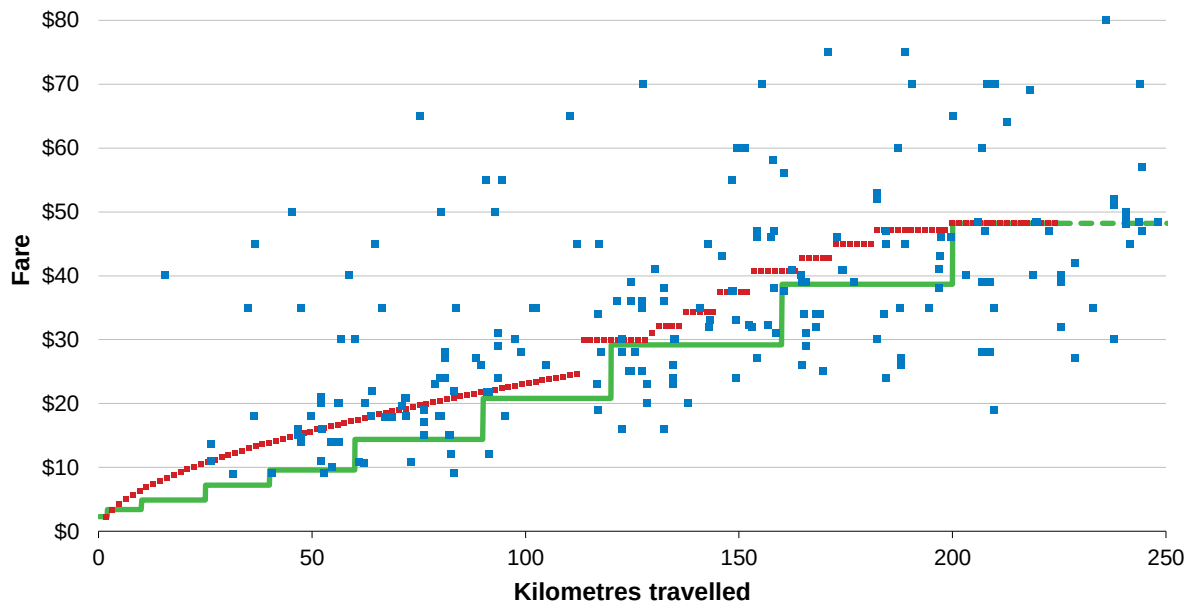
Our draft decision to set maximum fares for long distance journeys (eg, 100 km+) reflects our findings on willingness and capacity to pay, and takes account of the need for greater efficiency in the supply of services.

In our view, the vast majority of journeys above 100 km are likely to be occasional journeys, more akin to those made by commercial coach services than local bus services. For example, we identified only a handful of rural and regional contract routes that extend beyond 100 km, and on these routes, most passenger journeys are significantly shorter than 100 km. Overall, we estimate that less than 3% of all passenger journeys on rural and regional buses exceed 100 km.[32]

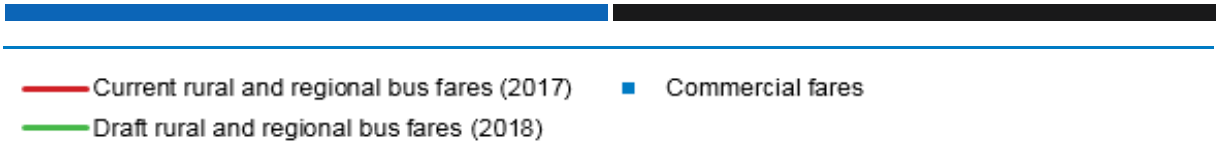
For these journeys, willingness to pay is likely to be higher than for journeys made more frequently (which have a much larger impact on weekly budget). We consider the fares for commercial coach services are a reasonable proxy for people's willingness and capacity to pay for longer journeys. Our analysis found these fares vary widely, depending on the operator and location of the journey (Figure 4.3). For most longer journeys, we set the draft fares close to the middle of this range.

We consider that setting fares for longer journeys lower than this would risk "crowding out" commercial operators who provide services between regional centres and thus reduce competition. In contrast, setting fares that are comparable to commercial coach fares should promote competition, which, in the long run, could remove the need to provide taxpayer funded services for purposes other than providing access to local communities.

Figure 4.3 Comparison of draft fares with those of commercial coach operators ($2018)



32 We estimated that in 2016 the number of journeys above 100km would amount to less than 3% of the total number of journeys on rural and regional buses.



Note: Current fares have been inflated by CPI to January 2018 price levels. Fares for journeys beyond 225km are no longer relevant, since no such routes fall under IPART's determination.

4.4 Benefits of simplifying fare structure outweigh costs

Our draft decision on maximum fares for single journeys includes a simpler fare structure that consolidates the current 220 fare sections into 10 fare bands. This reflects our finding that the benefits of simplifying the fare structure outweigh the costs.

4.4.1 A simpler fare structure is easier for users and more efficient for bus operators

Our simpler draft fare structure means that there only 10 different maximum fares for rural and regional bus services rather than the current 220, which increase for every 1.6 km travelled. This is easier for users to understand, and simpler and more efficient for bus operators to administer.

This simpler fare structure is also more consistent with those in bordering jurisdictions. For example, regional Victorian fares increase in approximately 10 km increments, and at the end of 2016, South Queensland recently consolidated its 23 fare zones down to eight.[33]

Stakeholders supported simplifying the fare structure. Some also proposed alternative structures, including:

- A smaller number of fares bands, such as the three Opal fare bands (0-3km; 3-8km; and 8km+)[34]
- A flat fare for journeys between towns.[35]

We do not agree that the Opal fare bands are appropriate for rural and regional bus fares as trip characteristics are significantly different in rural and regional areas. For example around 40% of passenger journeys in rural and regional areas are greater than 8 km, compared to only 14% in Opal areas. However, we note that fares for passengers travelling between 1.6 km and 10 km will be cheaper than Opal fares.

We also considered whether to provide a more 'flat' fare structure in town – for example, the same fare for all journeys less than 10 km. However, this would have meant that the fares for the very shortest distance band would have increased substantially. For this determination we have materially simplified the fare structure, so that there will only be two fare bands for journeys less than 10 km (instead of 6). As noted in Section 4.2 above, there might be a higher willingness to pay for some of these short distance journeys, and so one

33 Queensland Government, *Fairer fares for South East Queensland*, June 12 2016, http://statements.qld.gov.au/Statement/2016/6/12/fairer-fares-for-south-east-queensland
34 BusNSW submission to IPART Issues Paper, 27 June 2017, p 5.
35 Byron Shire Council submission to IPART Issues Paper, 27 June 2017, p 9.

fare band might be appropriate, however we will consider this issue in more detail in our next determination period.

4.4.2 Costs of implementing new fares are minimal

The costs of moving to a simpler fare structure are likely to be minimal. We note that many bus operators have already consolidated the current fare schedule, and charge fewer fares. In addition, setting only 10 maximum fares does not preclude operators from having a greater number of fare increments if they wish, provided their fares do not exceed the relevant maximum fare.

One of the costs of having less fare bands is that the difference between each fare band is much higher, rather than a smooth incremental incline. Customers can then become more reluctant to take a trip that extends into the next fare band because the incremental costs of doing so are higher. However, given that under our draft fare schedule almost all customers will be paying less, we consider this would not be a material problem.

4.5 Our draft decision is to set fares for 3 years

Due to the significant changes in fares from 2018, our draft decision is to set fares for three years only.

While stakeholders generally supported a slightly longer determination period, reviewing fares again in three years will allow us to assess the impact of changes in fares under our new determination and review the impact on passengers, operators and the Government. This will also provide an opportunity to assess the impact of fare changes on patronage, which will give us an additional measure of willingness to pay at this time.

A 3-year determination would mean that our next review would be completed prior to the expiry of the initial 5-year term of the rural and regional bus contracts. The findings of our next review could be used to inform any changes to contracting arrangements.

In addition, there are likely to be considerable developments in on demand services over the next three years. The Government is trialling several on demand transport services in Sydney and is also planning on trialling services in rural and regional areas. The results of these trials will be available in the next three years and could be used to inform a new determination starting in 2021.

4.6 Our draft decision is to set fares in 2019 and 2020 based on adjusting 2018 fares by the expected change in CPI

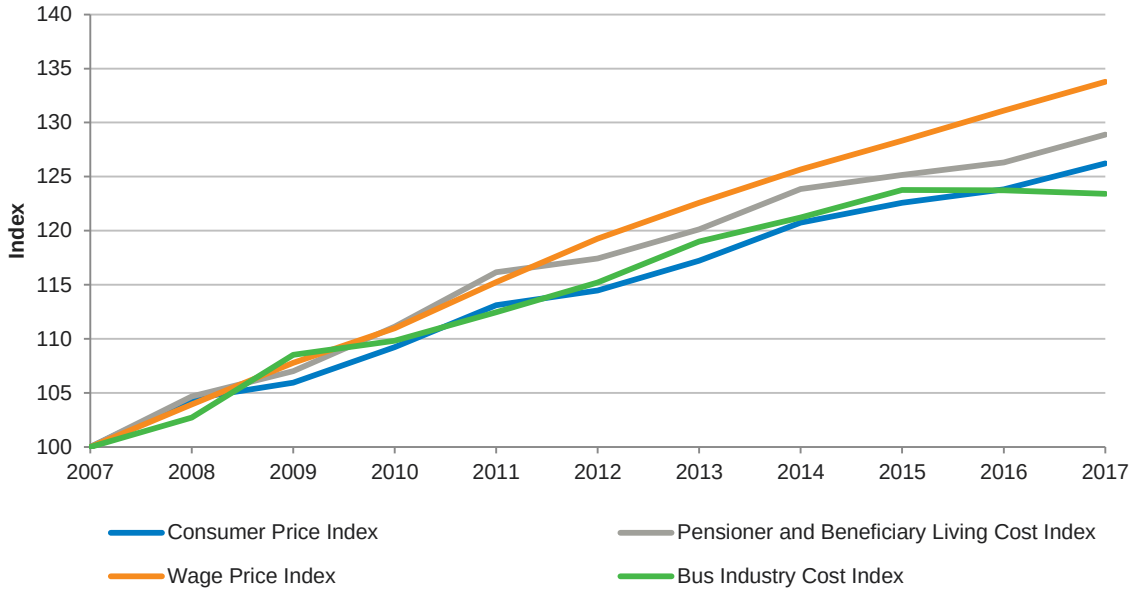
We consider that the changes in fares in each year of the determination period should reflect changes in willingness and capacity to pay.

We considered a number of options that we could use to adjust fares in 2019 and 2020, including the Pensioner and Beneficiary Living Cost Index (PBLCI), the change in the Wage Price Index (WPI), and the Bus Industry Cost Index (BICI). Figure 4.4 shows that each of these methods can result in slightly different levels of bus fares over time. We discuss each of these options further Box 4.1.

Our draft decision is to set fares for 2019 and 2020 by indexing 2018 fares by the expected change in CPI. CPI is the basis for indexing pensions and allowances.[36] In rural and regional areas of NSW, trips made by school students represent 87% of the total bus trips.[37] Of the remaining 13%, more than 80% of these trips are made by passengers paying half fare or using the RED tickets, who are recipients of various Australian Government payments. As a result, the inflation rate is likely to influence passengers' willingness and capacity to pay over time in rural and regional areas.

CPI is also well understood and administratively simple to apply. Setting fares in 2019 and 2020 by the change in the CPI would maintain the real value of fares over the determination period.

Figure 4.4 Cumulative changes in various indices considered for adjusting fares



Note: Indices in 2007 are set to 100 and are as of June each year.
Data source: ABS and IPART.

36 Pensions are adjusted by the greater of the movement in the CPI or the Pensioner and Beneficiary Living Cost Index (PBLCI), implying pensions will increase at least by the rate of inflation. Other income support payments are indexed in line with movements in the CPI. https://www.dss.gov.au/about-the-department/benefits-payments/previous-indexation-rates; https://christianporter.dss.gov.au/media-releases/a-welcome-increase-for-recipients-of-australian-government-payments accessed 28 August 2017.

37 Based on information from TfNSW on Large and Medium operators

Box 4.1 We considered several other measures for indexing fares

Pensions are adjusted using either the Consumer Price Index (CPI) or the Pensioner and Beneficiary Living Cost Index (PBLCI). The PBLCI reflects changes in the living costs of pensioners and other households receiving income support from the government. Adjusting fares by the PBLCI would have an advantage of more closely aligning fare increases with the changes in income for most rural and regional bus passengers. However, the changes in the PBLCI have not been materially different from those in the CPI over the last several years. As a result using the PBLCI would increase complexity with limited added benefit.

We also considered changing fares each year by the change in the Wage Price Index (WPI) as measured by the total hourly rates of pay (excluding bonuses) across all industries and occupations in NSW. However we consider the WPI is a less relevant measure of passengers' willingness and capacity to pay in rural and regional areas as the majority of bus passengers are not in the workforce.

Finally, we considered the option of continuing to adjust fares each year by the Bus Industry Cost Index (BICI), as we have done in previous reviews. The bus cost index is similar to CPI, except rather than measuring changes in the costs across the whole economy, it only estimates the changes in the costs of providing bus services (such as fuel, labour and insurance costs). Adjusting fares each year with changes of cost would be not be consistent with our fare setting principle to reflect passengers' willingness and capacity to pay. It would also mean that IPART would have to calculate this index each year, as well as adjust the weightings periodically to make sure that the index continues to reflect the cost structure of the industry, which would be administratively burdensome.

5 Fares for frequent travel

Discounts for frequent use are common for transport services around the world. Many jurisdictions offer daily or weekly caps, multi-trip tickets, or discounts for journeys made on electronic tickets after a certain number of journeys have been made.

Under our previous rural and regional bus reviews, we have only set maximum fares for single journeys, and we did not consider whether to set daily or weekly fares. However, some rural and regional bus operators offer these discounted tickets to their customers because they are able to offer fares below our maximum fares.

This chapter explains our draft decisions on whether to introduce new maximum fares for travel across a week or over a day.

5.1 Overview of our draft decisions on fares for frequent travel

Our draft decision is to introduce a new daily ticket, which is set at different prices for travel across different distances, set out in Table 5.1.

We consider that a discounted daily ticket may encourage customers to make an additional discretionary return journey, because the daily ticket would be less than the cost of making two return journeys using single tickets.

Draft decision

2 The maximum adult daily ticket be set as shown in Table 5.1.

Table 5.1 Draft decision on adult daily ticket (nominal, including GST)

Fare band	Route distance (km) for longest trip during day	Draft daily ticket		
		2018	2019	2020
1	0 to less than 2	$6.90	$7.20	$7.20
2	2 to less than 10	$9.10	$9.40	$9.60
3	10 to less than 25	$12.10	$12.40	$12.60
4	25 to less than 40	$16.70	$17.20	$17.60
5	40 to less than 60	$21.50	$22.00	$22.60
6	60 to less than 90	$31.10	$32.00	$32.60
7	90 to less than 120	$43.90	$45.00	$46.20
8	120 to less than 160	$60.70	$62.20	$63.80
9	160 to less than 200	$79.70	$81.80	$83.80
10	200 or more	$98.70	$101.20	$103.60

We have decided not to introduce weekly tickets at this point in time. As a result of our decision on single fares, most customers that travel regularly during a week will realise significant cost reductions for weekly travel, compared to what they pay now. We would

like to assess the impact of our decision on single fares on patronage and fare revenue before we decide to reduce the fares for these journeys even further.

5.2 Introducing a daily fare

In our view a daily fare can be set in a way that encourages **additional** discretionary journeys to create more fare paying trips and revenue, while minimising the risk of further reducing fare revenue from current levels.

As explained in Chapter 4, trips for work or education tend to be less price responsive than journeys made for discretionary travel because they are more likely to be made regardless of price. But because only two trips a day would be made to/from work or education, any additional trips would more often be for discretionary purposes like leisure and shopping. Therefore offering lower fares for any additional trips **during a day** can help encourage additional demand and increase revenue.

Box 5.1 Quantity discounts are common across different industries

Quantity discounts are a common form of price discrimination (known as, "second-degree price discrimination"), where the price falls for each additional good consumed reflecting customers higher price sensitivity as the quantity consumed increases. There are a number of reasons that customers can become more price sensitive as they buy more of a good or service, including that:

- total expenditure represents a larger proportion of total budget
- large users are often business customers who have strong commercial incentives to get the best deal, and
- the marginal utility may fall for each additional unit consumed.

The first of these is most relevant to public transport fares.

5.2.1 How we set the daily fare

In setting the daily cap, we looked at how other states determine their prices. Victoria and regional Queensland set their daily tickets at two times the single fare, whereas the ACT sets the daily cap at 3 times the single fare. For Opal journeys, a flat rate is set across the network. Table 5.2 shows that this results in a range of effective discounts for a variety of journeys.

Table 5.2 Jurisdictional comparison of daily fares ($2017)

Region	Daily ticket	1km journey			15 km journey		
		Single fare	2 Return trips	Discount with daily ticket	Single fare	2 Return trips	Discount with daily ticket
IPART Draft NSW R&R ($2018)	2 x single fare ***plus*** $2.30	$2.30	$9.20	25%	$4.90	$19.60	38%
Sydney and surrounds (Opal card)	$15.40	$2.15	$8.60	-79%	$4.61	$18.44	16%
Gold Coast, Sunshine Coast and Brisbane	n/a	$3.20	$12.80	0%	$3.90	$15.60	0%
Toowoomba	Rover daily $6.40	$2.20	$8.80	27%	$4.40	$17.60	64%
Regional Queensland	2x single fare	$2.20	$8.80	50%	$4.50	$18.00	50%
Regional Victoria City Category A	2x single fare	$2.40	$9.60	50%	$3.20	$12.80	50%
ACT	$9.20	$3.06	$12.24	25%	$3.06	$12.24	25%

Source: NSW Government, Opal, *Opal fares,* https://www.opal.com.au/en/opal-fares/, accessed 28 September 2017, NSW Government, Opal, *Opal benefits,* https://www.opal.com.au/en/about-opal/benefits-of-travelling-with-opal-card/, accessed 28 September 2017, Translink, *Fares,* https://translink.com.au/tickets-and-fares/fares-and-zones/current-fares and https://translink.com.au/tickets-and-fares/fares-and-zones/current-fares#O, accessed 28 September 2017, ACT Government TC Transport Canberra, *MyWay and Cash Fares,* https://www.transport.act.gov.au/myway-and-fares/fares, accessed 28 September 2017, Public Transport Victoria, *Victorian Regional Bus Fares Supplement,* Effective 1 January 2017, https://static.ptv.vic.gov.au/PTV/PTV%20docs/Ticketing/1488156190/PTV_Regional-Bus-Fare-Supplement_2017.pdf, accessed 28 September 2017.

Note: Fares for Regional Victoria City Category A return trips assume that no two trips are within the same 2 hours.

We consider that the daily caps should be set at **more than** the fare for a return journey. This would allow any subsequent journeys to produce additional fare revenue.

We have set the daily cap equal to the return fare for the longest journey taken (two times the single fare), plus one 0-2 km fare ($2.30 in 2018). For example, if a passenger made a return 15 km journey, plus a return 2 km journey, they would pay $12.10, which is 2 times $4.90, which is the single 15 km fare, plus $2.30. Therefore the daily fare is a cheaper option than paying for all fares individually. Without a daily cap, they would pay an additional $2.30 for the return leg of the second return journey.

This can encourage customers to make greater use of public transport across a day, because the second leg of any additional return journey is free. Passengers whose second return journey is longer than 2 km, will receive an even bigger discount on this journey. At the same time the second journey produces more revenue compared to if just one return journey is taken that day, which helps to recover the costs of providing services.

5.2.2 A daily ticket can overcome the 'transfer penalty' of switching operators

The daily ticket could overcome the 'transfer penalty' that arises from changing operators to complete a bus journey. Unlike transfers between buses with the same operators[38], journeys that involve switching between operators currently incur a transfer penalty because passengers are charged the full cost of both fares.

For example, under our proposed fares, a customer would pay $9.80 to make a return 15 km journey, but up to $16.60 if they needed to transfer services across different operators (2 x $4.90 for a 12km leg plus 2 x $3.40 for a second 3 km leg)). A return journey made with a daily ticket would cost less than this, at $12.10.

While there is a single maximum fare schedule that applies to all private bus operators in rural and regional NSW, all operators currently have different fare levels and structures with some offering multi-trip discounts. They also have their own ticketing systems, which makes transfers between different bus operators difficult.

Our draft decision is that a daily ticket bought in one region must be accepted by operators in surrounding regions. We think this would occur in practice in very few instances, and therefore would not have a material impact on operators' revenue.

While we do not have information on the percentage of paid bus journeys in rural and regional NSW involving more than one bus:

- ORIMA Research's survey shows that 26% of respondents who had used bus services in the last six months used a Regional Excursion Daily (RED) ticket[39], and
- Of those who did not use a RED ticket, the majority of passengers make short trips.[40] As short trips are unlikely to involve transfers to buses serviced by different operators, the transfer penalty is unlikely to be a major deterrent to bus use in rural and regional NSW.

We are seeking feedback from operators and customers about whether they foresee issues arising in their areas as a result of this draft decision.

5.3 Our draft decision is not to introduce a weekly fare at this time

Stakeholders to our Issues Paper also supported weekly caps for frequent users to be set by IPART.[41] Submissions stated that caps would make regular commuter travel more affordable, increasing the incentive for more regular use.[42]

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38 We found that transfers between buses within the same operator do not necessarily incur any 'transfer penalty' – the additional fare paid by people who transfer from one bus to another. Several bus operators already have a system that allows transfers between buses at no extra cost within their service area. Passengers can make multiple transfers with only one fare being charged based at the beginning of the first journey on the number of sections travelled between the origin and destination of the entire journey. For example, a trip from Thurgoona to Norris Park (serviced by Martin's Albury) involves a transfer in Centro Lavington. For this trip, a passenger simply needs to advise the first bus driver of their final destination to purchase a 'transfer ticket' and then show it to the next driver when making a transfer. Busabout Wagga also issues a similar transfer ticket.

39 ORIMA, *Survey of rural and regional buses and on-demand transport services*, 9 August 2017, p 11.

40 Ibid. We estimated that around half of the journeys made are less than 5 km.

41 Combined Pensioners & Superannuants Association of NSW Inc submission to IPART Issues Paper, June 2017, p 4; Byron Bay Shire Council submission to IPART Issues Paper, June 2017, p 9; Northern Rivers Social Development Council submission to IPART Issues Paper; June 2017, p 35.

Table 5.3 shows that lower fares for regular travel across a week are common across different jurisdictions. However, in most cases only customers that take a very large number of journeys benefit. For example, in Victoria discounts are only offered after 10 journeys have been made over a week, and in the ACT, a customer needs to make 40 journeys in a month.

Table 5.3 Comparison of weekly discounts across jurisdictions

Jurisdiction	Discount for regular travel
Sydney and surrounds (Opal)	50% fares after 8 journeys, and a weekly cap of $61.60
Victoria	Free fares after 10 journeys
South East Queensland	50% fares after 8 journeys
ACT	Free fares after 40 journeys taken in a month

Source: NSW Government, Opal, *Opal benefits,* https://www.opal.com.au/en/about-opal/benefits-of-travelling-with-opal-card/, accessed 28 September 2017, Translink, *Make 8 journeys then travel for half price,* https://translink.com.au/tickets-and-fares/fares-and-zones/discounts-and-ways-to-save/go-frequently-then-go-for-half, accessed 28 September 2017, ACT Government TC Transport Canberra, *MyWay and Cash Fares,* https://www.transport.act.gov.au/myway-and-fares/fares, accessed 28 September 2017, Public Transport Victoria, *Victorian Regional Bus Fares Supplement,* Effective 1 January 2017, https://static.ptv.vic.gov.au/PTV/PTV%20docs/Ticketing/1488156190/PTV_Regional-Bus-Fare-Supplement_2017.pdf, accessed 28 September 2017.

We note that some rural and regional bus operators currently provide weekly discounts to their users. Surfside in Tweed Heads sets its weekly ticket at eight times the single fare, and a daily fare equal to twice the single fare.[43] Martins in Albury offers 10-trip tickets at a 20% discount compared to 10 single fares.[44]

The Northern Rivers Social Development Council submitted that rather than leave it to operators to decide whether to put caps in place, IPART is in the best position to set caps that would ensure equity between communities.[45]

We have some evidence to suggest that there are some frequent bus users in rural and regional areas over a week. 25% of respondents to our self-selected online bus survey caught the bus more than 4 times a week. Around half of the respondents to the online survey used the bus for travel to or from work or education.

However, our draft decision is not to determine discounted weekly tickets at this time. This is because most regular users would realise significant reductions in their weekly public transport expenditure (up to 45%) as a result of our draft fares (Table 5.4).

42 Northern Rivers Social Development Council submission to Issues Paper, June 2017, p 5; The Northern NSW local health district submission to Issues Paper, June 2017; BusNSW submission to Issues Paper, June 2017, p 5; Anonymous submission to Issues Paper.

43 Surfside buslines, *Tickets and fares,* http://www.surfside.com.au/tickets-and-fares/, accessed 28 September 2017.

44 Martins Albury, *Ticketing*, http://www.martinsalbury.com.au/ticketing/ticketing-t, accessed 28 September 2017.

45 Northern Rivers Social Development Council submission to Issues Paper, June 2017, pp 3, 5.

Table 5.4 Change in weekly expenditure for a sample of distances (nominal, based on 10 trips)

Sample distance travelled (km)	Fare paid		Change in weekly spend	Change in weekly spend
	Under draft ($2018)	Current maximum ($2017)	($)	(%)
1 km	**$23**	$23	$0	0%
5 km	**$34**	$50	-$16	-32%
15 km	**$49**	$84	-$35	-42%
35 km	**$72**	$130	-$58	-45%
50 km	**$96**	$160	-$64	-40%

Additional fare reductions through a weekly ticket could further increase patronage if they encouraged the commuter market to switch from their car to public transport. However, it could further reduce revenue if existing frequent users simply pay less, and material additional demand is not realised.

As explained in Chapter 4, for people who already have cars, we consider that lower fares are unlikely to encourage them to use buses instead, because of the relative value that car travel provides. However, a lower weekly fare may influence people's decisions about whether or not to buy a car or second car if they do not already have one.

On balance, we consider that we should monitor and assess the impact on patronage of single fare reductions, before determining even further reductions by introducing weekly fares. This would provide us with the opportunity to make future decisions based on customers' price responsiveness. We note that this decision would not prevent individual operators from continuing to offer weekly discounts.

6 Delivering current bus services for less cost over time

As Chapter 3 discussed, the third step in our approach for this review was to consider how rural and regional bus services can be delivered more cost-effectively over time. One possibility is to deliver the same level of service – that is, the contracted bus services – for a lower cost by improving the efficiency of rural and regional bus operators.

We engaged AECOM to assess the efficient costs of providing the contracted bus services, compare them with the actual costs (ie, the contract costs) of these services, and identify the main reasons for any differences. We considered AECOM's findings in the context of the current contract arrangements to identify opportunities for the Government to improve the efficiency of the contract costs over time.

We also used AECOM's findings on the efficient costs and our standard building block methodology to estimate the total efficient cost of providing the contracted bus services over the 2018 determination period. We used this estimate to consider the impact of our draft fares on cost recovery.

The sections below provide an overview of our draft findings and recommendations, and then discuss the supporting analysis.

6.1 Overview of draft findings and recommendations

As noted in Chapter 2, bus operators can be categorised into two groups:

- 'school only' – that provide dedicated school services only, and
- 'school and regular' that provide a combination of dedicated school services and regular passenger services.

We found that on average, the efficient costs of providing rural and regional bus services in 2017 are 19% lower than the contract costs of providing school only services and 26% lower than the contract costs for school and regular services. While these findings vary across operators, for 38% of school only contracts and more than half of school and regular contracts[46], the difference between the contract and efficient cost is higher than these averages.

There is an opportunity for the Government to reduce the contract costs by the average efficiency savings we identified above by better understanding the route distances and reducing the choice of bus makes and models available under the contracts. In addition to these savings, further reductions may be possible through better matching of bus size to patronage.

46 For school and regular contracts, AECOM estimated the efficient costs of providing bus services where it had access to sufficient data.

We note that the Government cannot achieve all improvements immediately and, in some cases, they may not be possible until buses are retired or the current contracts expire in 2024. However, over the next three years, we consider that the Government should focus on improving the cost-effectiveness of those operators with cost structures that are significantly different to their peers.

We note that our approach to setting fares means that the current cost inefficiencies are not borne by passengers of rural and regional services, but by taxpayers who subsidise these services.

Draft IPART finding

2 The efficient costs of providing rural and regional bus services in 2017 are on average 19% lower than contract costs of providing school only services and on average 26% lower than contract costs for school and regular services.

6.2 AECOM's assessment of efficient costs

AECOM assessed the efficient costs of providing rural and regional bus services using a bottom-up approach (summarised in Box 6.1) and the best available information. As part of this assessment, it:

- estimated the efficient unit costs ($ per km) for each of the four bus categories in the contracts, and
- compared the efficient costs and the contract costs for each type of bus operator – those providing 'school only' services, and those providing 'school and regular passenger' services – to identify likely reasons for differences in efficiency.

Box 6.1 AECOM's approach to assessing efficient costs

1. Assembled fleet, route and contract data provided by TfNSW into a single set of files.
2. Identified the most common models of bus in the fleet in each of TFNSW's four bus categories, and established the range and trend of capital costs for buses in each category.
3. Estimated unit costs for running representative buses in each of these categories, by obtaining manufacturers' recommendations, checking these with selected operators, and estimating costs for all planned maintenance activities recommended by the manufacturers.
4. Estimated the length and duration of each trip undertaken under rural and regional bus contracts, including provision for deadruns and associated driver time required. (As the route data provided in the contracts was often not available, AECOM relied on spatial data obtained from TfNSW and text files from the TfNSW Open Data Hub for this estimation.
5. Assessed the cost of drivers for each route, using estimated driving time (including deadruns or layovers) and current award rates and conditions.
6. Estimated seat capacity for each route. (As the records of buses assigned to contracts and routes were inadequate, AECOM used a variety of sources to identify the actual bus model working each school route and had to assume an 'average' bus from an operator's fleet is used on regular routes).
7. Estimated demand and utilisation of seat capacity for each route, using patronage data provided by TfNSW.
8. Estimated the overhead costs for each route by assessing overheads reported by all operators and available benchmark data, and establishing an appropriate correlation between reported overheads and seats used.
9. Derived the efficient cost of each route by applying the above unit costs to the specific parameters of each route:
    a) assuming that buses are maintained efficiently, as per manufacturer's recommendations
    b) estimating the return of and on capital based on the median of TfNSW current panel bus costs by category, TfNSW maximum bus service life requirements, and cost of capital assumptions provided by IPART
    c) using derived route lengths, driving time and driver award rates as an indicator of the efficient (least) driving cost for the route
    d) using manufacturer's recommendations for bus fuel usage and mean fuel costs in NSW over the past year
    e) allocating overheads using the mean overhead per seat unit cost.
10. Summed the efficient costs by route over all routes provided under each contract to estimate the efficient costs of each contract
11. Compared this efficient cost by contract to contract costs as reported by TfNSW (where there was sufficient route data).

Source: AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report,* October 2017, p 2.

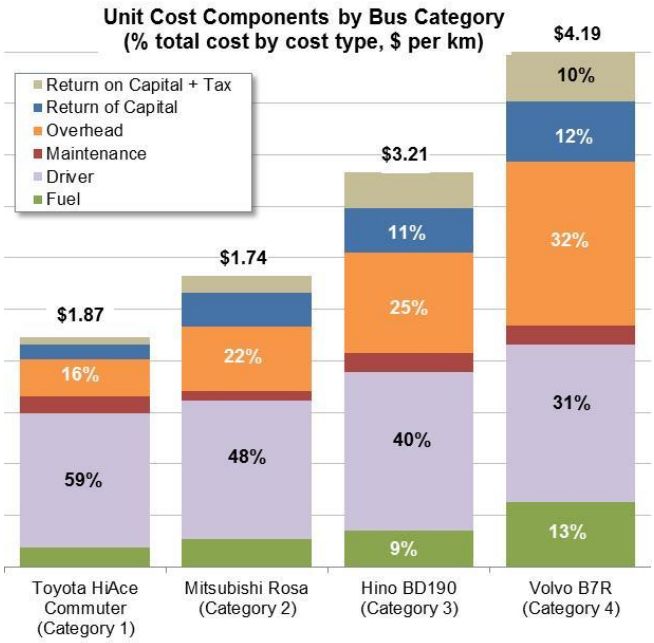
6.2.1 Larger buses have higher unit costs than smaller buses

As the rural and regional bus fleet includes a wide range of bus makes and models, AECOM estimated the efficient unit costs per km based on:

- a representative bus model in each of the four bus categories specified in the current contracts
- an average reported annual distance travelled by the buses in the category (generally around 30,000 km a year).

As Figure 6.1 shows, AECOM found that the efficient unit costs per km increased with the size of the bus. In addition, the largest unit cost component for a typical bus is the driver. But the (fixed) capital costs and overhead costs are larger for buses in the largest category. AECOM noted that it would expect those fixed costs to be a bigger component for rural and regional bus unit costs, because the use of rural and regional buses is relatively light compared with urban buses.[47]

Figure 6.1 Efficient unit cost components by bus category



Data source: AECOM, *Efficient Costs of Rural and Regional Bus Operators – Draft Report*, October 2017, p i.

6.2.2 Contract costs of 'school only' services are around 13-19% higher than estimated efficient costs

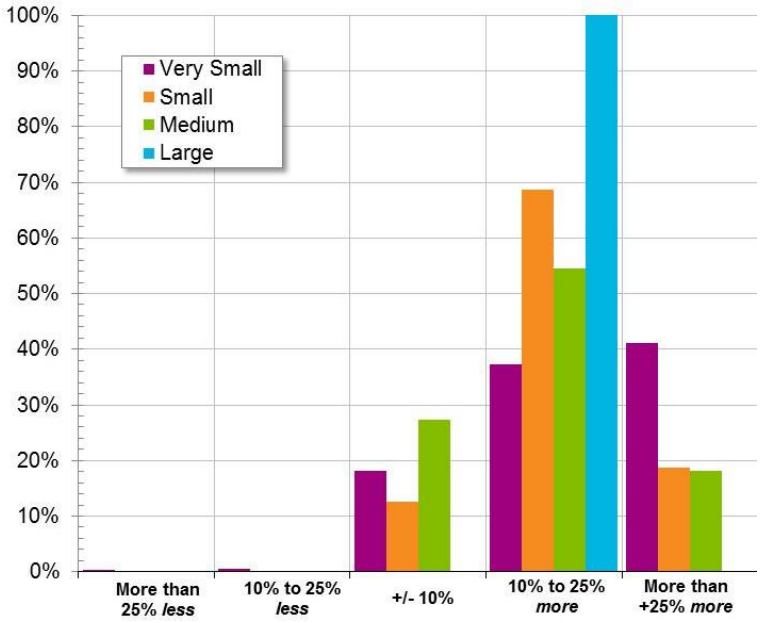
AECOM found that on average, the reported contract costs for school only services were approximately 13-19% higher than its estimate of the efficient costs of providing these services.[48] However, as Figure 6.2 shows, the difference between the contract and efficient costs varied across operators. For most operators, the contract costs are more than 10% higher than the efficient costs, but for a substantial proportion of these operators, the contract costs are more than 25% higher than the efficient costs.

AECOM also found that the main drivers of this difference were that:

47 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p i.
48 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 27.

- the reported route distances were generally higher than its estimate of the efficient route distance
- the wide choice of bus makes and models available to operators under the contracts, and
- potentially the maximum vehicle age rule under the contracts.[49]

Figure 6.2 Reported contract costs relative to estimated efficient cost for school only services



Data source: AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 28

Reported route distance generally higher than efficient route distance

AECOM based its estimate of the efficient costs of providing school only services on its assessment of the efficient route distance for each service. In making this assessment, it took account of the route layout, the depot location, and the impact of dead-running.[50] It also included an additional 10% in the efficient route distance to allow for off-route movements that may be required.[51]

It found that that on average, the reported route distance was approximately 11% longer than the efficient route distance.[52] AECOM also noted that establishing accurate route characteristics required considerable effort as bus operators do not report this information under the current contracts.

49 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 28

50 Most routes have a start and finish point that is separate from the depot or other place where the bus is stabled when not in use. Dead-running relates to the trips from the depot to the start of the run and from the end of the run back to the depot, while not part of the route itself, are included in AECOM's calculations of route length and route driving time. The length of dead-running can vary considerably, and in some cases is able to be minimised or avoided by leaving the bus at the start or finish and either providing the driver with a 'layover' or ending that particular shift.

51 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 28

52 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 28

Wide choice of bus makes and models available under contracts

AECOM based its estimate of the efficient costs of providing school only services on the most commonly used make and model of bus in use in each of the four categories. However, both the previous and current contracts provide operators with a choice of makes and models.[53]

AECOM found that the choice of bus models in the smaller categories (Category 1 and 2) is more limited, and the available models have similar purchase costs. However, in the larger categories the choice of models and the range of purchase costs are much wider. In Category 4 (buses with 44 or more seats), operators were able to purchase 124 models under the old contracts, and have a choice of 38 models under the current contracts. In Category 3 and Category 4, the purchase price of the most expensive model is between 20% and 50% higher than that of the least expensive models.

Maximum vehicle age rule under the contracts

AECOM also found that the maximum vehicle age rule under the new contracts may impose unnecessary costs on providing rural and regional bus services.[54] TfNSW specifies the maximum age of buses operated under its contracts as:

- 15 years for Category 1 and Category 2, and
- 25 for Category 3 and Category 4.

TfNSW also limits the maximum average age of the fleets operated under each contract to:

- 8 years for Category 1 and Category 2, and
- 12 years for Category 3 and Category 4.[55]

AECOM found that these maximum age limits would have the effect of increasing capital costs where the actual service life of a bus is longer than these limits.[56] It considered that the maximum age limit likely reflects an assumed lowest acceptable vehicle condition, and noted this is strongly influenced by the total distance travelled by the bus.[57] In rural and regional areas, buses may not be as intensively used as in metropolitan areas, so a longer service life may be appropriate.

6.2.3 Reported contract costs of school and regular passenger services are around 19-31% higher than estimated efficient costs

AECOM found that the available data on school and regular passenger services (ie, for operators previously on Contract B) was less complete than for school only services. Therefore, its cost analysis for these services was limited to operators for which a full set of data on regular passenger routes is available.

53 Under the new contracts, operators must obtain TfNSW's approval prior to acquiring a new bus. They must acquire buses from a procurement panel maintained by TfNSW. At the end of the contract term, if an operator's contract is not renewed, the contract generally allows for all buses to be transferred to the new operator or to TfNSW. See Rural and Regional Bus Service Contract clause 14.1 (b) and clause 14.2.

54 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p iii.

55 For example, see TfNSW, *Rural & Regional Bus Service Contract (Large)*, p 165.

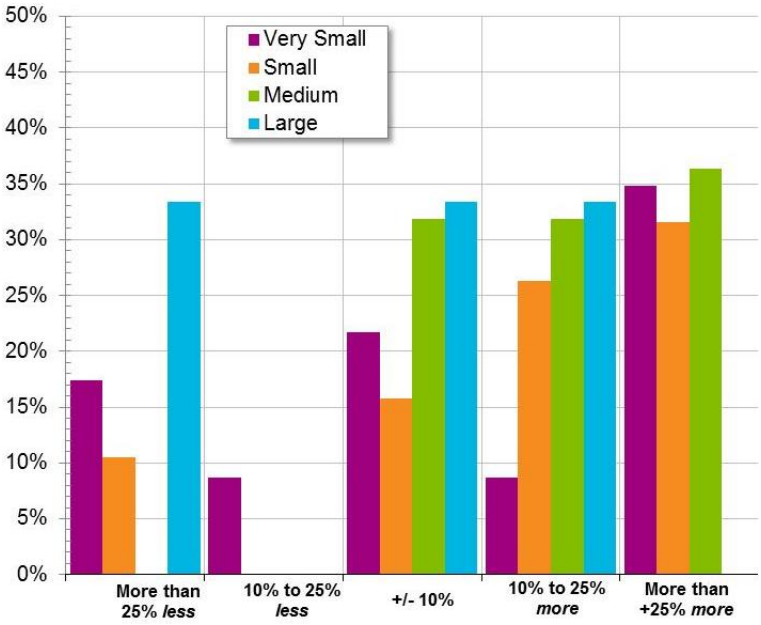
56 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 50.

57 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 50.

AECOM found that the reported contract costs for regular passenger services are approximately 19-31% higher than its estimate of the efficient costs of providing these services. As was the case for school only services, the difference between contract and efficient costs varied across operators (see Figure 6.3). For example, for 54% of school and regular service contracts, the contract cost is more than 25% above AECOM's efficient cost.

AECOM considered that the main driver of this difference was the size of the bus used for regular passenger routes. Other contributors were the route distances, and the wide choice of bus makes and models and the maximum vehicle age rule under the contracts.[58]

Figure 6.3 Difference between contract cost and AECOM efficient cost for regular passenger services (where data available)



Data source: AECOM, *Efficient Costs of Rural and Regional Bus Operators- Draft Report*, p 30.

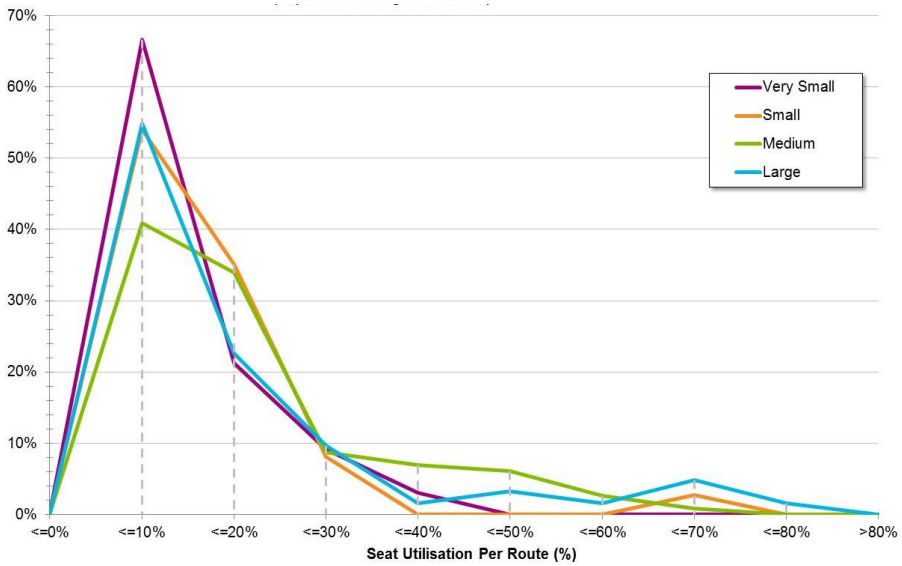
Bus size is major driver of efficiency on regular passenger routes

AECOM found that on average, the reported average bus seat utilisation (patronage per seat trip) for regular passenger services in only 12% (Figure 6.4).[59] This means that for the majority of the regular passenger routes, a stepdown to a lower category bus (for example, from category 3 (29-43 seats) to category 2 (15-28 seats) would provide a more cost-effective service.

AECOM estimated that if all opportunities to downsize the bus used to provide regular services were taken (allowing for peak loading), the total cost of these services could be further reduced by up to 21%. However, it noted that if regular passenger routes are also used for more highly patronised school services, there may not be an opportunity to downsize.[60]

58 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 28.
59 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p ii.
60 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p iii.

Figure 6.4 Reported bus utilisation for regular passenger services (where data available)



Data source: AECOM, *Efficient costs of rural and regional bus operators- Draft Report*, p iii.

Route km, choice of bus makes and models and maximum age requirements also contribute to efficiency

As for school only services, AECOM considered that the higher than efficient reported route distances, and the wide choice of bus makes and models and maximum age limits in the contracts also contribute to the difference between the contract and efficient costs for regular passenger services (see section 6.2.2).

6.3 Our draft recommendations on improving efficiency of contract costs over time

In light of AECOM's draft findings, we consider that there are several steps TfNSW can take to help improve the cost efficiency of rural and regional bus services. Not all of these improvements can be achieved immediately. In some cases, they may not be possible until buses are retired or the current contracts expire in 2024. However, over the three-year determination period, we consider the Government should focus on improving the cost-effectiveness of those operators whose cost structures are significantly different to their peers. Key steps include:

- collecting better information on route distances and operator costs to identify high-cost services
- reviewing the bus size, the choice of makes and models and the maximum vehicle age limits, and
- making more use of market testing for any new services.

6.3.1 Collecting better information on route distance and operators' costs

AECOM noted that poor quality of data reported under the contracts meant considerable effort was required to establish route characteristics and identify which buses are used on different routes.[61] This information is needed to estimate the distance travelled by each bus category and the efficient costs that should be incurred in providing the services.

AECOM also noted an apparent variation between the types of costs that have been captured in the contract payment categories between operators (in particular labour, fuel, and other). It recommended more consistent reporting of operators' costs.[62] Under the metropolitan and outer metropolitan bus contract, TfNSW requires operators to report costs in more detailed cost categories than under the current rural and regional bus contracts (for example, driver labour, administration labour, fuel, maintenance, depot rent, other depot overheads).

We consider that better information on route distance and operator costs would allow TfNSW to identify where and why some operators' costs are significantly different to their peers, and improve the cost effectiveness of the services over time. In the first instance, TfNSW should focus on those operators where the contract costs are 25% more than AECOM's efficient costs.

Draft recommendation

1 TfNSW require bus operators to report annually on patronage by IPART's proposed new fare bands, and by service kilometres and dead running kilometres by route, on a consistent basis across all operators.

2 TfNSW require bus operators to report annually on costs incurred to provide the services, and TfNSW define clearly what cost items operators should include in each cost category.

6.3.2 Reviewing the bus size, range of makes and models and age limits

AECOM found that the low bus utilisation of regular passenger services means that there is scope to use smaller, more cost-effective buses on many routes.[63] To decide on the optimal size and allocation of buses, TfNSW needs to consider the geography of the routes, the timetables, and the expected levels of patronage across all services provided by an operator. There is also scope to consider services across whole regions that are currently serviced by more than one operator.

As Chapter 2 discussed, operators may use a dedicated bus for each route, several buses on the same route across the day, or the same bus to service multiple routes across the day (including school only routes). Therefore it is not possible to make one blanket rule about what bus size operators should use for each bus route.

However, we consider TfNSW should review the bus size used by an operator at appropriate times:

61 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p iii.
62 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p iii.
63 AECOM, *Efficient Costs of Rural and Regional Bus Operators - Draft Report*, October 2017, p 29.

- First, as buses reach the maximum age limit specified in the contracts, TfNSW should not simply approve operators replacing them on a like-for-like basis but should consider whether a smaller bus or buses could deliver the same services at lower cost, taking into account both the operating and capital costs of the bus.
- Second, where patronage for a regular passenger services is very low and bus utilisation is below 10% over a six-month period, TfNSW should require operators to demonstrate why the current bus size should be maintained.[64]

AECOM also found that there is a wide variation in purchase cost on the procurement panel for buses in the same category.[65] This means that operators may be purchasing more expensive buses than are needed to deliver the minimum required levels of safety and service. In some instances, savings in warranty and maintenance costs may justify a higher purchase cost over the life of the bus. But we consider TfNSW should require bus operators to demonstrate theses savings before purchasing a more expensive bus which is funded by taxpayers.

Draft recommendation

3 TfNSW review the reported patronage of bus services to determine whether the size of the bus allocated to routes is appropriate. This review should occur when:
   - A bus operator seeks to replace a new bus under its existing contract.
   - Bus utilisation over a six-month period is less than 10%. In this instance, TfNSW should require operators to demonstrate why they need to maintain the current bus size.

4 When a bus operator seeks to purchase a more expensive bus from the procurement panel, TfNSW require the operator to demonstrate that the benefits exceed the costs over the life of the bus.

5 TfNSW consider extending the maximum service life of buses under the contracts to better match the duty, distance travelled and useful life of buses in rural and regional areas.

6.3.3 Making more use of market testing for new services

We consider there is also scope to improve the cost-effectiveness of services by lowering the contract costs per km to be more in line with the efficient unit costs estimated by AECOM. During 2017, TfNSW began making use of competitive tendering for new services in rural and regional areas. It sought responses from the market for around 13 school routes.[66] We consider that TfNSW should continue to seek responses from the market to ensure that contract costs reflect the efficient costs.

64 We note that while we consider there are likely to be on-going savings, the assessment would also need to take into account any transaction costs of disposing of the larger bus and buying a smaller bus.
65 AECOM, *Efficient Costs of Rural and Regional Bus Operators- Draft Report*, October 2017, p 4.
66 Information to IPART, TfNSW, 5 July 2017.

6.4 Impact of draft fares on cost recovery, operators and Government funding

To assess the impact of our draft fare decisions on the level of cost recovery, we used AECOM's findings on the efficient costs of providing rural and regional bus services and our standard building block method to estimate the total efficient costs of these services over the determination period.

In doing this, we assumed 'business as usual' in terms of the bus fleet and the number of service km travelled in a year. We used AECOM's recommended bus vehicle makes and models in each bus category and applied these to the number of vehicles and average age of buses in the current fleet. We did not include the impact of AECOM's recommended downsizing of the buses used on regular passenger services to better match patronage.[67] We consider that TfNSW and operators should consider the potential for downsizing buses as well as the nature of the services provided before the current contracts expire in 2024. See Chapter 8 for further information on our recommended frameworks for procuring transport services including on demand services.

We also note that the contract costs reported by TfNSW do not include an allowance for replacing buses as they reach the maximum age limits in the contracts. We have included an allowance for replacing such buses in our efficient cost estimates.[68]

Our findings on the total efficient costs in Year 1 of the contract period and the average efficient costs from 2018 to 2020 are summarised in Table 6.1.

67 See Appendix E for further information.
68 See Appendix E for further information.

Table 6.1 IPART estimate of total efficient costs over determination period ($2017 million)

		'School only'	'School and regular'[a]	Total
Year 1 of contract period				
Contract costs	$ million pa	210.5	203.3	413.8
Efficient costs	$ million pa	171.3	149.8	321.1
Dollar Difference	$ million pa	39.2	53.5	92.7
% Difference	%	-19%	-26%	-22%
Average over determination period (2018 to 2020)				
Contract costs	$ million pa	208.0	196.0	404.0
Efficient costs	$ million pa	171.4	151.0	322.4
Difference	$ million pa	36.6	45.0	81.6
Difference	%	-18%	-23%	-20%
Difference in $/km reported by AECOM[b]		-13% to-19%	-19% to-31%	-13% to-31%

a We estimated total efficient costs by scaling up to include Small and Very small B contracts, in proportion to their share of total contract costs.

b AECOM reported contract and efficient costs per km for six contract categories, namely Large, Medium, Small and Very Small A contracts and Large and Medium B contracts. Contract costs are average costs over the five year contract period.

Note: Totals may not add due to rounding

Sources: AECOM, *Efficient Cost of Rural and Regional Bus Operators, Draft Report,* September 2017, pp 27 – 29, IPART calculations.

We found that regular passenger services account for around 30% of the efficient costs of school and regular passenger contracts in 2017 (See Table 6.2). Consequently we estimate that, while revenue from fares will recover around 5.4% of the total efficient costs in 2017,[69] it will recover around 17.5% of regular passenger services' share of these costs. Cost recovery from fares will be slightly lower in 2020 due to lower fares.[70]

69 Revenue from fares in 2017 uses actual fares (not maximum fares).

70 Revenue from fares in 2020 assumes that demand responds to lower fares, and that underlying patronage grows at 0.7% per year (due to population growth).

Table 6.2 Fare revenue as proportion of efficient costs for 'School and regular' contracts (sample), 2017 and 2020

Year	Total costs $2017 million			Revenue from fares $ 2017 million[a]				Revenue from fares as proportion of	
	Dedicated school services	Regular passenger services	Total	Adult	Concession	RED	Total	Regular passenger service costs	Total costs
2017									
	86.0	37.8	123.8	2.6	2.0	2.0	6.6	17.5%	5.4%
2020									
	86.1	37.9	124.0	2.0	1.7	1.9	5.6	14.7%	4.5%

a We used average actual fares (not maximum fares) to calculate revenue from fares in 2017. To calculate revenue from fares in 2020, we assumed that demand responds to lower fares, and that underlying patronage grows at 0.7% per year (due to population growth).

Note: Totals may not add due to rounding. Ex-GST.

Source: IPART calculations.

Our draft decisions set maximum fares for rural and regional bus operators to charge their customers. The impact of these decisions on bus operators will depend on the fares they currently charge passengers compared to our proposed maximum fares. We note that a number of bus operators currently charge fares below the maximum.

Our draft decisions should not affect the level of Government funding for rural and regional buses in the current contract period. We expect more passengers to travel on the buses as a result of substantially lower fares. But the additional fare revenue from this increase in patronage may not fully offset the revenue impact of reducing fares. The impact on each operator depends on how responsive patronage is to lower fares. However, we expect the impact on bus operators would be small compared to contract costs. For all operators across all rural and regional areas, we expect the total impact to be around $1-1.5 million a year or less than 1% of total contract costs.

In its submission to our Issues Paper, BusNSW noted there is provision under the rural and regional bus contracts for TfNSW to adjust contract payments to reflect the impact of changes in fare revenue. BusNSW said if TfNSW changes a fare (or fares) in the contract fares and ticketing schedule as a result of a change in government fare policy, and the change results in a material change in the fare revenue received by the operator, the parties need to agree an adjustment to the Annual Contract Price to reflect the impact of the change in the annual fare revenue.[71]

In our view, any change to contract prices should only take place following monitoring and reporting of any impact of changes in annual fare revenue and would need to be considered be on a case by case basis. The annual impact may not become reasonably clear until after the end of each year (the impact for 2018 would not be likely to be known until around April 2019 depending on when operators report to TfNSW). We also note that we have identified several areas where operators can improve the cost-effectiveness and efficiency of the services they provide. The expected fare revenue impacts are a small proportion of the

71 BusNSW Submission to IPART Issues Paper, June 2017, p 2.

potential savings from these efficiency improvements. We consider that any changes to contract prices as a result of fare revenue impacts should be considered in this context.

7 Delivering a better service for the same cost

Another way to more cost-effectively provide rural and regional people with reasonable access to their local communities is to deliver a better transport service without significantly increasing the total cost to the Government. If a better service is provided, additional people may use the service, and they may be willing to pay more for this service than for a traditional fixed route bus service, generating more fare revenue. The additional usage and fare revenue can lower the cost per passenger journey, improving the value both customers and NSW taxpayers receive from current government funding for rural and regional bus services.

As Chapter 2 noted, Government policy envisions greater use of on demand services as part of the package of transport services it provides in rural and regional areas in the future. On demand services are a more flexible and customer-focused method of meeting people's transport needs. They differ from traditional public transport services in that some aspects of the service vary according to customer needs and demand – for example, the route, the pick-up and drop-off points, and the type of vehicle used.

To assist the Government in better understanding the potential for on demand services to deliver a better transport service for the same or similar cost, we investigated three issues:

1. What conditions need to be met for on demand services to be cost-effective in rural and regional NSW?
2. What types of on demand services are best suited to rural and regional NSW?
3. What fares are appropriate for on demand services in rural and regional NSW?

The sections below provide an overview of our draft findings and recommendations on these three issues, and then discuss them in more detail. In Chapter 8 we use these findings to develop frameworks to guide Government procurement of transport services (including on demand services) in the short term and then in the longer term when the current bus contracts end. In Chapter 9 we have developed some case studies to test whether our findings on these issues are reasonable.

7.1 Overview of draft findings and recommendations

We found that on demand services have potential to deliver a better transport service for the same or similar cost. However, they need to be well-targeted to address an identified community need and be well-marketed to ensure customers are aware of the services. Customers need to understand how the services work so bus operators can attract sufficient additional usage and fare revenue to offset the additional costs of providing on demand services.

We consider that the development of on demand services should be prioritised in those areas where the bus contract costs are more than 25% higher than the efficient costs. As a rule of thumb, on demand services should only be developed where they can be delivered

for a lower cost per passenger journey than the equivalent traditional fixed route bus service.

In the short term, during the life of the current bus contracts, the types of on demand service most likely to be cost-effective in rural and regional NSW are those that add on demand components to existing fixed bus routes. For example, this type of service could involve deviations from the existing fixed route to pick up and drop off customers from pre-arranged stops, or their homes, when they have booked. Alternatively, it could pick up booked customers from within a defined roam zone at one end of the route, and drop them off at just one (or a few) popular destinations at the other end (such as the local airport, hospital or shopping centre).

In the longer term, when the current contract terms end in 2024, a wider variety of on demand services may be feasible. However, we consider the Government should allow the market to identify and propose the most cost-effective options by competitive tendering for the provision of transport services in each region.

We also found fares for on demand services should take account of their better service level and additional delivery cost, and need to be simple and low enough to encourage additional patronage. We consider a surcharge of between $0 and $5 (including GST) on the adult fixed route fare would be appropriate, depending on the degree of flexibility provided. We are recommending that in the short term, bus operators have the option of charging passengers a surcharge of up to $5 for on demand bus services, and that reduced surcharges be available to concession passengers.

7.2 What conditions would need to be met for on demand services to be cost-effective?

On demand bus services have been operating in different forms either as trials or as ongoing services in Australia and overseas for over 20 years. Failed or withdrawn schemes greatly outnumber successful ones. Our review of past and existing services[72] suggests that for on demand services in rural and regional NSW to be cost-effective, three key conditions would need to be met:

- the services must attract sufficient additional usage and fare revenue to offset the additional costs of providing them
- the services must be well-targeted to address an identified community need
- the services must be well-marketed to ensure the community is aware of them and understand how they work.

72 We have reviewed a selection of evaluation studies of existing or previous on demand bus schemes, of which five are Australian and the remainder are from a wide variety of countries including New Zealand, U.S.A, the United Kingdom, Italy, Finland and others. See Enoch, M et al, *Intermode: Innovations in demand responsive transport*, 2004; Enoch, M et al, *Why do demand responsive transport systems fail?*, 2006; Currie, G. *Demand responsive transit development program report final report*, Institute of Transport Studies, Monash University, 2007; and Scott, R, *Demand responsive passenger transport in low-demand situations*, 2010.

7.2.1 Services must attract sufficient additional usage and fare revenue to offset additional costs

On demand services cost more to deliver than fixed route services, so for provision of these services to be cost-effective, they need to attract additional patronage and generate additional fare revenue to offset these additional costs.

Our analysis suggests there are two main sources of additional cost, and the quantum of this cost depends largely on the degree of flexibility in the on demand service. The first source is the extra cost of running the vehicle, such as labour, fuel and maintenance costs (known as vehicle km costs). The more an on demand service deviates from a fixed route (for example, to pick up and/or drop off passengers), and the longer distance and time it needs to travel, the greater the vehicle km costs.

The second source is the additional cost of managing bookings and having the resources available to respond to them (eg, vehicles and drivers). These costs will depend on the scale and sophistication of the service. For example:

- On demand services offered on a few routes, with a small number of vehicles, and limited times of operation, could be managed via a phone booking system with a person answering the phone and organizing the bookings. In this case, the additional cost would be the salary of the phone operator for the time involved.
- On demand services offered on multiple routes, with a fleet of vehicles of different sizes and real-time booking capability would probably need an app-based booking and vehicle dispatch system. In this case, the additional cost would include upfront IT costs as well as any on-going maintenance and support fees.

AECOM found that the additional fixed costs of a bus operator providing on demand services (ie, overheads, including a booking management system) vary according to how much in advance bookings can be made. AECOM reported that if bookings are made the day before, the overheads to provide an on demand service represent around 140% to 150% of those to provide a fixed route service. If bookings can be made 30 to 60 minutes in advance, they represent around 180% of those to provide a fixed route service.[73]

The use of smart technologies can minimise the additional costs of on demand services. For example, these technologies can be used to optimise the route of an on demand service to pick up booked passengers, and thus minimise the vehicle km costs. They can also reduce the booking system costs. In addition, if they allow real-time tracking, they can also enable a higher level of service and thus attract a further increase in patronage and potentially fare revenue. For example, if people can see where a service is, and where it intends to stop to pick up booked passengers, they can make a last minute booking.

Our analysis also suggests that people may be willing to pay more for the higher level of service provided by an on demand service. In our ORIMA survey, we asked respondents how much extra they would be willing to pay for on demand bus services. We found that:

- Most respondents (82%) were moderately willing to pay an extra $2 for an on demand service, and 59% were highly willing.

73 AECOM, *Efficient costs of rural and regional bus operators – Draft Report*, September 2017, *p 39.*

- More than half of respondents (57%) were moderately willing to pay an extra $5, and 31% were highly willing.
- Around a third (36%) were moderately willing to pay an extra $10, and 13% were highly willing.
- Older people were significantly less likely to be willing to pay either an extra $5 or $10 for an on demand service than younger people.[74]

In the short term, the cost per passenger journey provides a useful indicator of whether or not providing an on demand bus service (or adding a flexible component to a fixed bus service), is likely to be cost-effective. Although the total costs of providing an on demand service are likely to be higher, if it attracts sufficient additional passengers the cost per passenger journey should be lower than for a fixed route service.

On the other hand, if an on demand service cannot be provided for a lower cost per passenger journey than a fixed route service, then it is not attracting sufficient additional customers to indicate that it is a valued service.

We acknowledge that only a small proportion of bus passengers currently pay the full adult fare. This means that on demand bus routes which serve mostly concession passengers would need to attract more passengers to generate fare revenue to offset additional delivery costs of providing on demand services.

7.2.2 Services must be well-targeted to address an identified community need

For on demand services to attract additional customers, they must be designed to address an identified community need that is unmet or inadequately met by existing fixed route services.

In Australia and elsewhere, on demand bus services are often designed to transport older people or people with a disability who cannot access traditional public transport services. For example, NSW's Community Transport services have evolved to address this need. Eligible passengers can book a trip from a local Community Transport provider, usually several days in advance. The trip may be in a regular car, or a small bus or minivan.

On demand services have developed to meet a need for some flexibility about where people start or finish their journey and the time that the journey is made. Some examples of on demand services in rural and regional areas that have been targeted to serve a specific community need, include:

- Airport shuttles: These typically pick people up at their door, and drop them off only at the airport, at a time that allows them to catch their flight. Costs of running the service are usually fully recovered from passengers, who typically pay a fare that is less than it would cost them to take a taxi but higher than the fare for a fixed-route bus service.

74 ORIMA Research, *Survey of rural and regional buses and on-demand transport service*s, 9 August 2017, pp B31-B32.

- Employer-sponsored or business park shuttle: These are specifically designed to transport workers to and from their place of employment, to their homes or to a mass transit hub like a train station. The owner of the employment premises typically pays for the cost of the service with passengers paying no fare.
- Courtesy Transport: This type of transport is often provided by a local pub, other licensed venue or community centres to carry people specifically to and from their premises. As above, the premise owner usually pays for the cost of the service with passengers not paying a fare.

In other cases, on demand services are designed to fill gaps in fixed route services, such as infrequent fixed services or limited fixed stops. For example, in the Queanbeyan area, the contracted bus operator (QCity Transit) has been operating an on demand service called LocalLink.[75] QCity Transit initiated the service after observing poor patronage on certain fixed routes and with the aim of improving transport options in the local community. The LocalLink bus picks up customers (who book the service between a day to several weeks in advance) at their home, and drops them at a small number of fixed locations in town.

7.2.3 Services must be well-marketed so communities are aware of them and understand how they work

For on demand services to attract additional customers, the communities they serve must be aware of the service and understand how it works. Experience to date shows that this requires effective community awareness and engagement campaigns, and on-going marketing. The marketing needs to be tailored to the local community and the service providers need to engage with their local community.

Our stakeholder feedback also highlighted the importance of community engagement and awareness of on demand bus services. As well, QCity Transit emphasised the importance of its ongoing marketing and community awareness campaigns to maintain passenger numbers in operating its LocalLink service.[76]

Draft Findings

3 In the short term, for on demand bus services to be cost-effective in rural and regional NSW, they would need to:
   - attract sufficient additional usage and fare revenue to offset the additional costs of provision
   - be well-targeted to address an identified community need
   - be well-marketed to ensure the community is aware of them and understand how they work.

4 The estimated cost per passenger journey is a useful indicator of the likely cost-effectiveness of an on demand service, as it takes account of both additional usage and additional costs. In general, an on demand service should only be pursued where TfNSW is satisfied it can be delivered for a lower cost per passenger journey than a fixed route service.

75 Route 840 Queanbeyan Demand Responsive Service and Route 850 Bungendore Demand Responsive Service at http://qcitytransit.com.au/timetables-h

76 IPART consultation with QCity Transit on 3 July 2017.

7.3 What types of on demand services are best-suited in rural and regional NSW?

Design of demand services vary widely, depending on the community need they are targeted to address. We identified four broad options, each of which has several variations. These include:

1. **Fixed route plus deviations**
   a) A fixed route bus service that deviates from its route to pick up booked customers from pre-arranged, mutually convenient stops and drops them at fixed stops.
   b) The same as option 1a, but can also pick up booked customers from their home.
   c) The same as option 1b, but can also drop booked customers at pre-arranged destinations.
2. **Fixed route plus roam zones**
   a) A fixed route bus service that can pick up booked customers from many possible pre-arranged stops (including their home) within a defined roam zone, and drop them at just one or a few destinations at the other end. For example, these destinations might include the local airport, hospital and shopping centre. QCity's *LocalLink* service, discussed above, is an example of this type of service, also known as a 'many to one/few' service.
   b) The same as option 2a, but can pick up booked customers from pre-arranged stops within more than one roam zone, and drop them at pre-arranged stops within these roam zones, or within a destination roam zone ('many to many').
   c) The same as option 2b, but can also deviate from the fixed route between the defined roam zones to up pick up and drop off booked customers at pre-arranged stops ('many to many with trunk deviations').
3. **Demand responsive loop or roam zone**
   a) A bus service that travels around a fixed loop and stops only to pick up booked customers at pre-arranged places and drops them at a few fixed destinations.
   b) A bus service that travels within a defined roam zone and picks up and drops off booked customers at any pre-arranged spot within that zone.
4. **Fully flexible, point to point**
   a) A taxi or Community Transport service: a regular car, maxi taxi, or minibus service that picks up a booked customer at the place and time of their choosing and drops them off at the place of their choosing.
   b) The same as option 4a, but can stop at several places before the final destination, perhaps to share the vehicle with another booked customer or to assist the customer with errands.

Figure 7.1 and Figure 7.2 illustrate these options, and show that they form a spectrum from least flexible (option 1a) to most flexible (option 4b). The level of flexibility affects the total cost to provide the service, and uncertainty about vehicle kms. The greater the flexibility, the higher the total cost and uncertainty about service kms. See Appendix H for more information on the advantages and limitations of the different types of on demand services presented in Figure 7.1 and Figure 7.2.

Legend for on demand route types

	Fixed bus stop where vehicle guaranteed to stop
	Fixed stop that vehicle visits only if customer books
	Booked doorstop pickup or drop off
	Standard route terminus – begin/end point
	Booked or fixed specific destination other than fixed route terminus – shops, hospital, local fair, etc.
	Fixed route comparison

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Figure 7.1Types of on demand services

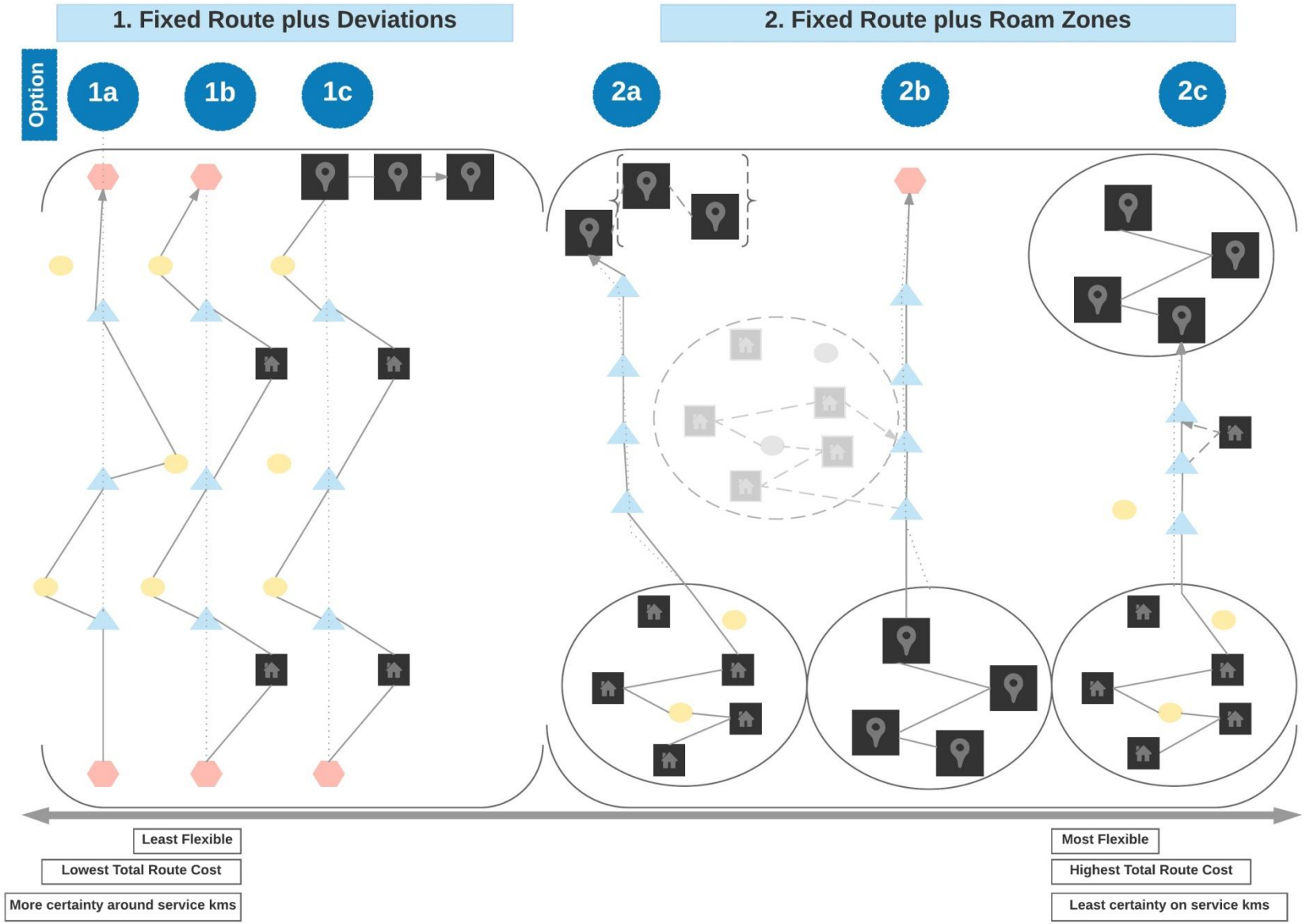
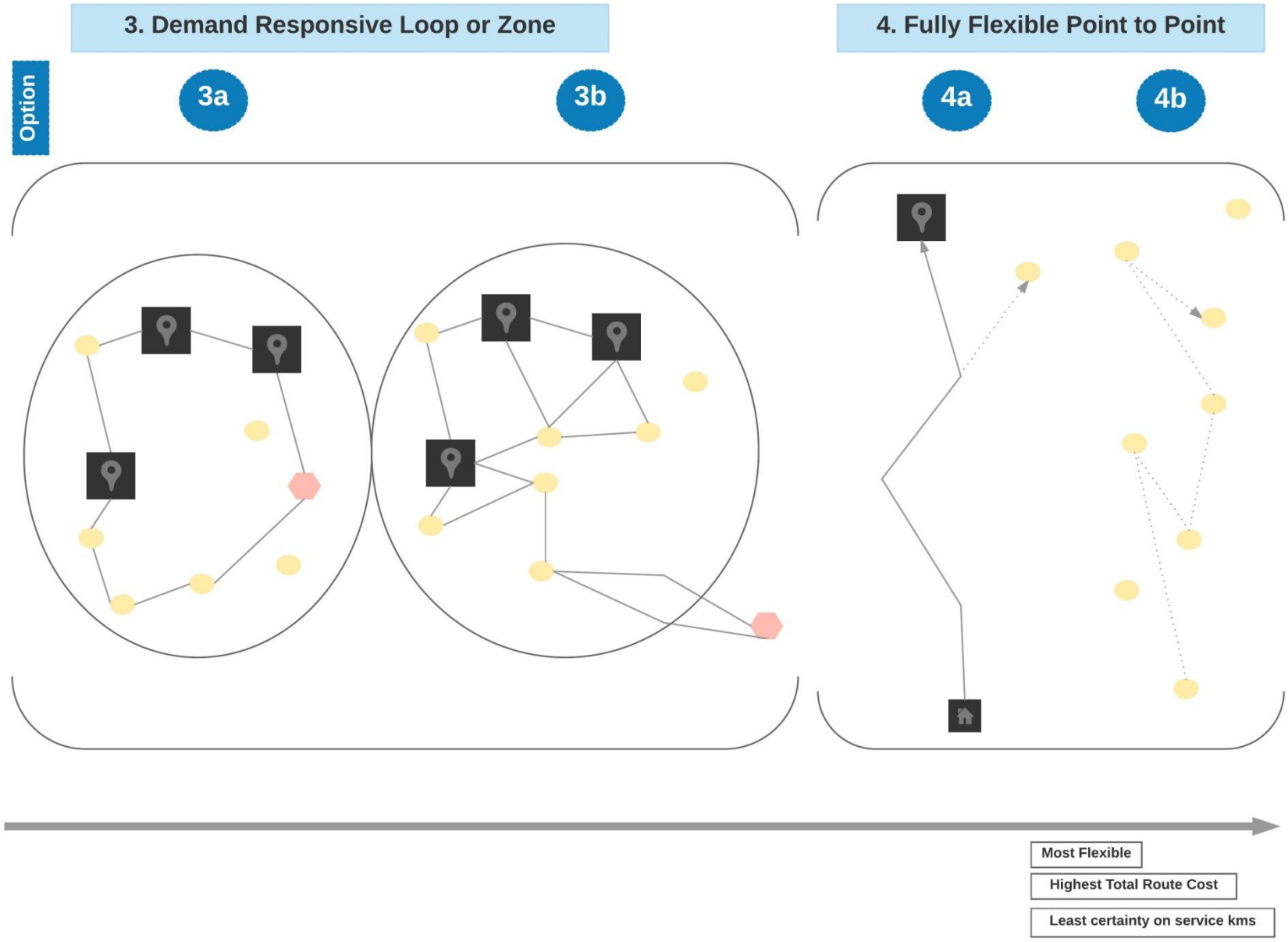


Figure 7.2 Types of on demand services (continued)



We considered each of the above options, taking account of the advantages and limitations (summarised in Appendix H) and stakeholder comments. We found that:

- In the shorter term, during the life of current bus contracts, the options likely to be cost-effective in rural and regional NSW are those that add a flexible, on demand component to an existing fixed route. In particular, we consider options 1a, 1b and 2a are most likely to be successful.
- In the longer term, after the current contracts end, a wider variety of options may be cost-effective, including demand-responsive bus services that travel in a loop or roam zone (options 3a and 3b).

7.3.1 In the shorter term, adding on demand components to existing fixed route services are likely to be cost-effective

As Chapter 2 discussed, the Government currently funds the provision of fixed route bus services under contracts with a 5-year term (with an option to extend a further 3 years). The contracts specify the services the bus operator will provide (including routes and timetables), and the payments it will receive. Bus operators also retain farebox revenue.[77]

The specified services can only be changed if a contract variation is approved by TfNSW.[78] Therefore, during the life of the contracts, on demand services could only be used to supplement or potentially replace poorly patronised fixed route services.

In this context, modifying an existing bus service by enabling it to deviate from the fixed route and bus stops to pick up booked customers at a mutually convenient, pre-arranged place (options 1a and 1b) is likely to be feasible and cost-effective because these options:

- involve lower total additional costs than other more flexible options, so would not need to attract a large number of additional customers to offset these costs
- require limited changes to the fixed route and so would be relatively easy to design and operate
- would make it easier and more convenient for people who live near the fixed route but have difficulty getting to a fixed bus stop to use the service, and
- would be simple for customers to understand, making it easier to encourage additional use of the service.

Modifying an existing bus service by enabling it to pick up booked customers from many possible pre-arranged stops within a roam zone, and drop them at a few destinations at the other end (option 2a) is also likely to be feasible and cost-effective. This option has similar benefits to 1a and 1b. In addition, it can be used to address a wide range of different needs, such as filling connection or timetabling gaps in existing public transport, providing a targeted feeder service to important destinations, or providing better access for less mobile passengers.

77 See Table B.2 in Appendix B which describes the features of the new bus contracts.
78 See clause 5.4 on Service Variations in the Rural and Regional Bus Service Contract.

Options with a greater degree of flexibility (2b to 4b) would involve higher total additional costs (due to higher vehicle kms), and more unreliable journey times. This might make it harder to attract sufficient additional customers to offset the additional costs.

In submissions to our Issues Paper, stakeholders generally agreed that combining on demand services with fixed route services may be more likely to work. For example, BusNSW expressed support for modifying poorly patronised routes by introducing an on demand component to make the service more convenient and provide better access.[79] BusNSW also argued that operators should be able to use existing mechanisms in their contracts to achieve this, noting this was consistent with a finding of the recent Legislative Assembly Committee on Community Services inquiry.[80]

Stakeholders also highlighted the need to take local factors – such as geography, population, dwelling density and the physical road network – into account in the design of an on demand service. BusNSW emphasised that each local community should be assessed case-by-case based on local needs, population density, road infrastructure and topography.[81] The current road network will be an important factor in assessing the feasibility of providing on demand bus services. For example, cul-de-sacs in roam zone areas may constrain the number of possible routes through the zone, while restrictions on where buses can safely turn off and on to a highway may constrain where they can deviate from the fixed route.

Draft finding

5 In the short term:

- Bus operators and TfNSW should explore opportunities to develop on demand services that provide a better service for the same or similar cost through service variations under the existing contracts
- While bus operators should be free to explore any service design they think best targets community needs and can be delivered efficiently, services that add a flexible, on demand component to an existing fixed route are most likely to be feasible and cost-effective.

7.3.2 In the longer term, a wider variety of on demand service types should be considered as a part of a package of transport options

In the longer-term, we consider that there is an opportunity for TfNSW to seek proposals from the market to increase the cost-effectiveness of the current bus contracts to improve service outcomes for passengers and provide better value for taxpayers. This can be achieved by competitive tendering **transport services** in each region. Market-driven solutions to providing transport services can deliver innovative operating models that provide a better quality of service for passengers in a cost-effective manner. These solutions should consider on demand designs as part of a package of transport services provided in each region.

79 Bus NSW submission to IPART Issues Paper, June 2017, p 9.
80 Legislative Assembly of NSW Committee on Community Services, *Access to Transport for Seniors and Disadvantaged People in Rural and Regional NSW,* December 2016, p vii. Available at https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=2398#tab-reports
81 Bus NSW submission to IPART Issues Paper, June 2017, p 9.

For example, options 3a and 3b may work well in regional centres where there are issues with the frequency of bus services and larger populations. However, the cost-effectiveness of these options would need to be established, especially where population density within the loop or roam zone is likely to be low.

7.4 What fares should customers pay for on demand bus services?

The fares charged for an on demand bus service will influence the extent to which it can be delivered cost effectively. For example, the fare needs to be simple and low enough to encourage additional customers to use the service, and high enough to ensure these customers generate sufficient additional fare revenue to offset the additional costs of providing the service.

To consider what fares customers should pay for on demand services in rural and regional NSW, we first developed draft pricing principles for these services (see Box 7.1) and then applied these principles. We found that:

- a surcharge on top of the fixed route fare appears to be the clearest and most transparent pricing mechanism
- operators should set the level of surcharge between $0 and $5 (maximum including GST) after considering:
  - their customers' willingness to pay and its likely impact on demand for the service, and
  - the design of the flexible service component and how this influences the additional costs of providing it
- a reduced surcharge should be available for customers eligible for concession fares.

Box 7.1 Draft pricing principles for on demand bus services

We consider fares for on demand bus services should balance the following pricing principles:

1. Fares should take account of the higher level of service and the additional delivery costs of on demand services.
2. Fares should be tailored to the route and region, as uniform fares may constrain the development of cost-effective services that meet community needs.
3. Fares should have some consistency across the state so that customers know what to expect.
4. Fares should be transparent and simple.
5. Fares should promote access to transport.

7.4.1 A surcharge on fixed route fare is the clearest and most simple pricing mechanism

In line with good practice, fares for on demand services should be clear and simple for operators and passengers. Clear and simple fares are also necessary to encourage additional customers to use the services, and thus help offset the additional costs of providing the service.

We consider that a surcharge on top of the fixed route fare (and applicable only to those customers who book the on demand component of the service) is the clearest and most simple pricing mechanism available. It is also the pricing mechanism used by existing on demand services, such as Melbourne's Telebus which has operated successfully for more than 30 years.[82]

7.4.2 Operators should set the surcharge between $0 and $5 based on customers' willingness to pay and likely impact on demand

To encourage additional customers, the level of the surcharge should primarily be based on customers' willingness to pay and its likely impact on demand for the service.

As discussed above, our ORIMA research survey found that approximately half of respondents said they were moderately willing to pay an extra $5 for on demand bus services (see section 7.2.1). If the surcharge were set at this level, on demand services would be priced somewhere between fixed route bus services and taxi services. It would also be comparable to the surcharge charged by the Melbourne Telebus.

However, this is not to say that the surcharge for all on demand bus services should be set at $5. For some services, the additional patronage that the on demand component attracts may generate sufficient additional fare revenue without charging a surcharge. Alternatively, this patronage may grow over time to allow the surcharge to be reduced towards zero. QCity's *LocalLink* service (see section 7.2.2) does not charge a surcharge to customers who book a pick up from their home.

We consider bus operators know their costs and passengers best and are in the best position to understand how much they are willing to pay for an on demand service, and what level of surcharge is likely to generate sufficient additional demand. Therefore, they should set the surcharge taking these factors into account, up to a maximum of $5.

7.5 Operators should also consider the design of the on demand component and how it influences the additional delivery costs

The additional costs of providing the on demand component of a bus service varies according to its design. This suggests that when operators are deciding on the level of any surcharge they should consider the nature of the service including any patronage response.

For example, our analysis indicates:

- For a fixed route with roam zone (option 2a), bus operators should consider the geographic size of the zone and the likely increase in patronage when determining the level of any surcharge. For example, a small and well-designed roam zone can almost double the route length if there are lots of pickups within the zone.
- For a fixed route with deviations (options 1a and 1b), bus operators should consider the number of deviations and their distance from the fixed route corridors as this drives the total additional delivery cost.

[82] Scott, R, *Demand responsive passenger transport in low-demand situations*, 2010, p 65.

- For on demand bus services where the main source of flexibility is timing, or services that only run when booked, surcharges should vary with the notice required for booking the service.
- For fully flexible, point to point (option 4) bus operators would need to consider any additional costs of booking systems in particular as labour is a significant cost. For example, the more time in advance that bookings are made, the easier it will be for operators to effectively service demand.

7.5.1 Reduced surcharges should be available to concession passengers

We consider the surcharge for the on demand component should be reduced for passengers eligible for concession fares. This would promote access for the group with the greatest need for on demand services, and reduce the risk of poor patronage in a situation where there is generally low willingness to pay extra for on demand services.

Draft Recommendation

6 Bus operators be able to charge customers who book an on demand service a surcharge of between $0 and $5 (including GST) on top of the fixed route fare.

- Bus operators should set the level of surcharge based on customers' willingness to pay, the likely impact of the surcharge on the level of demand, and the likely impact of the design of the on demand component and its impact on the additional delivery costs.
- Bus operators should make reduced surcharges available to concession passengers.

8 Procuring transport services including on demand

As previously noted, Government policy envisions more use of on demand services in the future, as part of a package of transport services provided to meet the needs of NSW rural and regional communities. TfNSW has begun to trial these services, including a weekly booked on demand bus service in the Dubbo area.[83] Depending on the results of these trials, it may decide to start procuring on demand services during the life of the current bus contracts or after these contracts end.

To assist TfNSW, we have considered how on demand transport services can be procured in rural and regional areas so they deliver better value for money for both their customers and NSW taxpayers. The sections below provide an overview of our draft recommendations, then discusses them in more detail.

8.1 Overview of draft findings and recommendations

In the short term, there is potential to procure cost-effective on demand services to:

- improve existing services under the current bus contracts, where TfNSW has identified a transport need could be better met by adding an on demand component to a fixed route bus service, or
- provide **new** transport services in addition to those under these contracts, where TfNSW has identified a new transport need, for example to serve a regional growth area or ageing population.

To improve existing services, we are recommending TfNSW prioritise and review existing fixed route services with relatively high costs and low patronage levels (or high cost per passenger journey) to identify opportunities to modify them to better meet community needs (and thus attract additional customers). Where this is the case, it should then negotiate with bus operators to vary the contracted service without increasing the existing cost to government. To provide a new transport service, we are recommending TfNSW seek competitive tenders to ensure the most cost-effective transport solution is procured.

In the longer term, when the current contract period ends, there is an opportunity to significantly improve the value for money that public transport services in rural and regional NSW provide their local communities and NSW taxpayers. We are recommending TfNSW procure all transport services through a competitive tendering process, including inviting proposals for innovative transport services that provide improved levels of service and greater flexibility to meet community needs at least cost.

We have developed a series of frameworks and models to assist TfNSW in implementing our recommendations.

83 The Dubbo to Tottenham booked transport service is a six-month trial that commenced in May 2017. https://transportnsw.info/tottenham-dubbo-service

8.2 Improving services under existing bus contracts

As Chapter 6 discussed, AECOM's cost analysis indicates that on average, the contract cost of providing regular passenger services in rural and regional NSW is significantly higher than the estimated efficient cost. We have made a draft recommendation that TfNSW review the existing services over time to assess whether the contract cost can be reduced and/or patronage can be increased. We consider that TfNSW should prioritise those service areas where the contract cost is more than 25% higher than the efficient cost (see section 6.2.3). As part of this review, it should consider whether patronage can be increased by providing on demand services.

To assist TfNSW in implementing this recommendation, we have developed a framework, outlined in Box 8.1. This framework is intended to complement the existing Public Transport Service Planning Guidelines for Rural and Regional NSW, and be applied in the context of these overarching guidelines.[84]

We have also developed a bus route cost model to identify the high priority bus services for improvement (in Step 2 of the framework). This model estimates the cost per passenger journey for a regular passenger route using AECOM's efficient unit costs and information on 270 regular passenger routes. (See Appendix G for further detail on the model.)

As a relatively high cost per passenger journey indicates that a service has high delivery costs and/or low levels of usage, it is a good indicator that the service is not cost-effective. By reviewing these services and identifying opportunities to reduce costs and increase usage (for example, by adjusting the route or timetable, or adding a well-targeted on demand component) it may be possible to better meet the transport needs of rural and regional communities without increasing the contract costs.

Under the current contracts a Bus Service Alteration Request (BSAR)[85] is available for operators to request changes in service. TfNSW and bus operators can also agree to vary the services (for example following a review of services). We consider that bus operators and TfNSW should consider service variations across multiple routes with one operator.

Draft Recommendation

7 In the short term, TfNSW use the framework (Box 8.1) to identify the contracted bus services that provide relatively low value for money and negotiate with bus operators to vary these services to deliver a better service to customers, without increasing existing contract costs.

84 Transport for NSW, Public Transport Service Planning Guidelines: Rural and Regional NSW, October 2015.
85 See clause 5.4 of the Rural and Regional Bus Service Contract.

Box 8.1 Draft framework for improving existing services under bus contracts

1. Assess community needs for public transport services against current services

Identify the public transport needs for a regional community and compare with the current mix of public transport services in the area to identify unmet or inadequately met needs.

2. Identify high priority bus services for improvement

Using IPART's bus route cost model, estimate the cost per passenger journey for each contracted service. Identify and prioritise those where the actual cost per passenger journey is 25% or more higher than the efficient cost per passenger journey.

3. Assess high priority services to identify opportunities for improvement

Assess each high priority service to identify opportunities to improve its design to reduce the delivery cost and/or provide a better level of service for the same cost. This assessment should consider routes, timetables, bus sizes and patronage. It should take account of demographic and geographic characteristics of the area in which the service is provided, and how adequately the service meets identified community transport needs.

The assessment should also consider whether modifying the service by adding one or more on demand components could improve patronage (and thus reduce the cost per passenger journey), taking account of IPART's findings and recommendations on the types of on demand services most suited to rural and regional NSW and the conditions that need to be met for them to be cost-effective (see Chapter 7).

Where two or more high priority services are provided by the same bus operator, these services should be assessed together. There may be opportunities to save costs by better targeting or optimising the route in one service to free-up funds to improve the level of service on another.

4. Negotiate to implement opportunities for improvement through variations to the contract

Where Step 3 identifies feasible opportunities to improve the service(s) in the short term, negotiate with the bus operator to agree on a variation to deliver the improved service(s) under the existing contract without increasing the contract cost.

Where an improved service includes an on demand component, the negotiation should take account of the potential for this component to attract higher patronage and charge a surcharge on top of the fixed route fare, and thus generate higher fare revenue to offset the additional delivery costs.

5. Set fares for on demand bus service components

Where the improved service includes an on demand component, ask the bus operator to propose a fare surcharge for this component, up to a maximum of $5 (including GST). The surcharge would be applicable to booked customers using the on demand service, and would be charged in addition to the fare for the fixed route component. Bus operators are in the best position to decide whether and how much customers should pay for the on demand service to reflect its better level of service and higher delivery cost.

8.3 Providing new transport services in addition to bus contracts

Where TfNSW identifies a new transport need that is not addressed under the bus contracts, we consider TfNSW should seek competitive tenders for transport services to meet this need. We have developed a draft framework, set out in Box 8.2.

New transport needs may arise when a new suburb is built on the fringe of a growing regional centre, or when the demographic make-up of a regional community changes significantly. Depending on the area, this need could potentially be met through a range of service types delivered by a range of operators (such as bus, taxi, community transport, and ride/car share).

By seeking competitive tenders for **transport services** rather than bus services, TfNSW would allow the market to develop solutions to meet the new transport need. This can result in innovative operating models that provide a better quality of service for passengers in a cost-effective manner. It should ensure that both customers and taxpayers benefit from efficiency improvements in the delivery of transport services (such as improvements in smart technologies for bus scheduling, bus tracking and booking services). These services could use a mix of fixed route services (bus) to more flexible services (on demand booked services, taxis, ride share, or community transport).

We note that recently TfNSW sought to competitively procure from the market around 12 new school routes.[86] We consider that TfNSW should continue to seek responses from the market to ensure that contract costs reflect the efficient costs.

Box 8.2 Draft framework for procuring new transport services

1. Assess community needs for public transport services needs against current services

Identify the public transport needs for a regional community and compare with the current mix of public transport services in the area. Identify that these needs have changed, for example when a new suburb is built on the fringe of a growing regional centre or changing population in a regional community, and additional transport services should be provided.

2. Invite tenders to provide additional transport services

Invite all potential service providers (including bus, Community Transport, taxi, ride share) to competitively tender to provide the additional transport services. These transport services could range from fixed route services (bus) to more flexible services (bus, Community Transport, taxi, hire car, ride share).

3. Evaluate competitive tenders and select best value for money

Evaluate tenders based on proposed service quality, quantity and the cost of providing the service. The service that provides a higher level of customer service for the least cost should be selected.

86 See TfNSW tender 2017/013. Provision of School Bus Services in Rural and Regional NSW Various Locations. https://tenders.nsw.gov.au/?event=public.rft.showArchived&RFTUUID=59CAA00B-BC53-3BBB-32941729DC9AC546

Draft recommendation

8 Where a need for additional transport services in rural and regional areas is identified in the short term, TfNSW seek competitive tenders to provide the additional services to ensure the least cost transport solution is provided.

8.4 Procuring transport services in the longer term

We consider that at the end of the current bus contract period there is an opportunity for TfNSW to seek proposals from the market to improve the cost-effectiveness of the current bus contracts, to improve service outcomes for customers and provide better value for taxpayers. This can be achieved by competitive tendering **transport services** in each region. Market-driven solutions to provide transport services can deliver innovative operating models that provide a better quality of service for passengers in a cost-effective manner.

Procuring transport services from the market should ensure that both customers and taxpayers benefit from efficiency improvements in the delivery of transport services (such as improvements in smart technologies for bus scheduling, bus tracking and booking services).

We consider that TfNSW should procure transport services by region. Each region's transport mix should be tailored to provide the appropriate service level given for the population of the region (and likely change in population). Introducing competition in and for the rural and regional transport services market would ensure the right mix of bus, ride share, taxi and community transport is delivered.

The best mix of transport services and delivery models may differ across regions and within regions. Depending on the area's population density and degree of remoteness, transport services could potentially be delivered in a number of different ways by a range of operators (such as bus, taxi, community transport, and ride/car share). In areas where there is sufficient demand, these operators would compete in the market to provide transport services. In other areas, there may not be sufficient population density to support competition in the market. In these areas, TfNSW should encourage operators to compete for the government subsidy to provide rural and regional transport services.

The transport services to be procured would include both school travel and regular transport services for the region. We note that at the end of the contract period there is still likely to be a need for much of the current bus fleet. School services will continue to be provided and these typically drive peak transport capacity and determine the required fleet size. However, we consider that there are opportunities for these buses to be better utilised in non-school periods.

In the longer term, we also expect the development of on demand services will be affected by the following factors:

- **Community acceptance of on demand transport.** The level of community acceptance and understanding of on demand transport services will be important in developing and growing these services in a regional community.

- **Role of smart technologies.** These technologies can improve how a customer plans and books a trip and also how an operator delivers on demand services. The diffusion of low cost technologies has the potential to transform the delivery of on demand transport services.
- **Government funding arrangements.** The way the government funds transport services in a regional area will affect the delivery on demand services. For example, under the National Disability Insurance Scheme the government is funding clients rather than operators. This means that an individual could choose from service providers in a regional area which may include community transport, taxis or rideshare.

Draft recommendation

9 TfNSW seek proposals from the market when procuring transport services to operate in rural and regional NSW from 2024. This should include inviting proposals for innovative transport service models that provide improved transport services and greater flexibility to meet the community need at least cost.

9 Case studies of on demand services

To test whether the findings on the potential for on demand services to deliver a better transport service for the same or similar cost (discussed in Chapter 7) are reasonable, we developed three case studies. The case studies show improved bus services that combine a flexible on demand component with a fixed route component (Options 1a, Option 1b and Option 2a) could be cost-effective in rural and regional NSW where:

- the provision and design of the service is well targeted to an identified community need, and
- the additional usage and fare revenue (including revenue from an optional surcharge up to $5) is high enough to offset the additional costs of providing the service.

To develop the case studies, we have constructed a hypothetical regional city with a population of around 60,000. Drawing on Australian Bureau of Statistics data and other available data, we made reasonable assumptions about the median household income and the existing fixed route bus services, and considered the local geography, road network, density, and location of important services and transport hubs (eg, train stations). We then developed three potential bus services with both on demand and fixed route components, and analysed their likely cost-effectiveness.

The sections below provide an overview of the assumptions we made about the hypothetical regional city, describe each case study service, and then discuss our analysis.

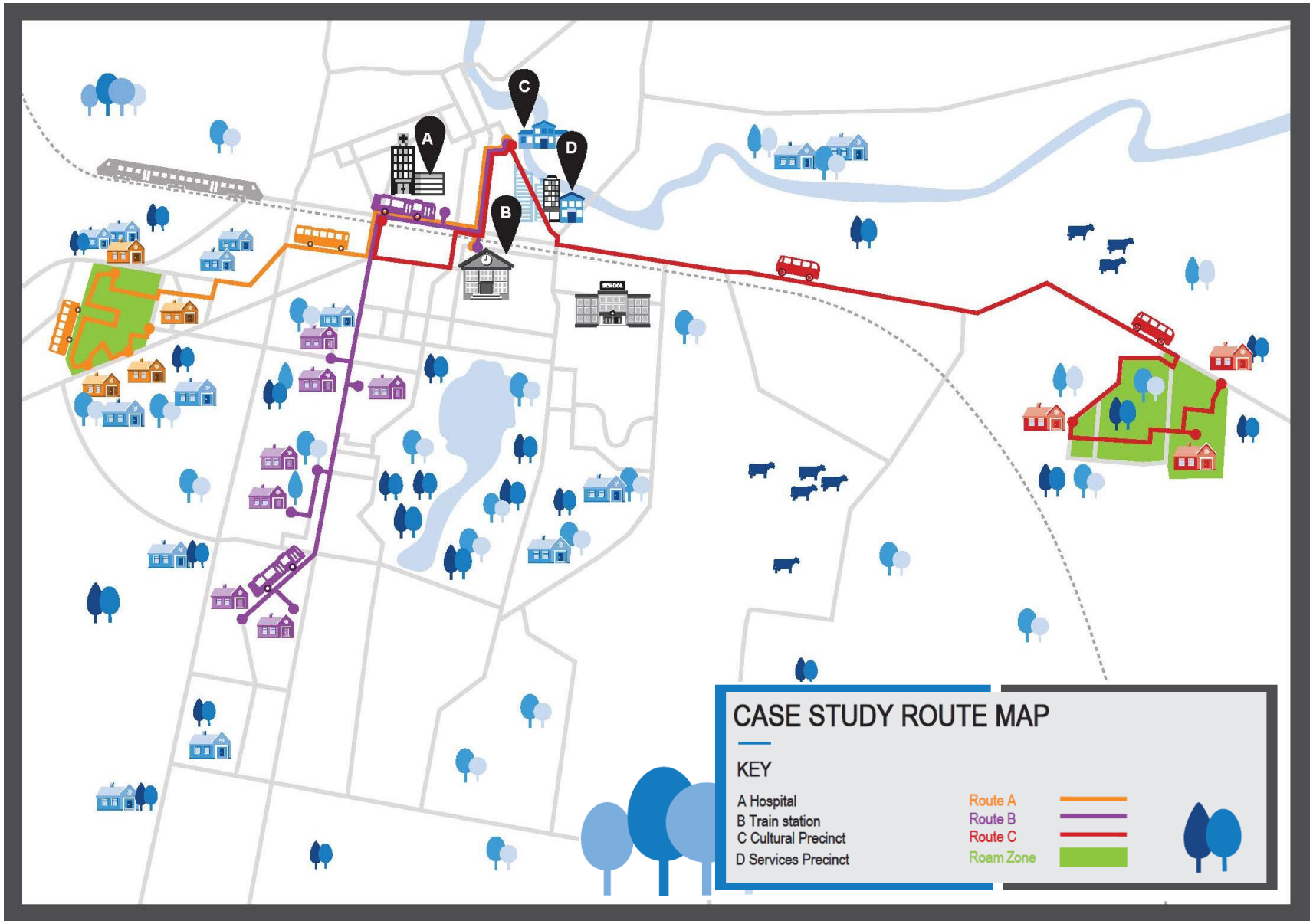
9.1 Overview of the hypothetical regional city and case study services

Our hypothetical regional city has the following characteristics:

- Population: about 60,000
- Median total household income: $60,000
- Transport services: 20 fixed route bus services, train services with a station in the centre of the regional city, and a regional airport approximately 20km outside town
- Key employment areas: agriculture, food processing, manufacturing, services, healthcare, education, and public administration.
- Local services: hospital, combined Centrelink/Medicare office, 20 primary and secondary schools, a university approximately 10km outside town, TAFE in the centre of town, and a central commercial and nightlife district.

Figure 9.1 shows the geography of the regional city and our three case study routes. In all case studies, we located an on demand service component near lower income residents so that the service can provide access to jobs on the other side of the city.

Figure 9.1 Hypothetical city and case study routes



9.2 Case study A: Suburb to centre

This case study is a version of Option 2 discussed in Chapter 7. The service shown in Figure 9.2 includes an on demand roam zone at one end (where it can pick up many booked passengers), and a fixed route with stops at a few key destinations at the other end.

The roam zone is small, and targeted to the needs of a low-income neighbourhood that is not currently serviced by frequent public transport. It is located far from the services in the northern suburbs of the city. The destinations include hospital, train station, services precinct (eg, shops, Centrelink, Medicare office) and cultural precinct (eg, museum, gallery and theatre).

The service may also serve an economic function by delivering casual workers to the services centre where there is a mall, a gym, a tyre and auto centre, and an aquatic centre in close proximity of each other. In reverse, it may also assist casual workers getting home after the 5:30 pm mall close, and especially with late night shopping on Thursdays after the 9 pm close.

Figure 9.2 Case study A: Suburb to centre

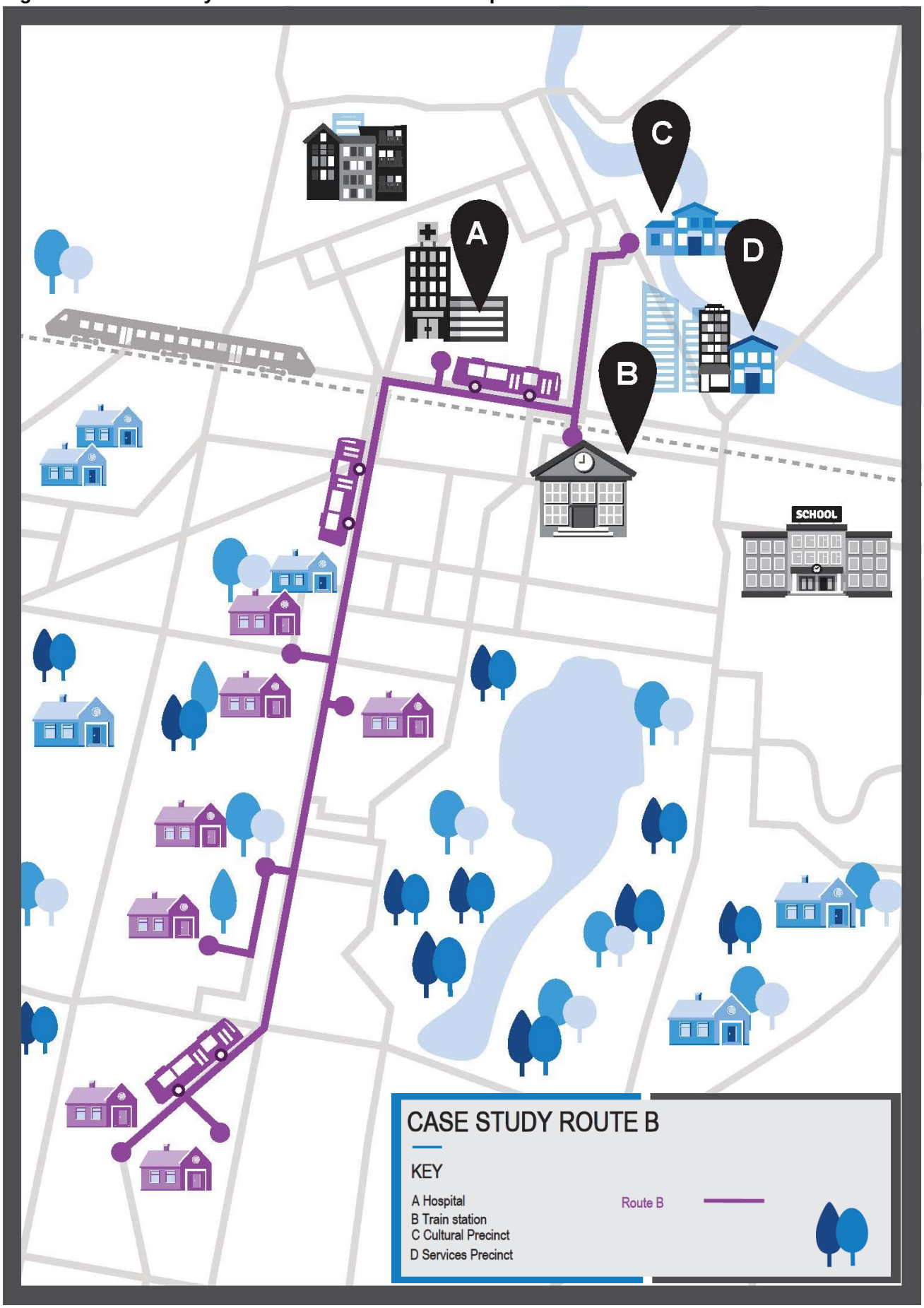
9.3 Case study B: Fixed route with deviations

This route shown in Figure 9.3 is a version of Option 1a or Option 1b discussed in Chapter 7. It duplicates the fixed route bus service, but deviates to pick up and drop off booked passengers at pre-arranged stops off the main route corridor.

The corridor is chosen to enable a tailored pickup and drop off in a low-income suburb with social housing development, and addresses the need to travel northwards for work. Because this route closely mimics the fixed route, the added value of the on demand component in this case may be to address poor route frequency, or to run this service after hours.

The local geography means that there is little difference in terms of additional vehicle km cost between Option 1a (which picks up from a mutually convenient place) and Option 1b (which picks up from the passenger's home). This is because most homes are located not far from the main route corridor. However, the distinction between these two options might be more meaningful in rural settings, where homes are more geographically dispersed.

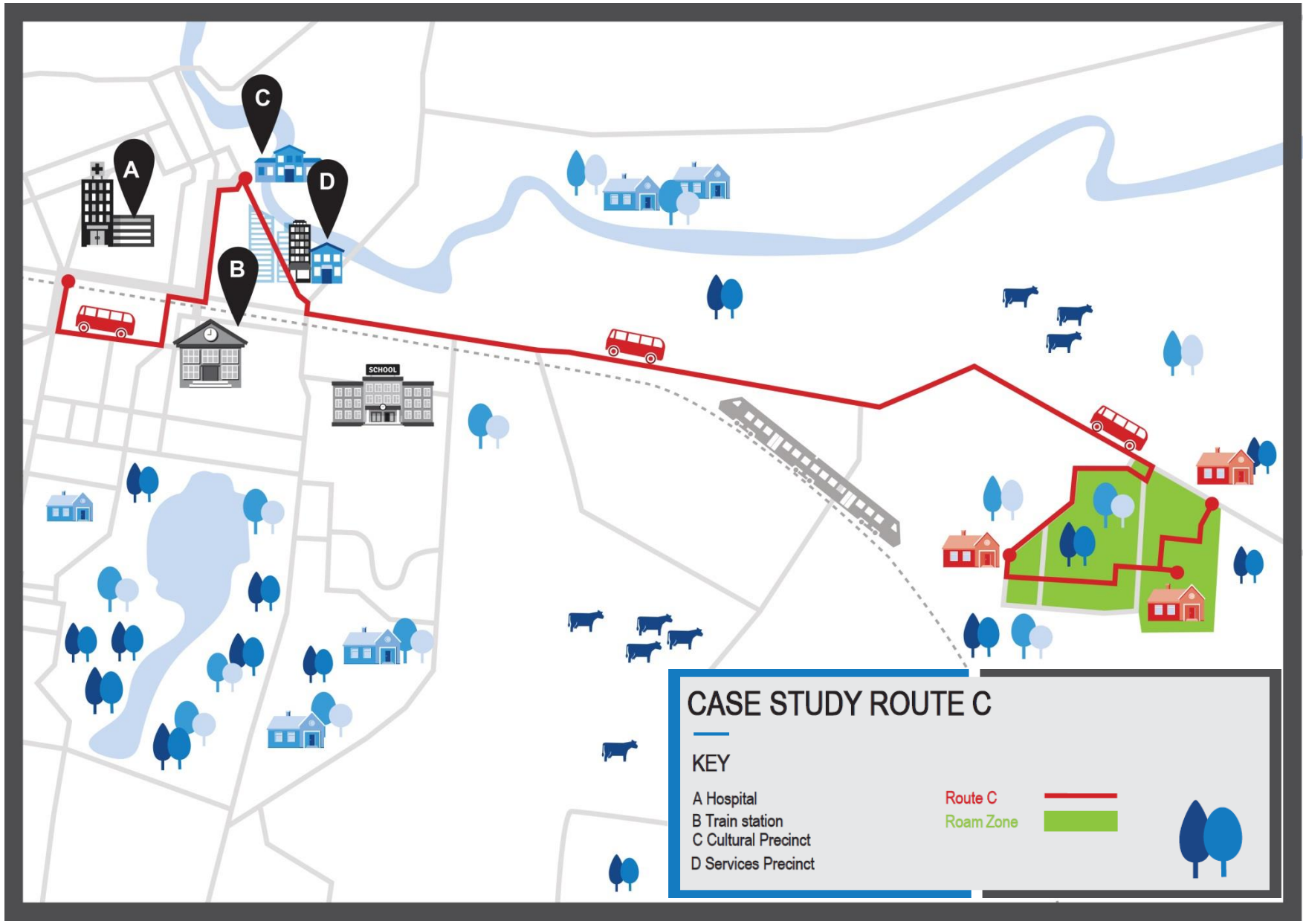
Figure 9.3 Case study B: Fixed Route with Side Stops



9.4 Case study C: Satellite to services

This service shown in Figure 9.4 is another version of Option 2a discussed in Chapter 7, but is specifically designed to function as a service centre and a transport network feeder. The roam zone targets an outlying community and other 'satellite' communities, which are not on the train line and do not have good access to services in their own community. The route picks up at addresses in the suburb, then travels straight into town, passing through an employment precinct and dropping off at the services precinct, train station, and terminates at the hospital.

Figure 9.4Case study C: Satellite to services



9.5 On demand services costs per passenger journey where there is sufficient patronage response

We used our efficient route cost model (see Chapter 8 and Appendix G) to estimate the cost per passenger journey for each case study service. For each case study, we divided the route into a fixed component and an on demand component and assumed the number of passengers and the length of each component. We also assumed that dead-running made up approximately 30% of the fixed route component. For a full description of our assumptions, see Appendix H.

We modelled all case studies using a 12-seat Toyota Hiace as the service vehicle. We consider a 12-seat vehicle to be appropriate for these routes as it can respond to potential demand spikes in a regional centre, especially as the on demand routes also have fixed route components which would need to accommodate passengers that had not booked the service. However, we consider that in some cases, an 8-seat vehicle may be more appropriate for on demand services operating in more rural or remote areas.

In estimating the costs of providing the case study services, we made conservative assumptions about the vehicle km costs. For example, for the case studies that include a roam zone (Case Study A and C), we assumed a high level of roaming in the zone. That is, we assumed the driver takes the longest possible route through the zone. We took this approach because the exact kilometre distance of the driver's route through the roam zone is uncertain, and it is more useful to estimate an upper bound to the costs. In reality, the actual kilometres travelled will depend on different factors including the number and location of bookings from within the roam zone, and whether or not route optimisation software has been used.

We also assumed the number of booked passengers picked up in the roam zone was relatively low to reflect real patronage data. In particular, in the case studies A and C we did not assume a number of booked passengers consistent with the assumed level of roaming in the zone. This is because we cannot associate a given kilometre of travel in the roam zone with a number of passengers. This is a conservative approach, knowing that bus utilisation is currently a major factor keeping the cost per passenger journey high. Similarly, for Case Study B, we have assumed the minimum number of passengers per deviation from the main route corridor.

Our model uses existing labour cost data for standard bus services. In most rural and regional areas, standard bus services do not operate after hours. We note that the costs of providing on demand services after hours are likely to be higher because of higher labour costs. Further, the model does not account for any marginal costs of booking, dispatch, payment, or other operating systems needed for on demand. As Chapter 7 discussed, we expect these costs to decrease over time.

Lastly, our modelling does not capture the relationship between the flexibility and reliability of the on demand service. Generally, there is a trade-off between flexibility and reliability as highly flexible services add to the journey length and increase uncertainty about the reliability of journey time and this in turn affects the level of patronage. We have assumed that the added journey time and decreased timing reliability have no effect on patronage for the fixed route component of the service.

Table 9.1 shows that each of our three case studies has costs per passenger *within* our recommended surcharge range of $0 to $5. If we assume that all booked passengers pay the full fare, and that a moderately sophisticated technology platform can bring the operator's marginal booking and dispatch costs down to zero, then well-designed services may be able to fully recover the additional delivery costs of their on demand component.

If more than the assumed number of passengers used the on demand component, the cost per passenger journey would decrease, while if fewer passengers used it, this cost would increase. We consider that our recommended maximum surcharge provides enough flexibility for operators to develop on demand services and that there is scope for operators to set lower than maximum surcharges to stimulate a patronage response while recovering some costs.

However, we acknowledge that only a small proportion of bus passengers currently pay the full adult fare, and this could affect the level of cost recovery of providing on demand services. Ultimately the level of cost recovery will depend on patronage for the on demand services. This means that on demand services that serve mostly concession passengers would need to attract more passengers to generate sufficient fare revenue to offset additional delivery costs of the on demand component.

Temporal variation is not addressed but is still important for costing

In our cost analysis we have not accounted for possible temporal design features as they will be highly specific to individual bus services and community needs. Some examples of temporal variations for on demand services could include:

- a service that only runs when it is booked
- a service that only runs after hours when there are no fixed route bus services, and
- a service that runs at set intervals during the day (for example, once per hour).

These temporal design features are likely to be important in determining the costs of on demand services and the level of patronage. The temporal design could also influence the dead running required to provide the service.[87] For example, late night services are likely to include more dead running because most people would be collected from the services centre and dropped off in the suburbs. The bus would then have to return to the centre for the next lot of passengers. However, if this service were offered in business hours, (for example, once per hour) then there may be no dead running because the bus would pick up in the suburbs, drive to the centre, but would be able to pick up passengers in the centre before driving back.

By changing the timing of an on demand service it may be possible to reduce the costs per passenger journey of the on demand component. If an operator estimates that the per passenger journey cost of the on demand component equals that of the fixed route component, they could use timing variations as a way to improve patronage and reduce delivery costs.

87 See Appendix H for further details on how dead running contributes to the costs of providing on demand services.

Table 9.1 Case study costs (ex-GST)

		ROUTE DISTANCE (KM)			NUMBER OF PASSENGERS		COST PER PASSENGER		TAXI FARE ESTIMATE[a]	
Case Study	**Roam Zone Size (sq km)**	**Total**	**Fixed route**	**On Demand**	**Fixed route**	**On demand**	**Fixed route**	**On demand**	**Taxi for fixed route**	**Shared taxi for fixed route (per person)**
A: Suburb to Centre (Option 2a)	0.86	10.20	5.84	4.36	5	3	$6.16	$3.95	$16.82	$5.61
B: Fixed Route with deviations (Option 1a or 1b)	NA	9.55	6.53	3.02	2	8	$15.51	$1.90	$18.23	N/A[b]
C: Satellite to Services Feeder (Option 2a)	1.48	16.90	12.80	4.10	4	4	$11.89	$2.97	$31.75	$7.94

Note: See Appendix H for modelling assumptions.

a We have estimated taxi fares assuming the taxi travels from the edge of the roam zone to the destination (ie, the distance of the fixed route). In the case of a shared taxi, we have assumed that passengers would be collected at one location at the edge of the roam zone and taken to the destination. We note that customer(s) ordering a taxi from within the roam zone would generally pay more but we have used a conservative approach to comparing costs. We have calculated taxi fares using the maximum regulated country taxi fares: a hiring charge of $4.10, a distance rate of $2.26/km for the first 12 km and $3.13/km thereafter, and a booking fee of $1.20 (including GST). We have assumed: a regular taxi, daytime standard travel, no optional electronic payment surcharge.

b We have not provided a shared taxi fare estimate for Route B because the design of the route makes it unlikely that customers would gather to be picked up from one spot.

Source: IPART analysis.

10 Removing barriers to travel in cross border areas

NSW residents living close to the state's borders with the ACT, Victoria or Queensland often travel to these neighbouring states for work, education or business, or to access services. The NSW Government is committed to collaborating with these states on cross-border travel issues. It has signed Memoranda of Understanding (MOUs) with the ACT and Queensland Governments to ensure local public transport for those living in cross-border regions is seamless. The MOUs identify integrated border bus services, more efficient, flexible transport solutions and improved infrastructure connectivity as priorities.[88]

For this review, we were specifically asked to consider issues related to travel across borders including concession fares and different eligibility criteria for these fares between states. To do this, we sought stakeholder feedback on current barriers to travel across borders in submissions to our Issues Paper, and held discussions with the Cross Border Commissioner, TfNSW and bus operators in border areas. The sections below provide an overview of our draft findings and recommendations, and then discuss them in more detail.

10.1 Overview of draft findings and recommendations

We found that the most significant barrier to cross border travel is the current disparity between the fares charged in NSW and those in the bordering states. Other barriers – including misaligned timetables and service frequency, and differences in ticketing systems and eligibility for student travel concessions – are significant in some border areas (Table 10.1).

We consider our draft maximum fares should be sufficient to address the issue of fare disparities, as they more closely align NSW fares to those in neighbouring states. To address the other main barriers, we are recommending:

- An on demand service be developed and piloted in the Tweed/Coolangatta area to address issues around service frequency and poor connections at the Tweed interchange.
- A new or upgraded ticketing system be introduced in the Albury/Wodonga area to facilitate a single ticket for a journey across both the current bus operators' service areas as well as across the border.
- Eligibility for travel concessions be extended to NSW residents who attend secondary school, TAFE or other registered training organisations providing vocational education and training (VET) or universities within 50 km of the border providing they are full time, on campus students.

88 NSW Cross Border Commissioner, at http://www.dpc.nsw.gov.au/programs_and_services/office_of_the_nsw_cross_border_commissioner, accessed 15 September 2017.

We are also recommending that, in the long-term and before the expiry of the current contracts in 2024,[89] contracts to provide public transport services in all rural and regional areas be competitively tendered. When tendering for border regions, contracts should ensure that service levels facilitate connectivity to cross border transport services, and address any ticketing issues and necessary fare revenue sharing arrangements.

Table 10.1 Priority issues by border area

Tweed/Coolangatta	Queanbeyan/ACT	Albury/Wodonga
1. Fare disparity	1. Fare disparity	1. Different ticketing systems
2. Infrequent services/poor connections at Tweed interchange	2. Different ticketing systems	2. Circuitous routes
3. Concession eligibility	3. Concession eligibility	3. Concession eligibility
4. Different ticketing systems		

Source: IPART.

10.2 Draft fares should address fare disparities in cross border areas

We found that disparities between the bus fares charged in NSW and those charged in neighbouring states is the most significant barrier to cross border travel. Our analysis shows that currently, some NSW bus fares are significantly higher than those in neighbouring states (see Appendix I). In addition, stakeholders generally identified fare disparity as the most significant barrier. For example, the Northern NSW Local Health District submitted that consistency in fares for cross border services was important to prevent confusion and make the decision to use public transport easier.[90]

We consider that addressing fare disparities is a high priority to facilitate improved travel services for border residents. We also consider that our draft set of maximum fares sufficiently addresses this issue, as it better aligns both the level and structure of NSW fares with those in neighbouring states (see Table 10.2).

Table 10.2 Comparison of NSW current/draft proposed fares with neighbouring states

Typical travel distance	Number of fare sections	NSW current maximum fare	NSW proposed draft maximum fare	Neighbouring state fare
Tweed Shire (Up to 10 km)	1-6	$2.30 - $6.30	$2.30 (0 - 2 km) $3.40 (2 - 10 km)	$3.20 for 1 zone (around 15 km) Queensland
Queanbeyan to Canberra (about 18 km)	11	$8.80	$4.90	$3.06 (electronic MyWay) $4.80 (paper ticket) ACT
Albury (Up to 8 km)	3-5	$4.30 - $5.70	$2.30 (0 - 2 km) $3.40 (2 - 10 km)	$2.40 - $3.20 Victoria

Source: See Appendix I for current NSW and interstate fares in respective border areas.

89 The contract term is five years from commencement (April – June 2016) with an extension period of three years. For further information see Appendix B.

90 Northern NSW Local Health District submission to IPART Issues Paper, June 2017, p 3.

10.3 On demand booked service should be piloted in the Tweed area

The Cross Border Commissioner noted that service irregularity and poor connections at interchanges was a particular problem at the Tweed Heads interchange.[91] Neither the Commissioner nor other stakeholders identified these issues as being as significant on the ACT and Victorian borders.

The NSW operator on the Tweed/South East Queensland border (Surfside Buslines) currently runs eight routes in the Tweed Shire on a one-hourly basis.[92] However, connecting Queensland services run more frequently (every 7 to 30 minutes, depending on time of day).[93] This means that customers travelling from Queensland into NSW face longer waiting periods to connect to services going into the Tweed. Box 10.1 presents a case study of a student travelling from university on the Gold Coast to their home in Pottsville in the Tweed Shire.

TfNSW is currently undertaking service reviews in the Tweed area to identify gaps in customer expectation across all transport modes including train, coach, bus and community transport. We consider that the above issue represents such a gap, and are recommending that TfNSW should work with Surfside Buslines to develop a six-month pilot project to identify whether on demand services are a cost-effective way to address it. In particular, additional services could be booked and provided in peak periods to address unmet demand from people commuting to work or educational institutions across the Queensland border. After six months, TfNSW should evaluate the success of the pilot and its cost effectiveness, and decide whether the current services should continue to be provided as fixed route services or be converted into further on demand services.

91 Discussion with Cross Border Commissioner, 2 June 2017.

92 For example, see Surfside Buslines Routes 601 and 603 and timetable, at http://www.surfside.com.au/wp-content/uploads/2015/11/SUFSIDE_BUSLINES_ROUTE_NSW_601.pdf, accessed 15 September 2017.

93 For example, see Translink Route 700 timetable, at https://jp.translink.com.au/plan-your-journey/timetables/bus/t/700, accessed 15 September 2017.

Box 10.1 Case study – Travel from Gold Coast to Tweed Shire

Student travel from Southern Cross University, Gold Coast to Pottsville

The nearest university for someone living in the Tweed Shire is the Southern Cross University in the Gold Coast. A public transport journey from the university to Pottsville takes approximately 1 hour 18 minutes (a distance of 34 km by car).

The journey involves:

- **Walking from the university to Bilinga bus stop:** A distance of 580 m (about 9 minutes).
- **Boarding a Surfside (Queensland) bus:** The Route 700 service runs at approximately 7 minute intervals.
- **Purchasing a paper ticket or using electronic Go card:** A single adult fare (paper ticket) is $5.70 or $3.90 using a *go* card. Half fare concessions are only available to full time university **students residing in Queensland and enrolled at a Queensland institution**.
- **Alighting at the Tweed Heads interchange to transfer to a Surfside (NSW) bus:** The connecting Route 603 service runs at one-hourly intervals. Waiting time could therefore be up to one hour.
- **Purchasing a 2nd paper ticket:** The cost of a single adult ticket is currently $18.50 (half fare concessions are available only to full time students with an **identification card issued by a NSW university**. The distance between Pottsville and Tweed Heads is 32 km (about 17 sections).
- **Alighting at the appropriate stop at Pottsville.**

Source: TransLink, Route 700 timetable, at https://jp.translink.com.au/plan-your-journey/timetables/bus/t/700; accessed 13 September 2017; Buslines, Route 603 timetable, at http://www.surfside.com.au/wp-content/uploads/2015/11/SUFSIDE_BUSLINES_ROUTE_NSW_603.pdf, accessed 13 September 2017.

Draft Recommendation

10 TfNSW and Surfside Buslines:

- develop and pilot an on demand booked transport service to provide a higher level of service for travel in peak times (7-9 am and 4-6.30 pm weekdays) in the Tweed area
- evaluate the cost-effectiveness of this service after six months to decide whether routes continue to be provided as fixed routes or converted into further on demand services.

10.4 New or upgraded ticketing systems should be adopted in the Albury area

Transport hubs or interchanges are fundamental to transport systems both in metropolitan and border areas. For longer journeys, transferring from one bus to another, or to a different mode of transport, may be unavoidable. However, in border areas, this inconvenience can be exacerbated by the need to buy a separate ticket on a different ticketing system.

To address this issue, we considered whether TfNSW should require all border operators to adopt ticketing technology that provides travel under one ticket across borders. Under the current contracts, TfNSW may introduce new systems and equipment on contracted buses and reimburse operators for any costs they incur.[94]

However, we found that the benefits to customers are not likely to outweigh the costs to Governments and bus operators in the Tweed and Queanbeyan areas. In both areas, existing fare products reduce the inconvenience arising from different ticketing systems in the neighbouring state. The NSW bus operator in each area offers weekly tickets and electronic tickets are available for travel across the border. Most regular commuters would use these products as they are more convenient.[95] The operator in Queanbeyan (QCity Transit) also provides a direct service to many key destinations in Canberra, such as Civic, Woden, the Canberra Hospital and Brindabella Business Park. Only a limited number of regular commuters would continue their journey beyond these destinations.

Therefore, we consider new ticketing systems would not be warranted in the Tweed and Queanbeyan areas. We seek stakeholder feedback on whether the likely costs would outweigh the benefits of introducing integrated ticketing systems on the NSW/Queensland and NSW/ACT border.

In the Albury area, we found there is a stronger case for a new ticketing system as the benefits to customers would be higher, and the costs minimal. Currently, two bus operators provide bus services in the area – Martins and Dysons, either side of the Dean Street interchange, with Dysons also operating services in Wodonga. Customers need to purchase a second ticket when travelling across both operators' service areas. Additionally, bus routes do not currently provide direct access across Albury.

Both Martins and Dysons already have ticketing systems installed, which may only need minor changes to allow them to issue a single ticket for travel across both operators' areas, including across the border to Wodonga. Therefore, we are recommending that TfNSW require the Albury operators to do this, and to collaborate with Public Transport Victoria on appropriate revenue sharing arrangements.

Draft Recommendation

11 TfNSW require operators in the Albury/Wodonga area to adopt ticketing systems that:

- allow passengers to purchase a single ticket for their entire journey across both operators' service areas including across the border, and
- facilitate sharing of fare revenue between each operator and Public Transport Victoria.

10.5 Concession eligibility should be extended to NSW residents attending secondary school, TAFE, VET or university within 50 km of the border

The categories of people eligible for free or concessionary travel are generally similar across state jurisdictions. For example, all states:

94 See Appendix B.

95 While our draft package of fares does not include a weekly ticket, it does not prevent NSW operators from offering these products.

- provide free travel for young children, children travelling to and from school under School Student Transport Scheme (SSTS) arrangements, people with certain disabilities, war veterans and widows/ers
- provide half fare concessions for primary, secondary, tertiary students, jobseekers and pensioners
- recognise Commonwealth Government-issued concession cards for eligibility for concessionary travel (see Appendix J for more detail).

However, most states do not extend travel concessions to students residing in another state, or resident students enrolled at educational institutions in another state. In particular, NSW residents enrolled in a secondary or tertiary institution in Queensland are not eligible for travel concession in either state. The same is true for Queensland residents enrolled in secondary or tertiary institutions in NSW.

In contrast, the ACT recognises eligibility for interstate residents. For example in the ACT, all Australian school students and interstate seniors card holders are eligible for concessions[96] (albeit ACT seniors over the age of 70 travel free). We also understand that some operators on the Victorian border may have made informal arrangements to recognise some interstate concessions cards.

BusNSW submitted that there should be mutual recognition of concession cards across all state borders.[97] We consider that at the very least, NSW residents that are full time, on-campus students at secondary and tertiary educational institutions across a border, should have access to similar travel concessions as their counterparts attending NSW educational institutions. However, we have limited our recommendation to include only those educational institutions located within 50 km of the border to ensure we only capture border residents that may have no other choice than to travel to attend an educational institution in a border state.

The current process for validating enrolments may impose additional administrative burdens on out of state institutions. TfNSW would need to negotiate arrangements to facilitate this process. In the long term, TfNSW should also consider a mutual recognition of travel concessions for interstate students that attend NSW educational institutions near state borders.

Draft recommendations

12 TfNSW extend concessions to NSW residents attending secondary school, TAFE, VET or university located within 50 km of the border as full time, on-campus students.

13 TfNSW reimburse the Queensland Government, Victorian Government, ACT Government or relevant bus operator for the difference between the concession fare and the single adult fare for those NSW residents travelling on a concession ticket attending secondary school, TAFE, VET or university located within 50 km of the NSW/Queensland, NSW/Victoria and NSW/ACT borders as full time on-campus students.

96 Transport Canberra, *Concessions*, at https://www.transport.act.gov.au/myway-and-fares/mywayguide/concessions#cards, accessed 15 September 2017.
97 BusNSW submission to IPART Issues Paper, June 2017, p 7.

14 TfNSW negotiate with the relevant secondary school, TAFE, VET or university in Queensland, NSW and ACT to facilitate the processing of student travel concession applications.

10.6 In the long-term, services should be procured through competitive tendering

We consider that TfNSW should competitively tender to appoint transport operators to provide services when the current contracts expire in 2024. In tendering for services across rural and regional NSW, the following cross border matters could be included in an invitation to tender:

- alignment of service levels to facilitate connectivity between NSW and border transport links
- introduction of a seamless ticketing system across a border region, and
- revenue (fare box) sharing arrangements between governments and bus operators.

Draft recommendation

15 When seeking proposals from the market in cross border regions from 2024, TfNSW should ensure that:

- service levels meet the need for connectivity to transport links across borders
- tickets cover travel across borders, and
- administrative arrangements facilitate sharing fare revenue with state jurisdictions.

11 Concession eligibility and fares

The Government currently provides concession fares for students, economically disadvantaged and older people travelling on rural and regional bus services, including:[98]

- free travel for young children, students travelling to and from school (under SSTS arrangements), profoundly disabled people, WW1 veterans and widows/ers
- half fare concessions for primary, secondary, tertiary students and apprentices/trainees, jobseekers, pensioners,[99] seniors and NSW and Victorian War Widow/ers, and
- unlimited daily travel for a fixed $2.50 fare in rural and regional areas for pensioners, NSW & Victorian War Widow/ers and NSW seniors on the RED ticket.

Concession fares usually serve social policy objectives and are a matter for the Government, and so fall outside the scope of IPART's fare reviews. However, for this review, we have been asked to consider eligibility for concession fares in NSW and the level of subsidy provided by the NSW Government (excluding free travel under the SSTS arrangements).

The sections below provide an overview of our draft findings and recommendations then discuss these in more detail.

11.1 Overview of draft findings and recommendations

We found that the current eligibility criteria and subsidy levels for free and half fare travel are appropriate and should be maintained. The same groups of people are eligible for these concessions when travelling on rural and regional buses and the Opal network. Generally, these groups are consistent with those in other states (see Appendix J). The provision of concession fares to those with very low incomes is standard practice in transport fare schemes.

We found that the price of the RED ticket has remained fixed at $2.50 since 2005, similar to the Gold Opal. We consider that the price of the RED ticket should be adjusted by 10 cents in each year of the determination period to maintain price relativities over time

11.2 RED ticket prices should be adjusted in line with CPI

Our Issues Paper noted that the price of the RED ticket has remained fixed at $2.50 since 2005, similar to the Gold Opal.[100] However, all pensions and other Government income support payments are regularly adjusted with cost of living changes. For example, most

98 For example, https://www.transport.nsw.gov.au/sites/default/files/media/documents/2017/draft-rrbsc-large-271115.pdf, Schedule 7, pp 158-164 accessed 4 September 2017.

99 That is, holders of Commonwealth Pension Concession Cards issued by Centrelink. This may therefore include some young people. See for example, https://www.humanservices.gov.au/individuals/subjects/concession-and-health-care-cards#a1, accessed 3 October.

100 IPART, *Review of rural and regional bus fares from January 2018*, Issues Paper, May 2017, p 24.

pensions are indexed twice each year.[101] Over the last five years, adult fares for rural and regional buses have increased by an average of 1.4% each year.[102]

We found that over the period from 2005 to 2016:

- the general level of prices (measured by the CPI) has risen by 34%[103]
- pensions have increased by 76% over this period.[104]

This means that the 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.

We consider that the price of the RED ticket should be adjusted so that price relativities are maintained over time. Stakeholders were generally supportive of an increase in the price of the RED ticket.[105] For example, BusNSW noted that "the RED ticket price should be updated and increased in line with other fare products to ensure that cost recovery is not eroded over time".

In Chapter 4 we discussed our rationale for using the CPI to adjust maximum fares. We consider that for simplicity and consistency the price of the RED ticket should also be adjusted using CPI. Therefore, we are recommending the RED ticket be adjusted by 10 cents in each year of the determination period as indicated in Table 11.1.

Draft recommendation

16 TfNSW adjust the price of the RED ticket as indicated in Table 11.1.

Table 11.1 Draft recommendation on adjustment to RED ticket prices

Determination year	RED Ticket price
2018	$2.50
2019	$2.60
2020	$2.70

Source: IPART calculations.

11.3 Eligibility for RED ticket

The RED ticket in rural and regional areas (like the Gold Opal in metropolitan areas) provides further direct subsidies to certain customer groups (Box 11.1). In our review of Opal fares, we found that the eligibility criteria for the Gold Opal are fairly broad.[106] We considered that some eligible customer groups – specifically NSW Seniors Card holders –

101 Pensions are indexed by the greater of the movement of CPI or the Pensioner and Beneficiary Living Cost Index (PBLCI) and benchmarked against a percentage of Male Total Average Weekly Earnings (MTAWE). Other income support payments are indexed in line with movements in the CPI. https://www.dss.gov.au/our-responsibilities/seniors/benefits-payments/pension-rates, accessed 3 October 2017.

102 IPART, *Review of rural and regional bus fares from January 2018*, Issues Paper, May 2017, p 24.

103 ABS Consumer Price Index 6401.0 and IPART calculations.

104 Department of Social Security, see http://guides.dss.gov.au/guide-social-security-law/5/2/2/10, accessed 15 September 2017 and IPART calculations.

105 Anonymous submission to IPART Issues Paper, June 2017; BusNSW submission to IPART Issues Paper, p 6.

106 IPART, *More efficient, more integrated Opal fares*, Final Report, May 2016, p 76.

are not necessarily more economically disadvantaged than those eligible for half fare concessions, including full time tertiary students and jobseekers. This is because access to a NSW Seniors Card is not means tested but is open to all NSW residents aged 60 or more and doing no more than an average of 20 hours of paid work a week across a 12 month period.[107]

Box 11.1 Eligibility criteria for RED ticket

The RED ticket provides unlimited daily travel on rural and regional public transport for a fixed price of $2.50. Customer groups that are eligible for a RED ticket include:

- Holders of the Pensioner Concession Card (NSW, Victoria, ACT and other States & Territories) issued by Centrelink, the Department of Veterans Affairs and other States and Territories.
- Holders of the NSW & Victorian War Widow/ers Card issued by Department of Veterans Affairs.
- Holders of the NSW Seniors Card issued by NSW Department of Human Services.

Source: https://www.transport.nsw.gov.au/sites/default/files/media/documents/2017/draft-rrbsc-large-271115.pdf, Schedule 7, pp 158-164 accessed 4 September 2017

Most submissions to our Issues Paper supported maintaining the current concession arrangements as stakeholders considered the RED ticket is valued by pensioners and seniors and it is a large drawcard for users of public transport.[108] Some stakeholders argued that the RED ticket should be extended to other low income groups eg, those who are too young to hold a drivers' licence, students and other welfare recipients.[109]

In our view, our draft decisions to simplify the fare structure and introduce daily fare caps address many of the affordability concerns raised by stakeholders. For example, the draft adult fare for journeys of less than 2km is capped at $2.30, or $1.15 with a half fare concession.

11.3.1 Some consider the RED ticket and Gold Opal should be mutually recognised across the Opal and rural and regional areas

Some stakeholders called for recognition of the RED ticket between rural and regional areas and the Opal network, ie, paying one $2.50 fare across both areas.[110] For example, CPSA noted that a pensioner travelling by public bus from their house in Lithgow to the train station is charged $2.50 for a RED ticket and charged another $2.50 on the Opal system once they get on the train (to Sydney).

The Opal and rural and regional areas are arguably two different areas in terms of policy setting and fare products. Setting fares and fare products in each area must take account of different customer travel behaviour, cost efficiencies and service levels.

107 https://transportnsw.info/tickets-opal/ticket-eligibility-concessions/seniors, accessed 15 September 2017.
108 See Northern NSW Local Health District submission to IPART Issues Paper, June 2017; and Northern Rivers Social Development Council submission to IPART Issues Paper, June 2017, p 6.
109 See Northern Rivers Social Development Council submission to IPART Issues Paper, June 2017, p 6; and Byron Shire Council submission to IPART Issues Paper, June 2017, p 7.
110 See Combined Pensioners Superanuants Association (CPSA) submission to IPART Issues Paper, June 2017, p 4; P Kerr submission to IPART Issues Paper, July 2017, p 7; an dBusNSW submission to IPART Issues Paper, June 2017, p 6.

As noted above, the discount provided to pensioners and seniors under the RED ticket is already more generous than discounts available to other concession customers. The intent of the RED ticket is to facilitate local bus journeys for eligible customers.

In addition, eligible pensioners and seniors can access generous train discounts through the Country Pensioner Excursion ticket (CPE).[111] The $2.50 CPE fare enables access to train journeys across regional NSW and the ACT including return journeys. However, similar to the RED ticket, the CPE cannot be used for travel on the Opal network.

The Gold Opal is intended as a separate product to allow access to eligible pensioners and seniors for travel within the Opal/greater metropolitan network. The $2.50 capped fare allows unlimited access to transport services (trains, buses, ferries and light rail) within the metropolitan areas of Sydney, Newcastle and Wollongong.

If the RED (or CPE) ticket was accepted on the Opal network or vice versa, this would mean that eligible customers could travel from one end of NSW to the other for $2.50 instead of the current $5.00. We consider a $5.00 fare is reasonable and already generously discounted compared to other concession customers.

We considered concession arrangements in other jurisdictions and whether a similar product to the RED or Gold Opal ticket was available. We found no direct equivalent to these tickets. Other jurisdictions offer the following concessions:[112]

- Victoria - 50% discount on full fare (with free travel Saturdays and Sundays in two consecutive zones). Limited free travel vouchers/concessions on trains and coaches are also available.
- Queensland - 50% discount on first two full fares with free travel for the rest of the day.
- ACT – seniors over 70 and eligible concession card holders travel free off-peak.
- Western Australia - discounts of up to 60% in metropolitan and up to 50% in some regional areas.

In our view, the current discounts provided to NSW pensioners and seniors under the RED/CPE tickets and Gold Opal arrangements are already more generous than discounts available to other concession customers who may be more economically disadvantaged.

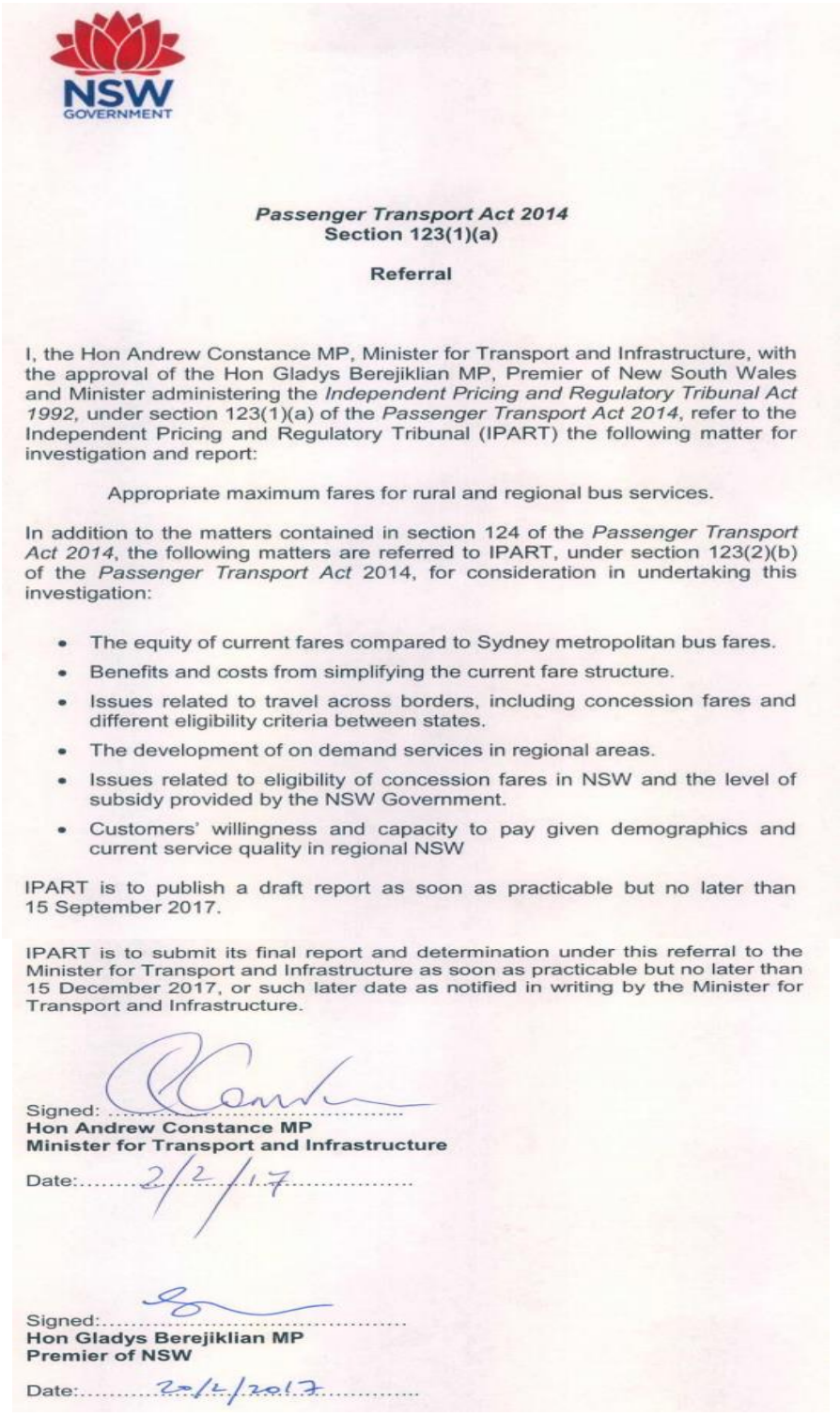
We do not consider any changes to current arrangements are justified.

111 https://transportnsw.info/tickets-opal/regional-tickets-fares/country-pensioner-excursion-ticket-cpe, accessed 6 September 2017.

112 https://www.ptv.vic.gov.au/tickets/fares/regional-fares/; https://translink.com.au/tickets-and-fares/fares-and-zones/discounts-and-ways-to-save/one-two-free;http://www.transport.act.gov.au/myway-and-fares/mywayguide/concessions; http://www.concessions.wa.gov.au/concessions/Pages/Public-Transport-Fares.aspx; http://www.concessions.wa.gov.au/Pages/SearchResults.aspx?Category=Travel and Transport&termId=72aa3405-aeac-427b-a4df-87eaf8598aca; accessed 6 September 2017.

Appendices

A Referral



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 Gladys Berejiklian 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:

Appropriate maximum fares for rural and regional bus services.

In addition to the matters contained in section 124 of the *Passenger Transport Act 2014*, the following matters are referred to IPART, under section 123(2)(b) of the *Passenger Transport Act* 2014, for consideration in undertaking this investigation:

- The equity of current fares compared to Sydney metropolitan bus fares.
- Benefits and costs from simplifying the current fare structure.
- Issues related to travel across borders, including concession fares and different eligibility criteria between states.
- The development of on demand services in regional areas.
- Issues related to eligibility of concession fares in NSW and the level of subsidy provided by the NSW Government.
- Customers' willingness and capacity to pay given demographics and current service quality in regional NSW

IPART is to publish a draft report as soon as practicable but no later than 15 September 2017.

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 15 December 2017, or such later date as notified in writing by the Minister for Transport and Infrastructure.

Signed: .....
Hon Andrew Constance MP
Minister for Transport and Infrastructure
Date: 2/12/17

Signed: .....
Hon Gladys Berejiklian MP
Premier of NSW
Date: 22/12/2017

B Comparison of old and new contracting system

In April 2016, new size-based contracts were entered into between TfNSW and existing bus operators. Under the new contract system, the contract categories are defined by the number of buses contracted per operator, as shown in Table B.1. In total, there are 656 contracts with 576 bus operators. Of a total of 656 contracts, there are seven Large contracts, and 33 Medium contracts. There are 83 Small contracts and 533 Very Small contracts.

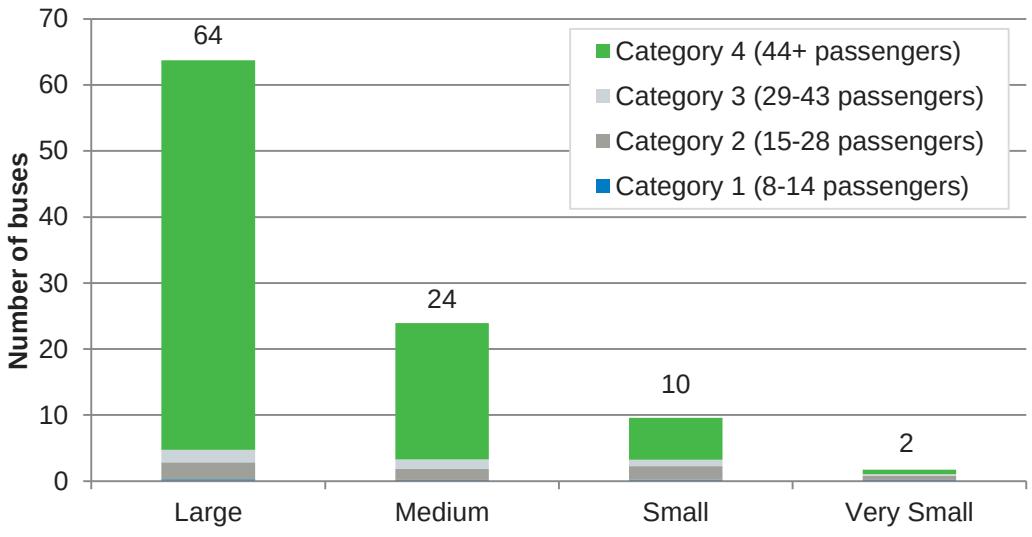
Table B.1 Size-based contract category

Contract type	Number of buses	Number of contracts
Large	More than 40 buses in the contracted fleet of an operator	7
Medium	16 to 40 buses	33
Small	6 to 15 buses	83
Very Small	5 or less	533
Total		**656**

Source: TfNSW.

Figure B.1 shows the average number of buses per contract. Medium and Large contracts have mostly Category 4 buses, which has authorised adult seating capacity of over 44 passengers. Small and Very Small contracts have a mix of Category 1 to Category 4 buses.

Figure B.1 Average number of buses by contract type



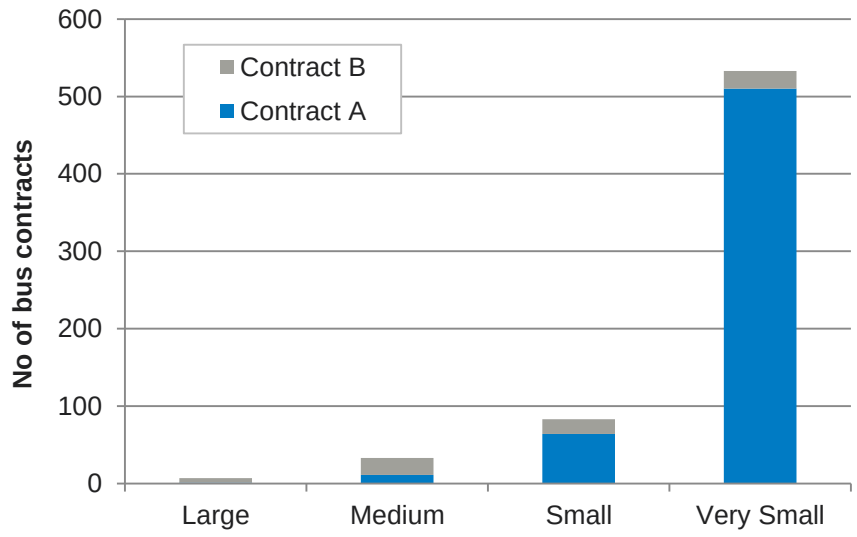
Data source: TfNSW

Prior to the current size-based contract system, there were two types of contracts for rural and regional bus services:

- **Contract A** which was for the provision of dedicated school bus services, and
- **Contract B** which was for the provision of regular passenger services to fare-paying passengers. Operators on this contract could also provide dedicated school services, and carry school students on regular passenger services without charging them fares.

Figure B.2 shows the total number of bus contracts by contract size, and their categories under the old contract system. Most Large and Medium contracts were previously classified as Contract B, which was for the provision of regular passenger and dedicated school services. Small and Very Small contracts, accounting for about 94% of the total bus contracts, mainly provided school bus services under Contract A.

Figure B.2 Number of bus contracts under the old and new contract systems



Data source: TfNSW.

Key changes from the old to new contracting system are summarised in Table B.2.

Table B.2 Comparison of old and new contracts

Contract terms	Old contracting system (Contract B)	New contracting system
Tenure (years)	▼ 7 years	▼ Initial term of 5 years with a possible extension of 3 years subject to meeting Key Performance Indicators (KPIs).
Performance based contract	▼ Contracts were not based on performance.	▼ Yes. New contracts include reporting on KPIs, which vary by contract type. ▼ For Large and Medium contracts, the contract price may be adjusted where KPIs are not met.
Service design approval	▼ Bus operators were responsible for service design.	▼ TfNSW is responsible for approving services and service changes.
Exclusivity of contract	▼ Contracts provided operators with an exclusive right to provide bus services for journeys below 40km.	▼ No exclusive right. TfNSW can now contract with one or more service providers.
Payment model	▼ Contract payment was based on the number of students registered under the School Student Transport Scheme (SSTS), plus top-ups. ▼ Contract payment included an additional payment for change in patronage, and payments for half fare and other concession passengers, which increased when maximum fares determined by IPART increased. ▼ Operators retain any fare box revenue collected.	▼ Contract payment is an agreed fee for service subject to service charges and indexation. ▼ Contract payment is fixed subject to adjustments or service changes and indexation. ▼ Operators retain any fare box revenue collected. ▼ If TfNSW changes fares and the change results in a material change in the fare revenue received by the operator, TfNSW and the operator will agree an adjustment to the annual contract price to reflect the impact of the change in the annual fare revenue.
Fleet funding	▼ Funded by operators	▼ TfNSW funds all new buses. ▼ New Category 1 and Category 2 buses are sourced from the NSW Government Pre-Qualification Scheme. ▼ New Category 3 and Category 4 buses are purchased through TfNSW's Bus Procurement Panel.
Responsibility for SSTS administration	▼ Bus operator was responsible for administering SSTS.	▼ TfNSW is responsible for administering SSTS. This reduces SSTS administration costs for bus operators.
Reporting requirements	▼ Operators were required to provide a summary of costs for the operation of their bus contracts. ▼ Operators were required to report their performance in areas such as reliability, patronage, performance against specified KPIs, complaints, complaint handling processes and service disruptions. ▼ Reporting is not audited.	▼ Operators are required to provide operational, performance and commercial reports. ▼ The frequency and type of reporting depend on the contract. – Large: Quarterly – Medium: Half-yearly – Small and Very Small: Yearly ▼ Reporting is not audited.

Source: Transport for NSW, *Rural and Regional Bus Contracts: Presentation to R&R Operators*, July 2014; Rural and Regional Bus Service Contracts templates available at https://www.transport.nsw.gov.au/operators/buses-coaches/contracts accessed 4 May 2017, IPART, *Rural and regional bus fares from January 2013 – Final report,* December 2012, p 3; pp 4-10, 18, 39.

C Factors we are required to consider

	Chapter
Factors from the legislation (*Passenger Transport Act 2014,* s 124(3))	
The cost of providing the services	2,3,6
The need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers	6-9
The protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standards of service	3
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	3,4,5
The social impact of the determination or recommendation	3,4,5
Standards of quality, reliability and safety of the services (whether those standards are specified by legislation, agreement or otherwise)	2
The effect of the determination or recommendation on the level of Government funding	6
Factors from the Minister's terms of reference	
The equity of current rural and regional bus fares compared to Sydney metropolitan bus fares	4
The benefits and costs of simplifying the current fare structure	4
Issues related to travel across borders, including concession fares and different eligibility criteria between states	10, 11
The development of on demand services in regional areas	7-9
Issues related to eligibility of concession fares in NSW and the level of subsidy provided by the NSW Government	11
Customers' willingness and capacity to pay given demographics and current service quality in regional NSW.	4

D Congestion in rural and regional areas

To consider the congestion benefits of bus services, we modelled the extent of congestion in regional areas by extracting real-time trip time estimates from Google Maps. We found that congestion in regional towns is minimal.

We collected data on trip times for the five largest regional towns that form part of this review (Coffs Harbour, Port Macquarie, Tamworth, Tweed Heads and Wagga Wagga). These towns had estimated populations of between 40,000 and 70,000 in 2016.

The sections below explain our approach and results in more detail.

D.1 Approach to estimating congestion

To model the extent of congestion, we extracted data on travel times for different points within a city throughout a given day. We then assumed that congestion reflects an increase in travel times during 'peak' periods compared to a baseline where we expect no congestion on the road network.

To obtain estimates of travel times, we:

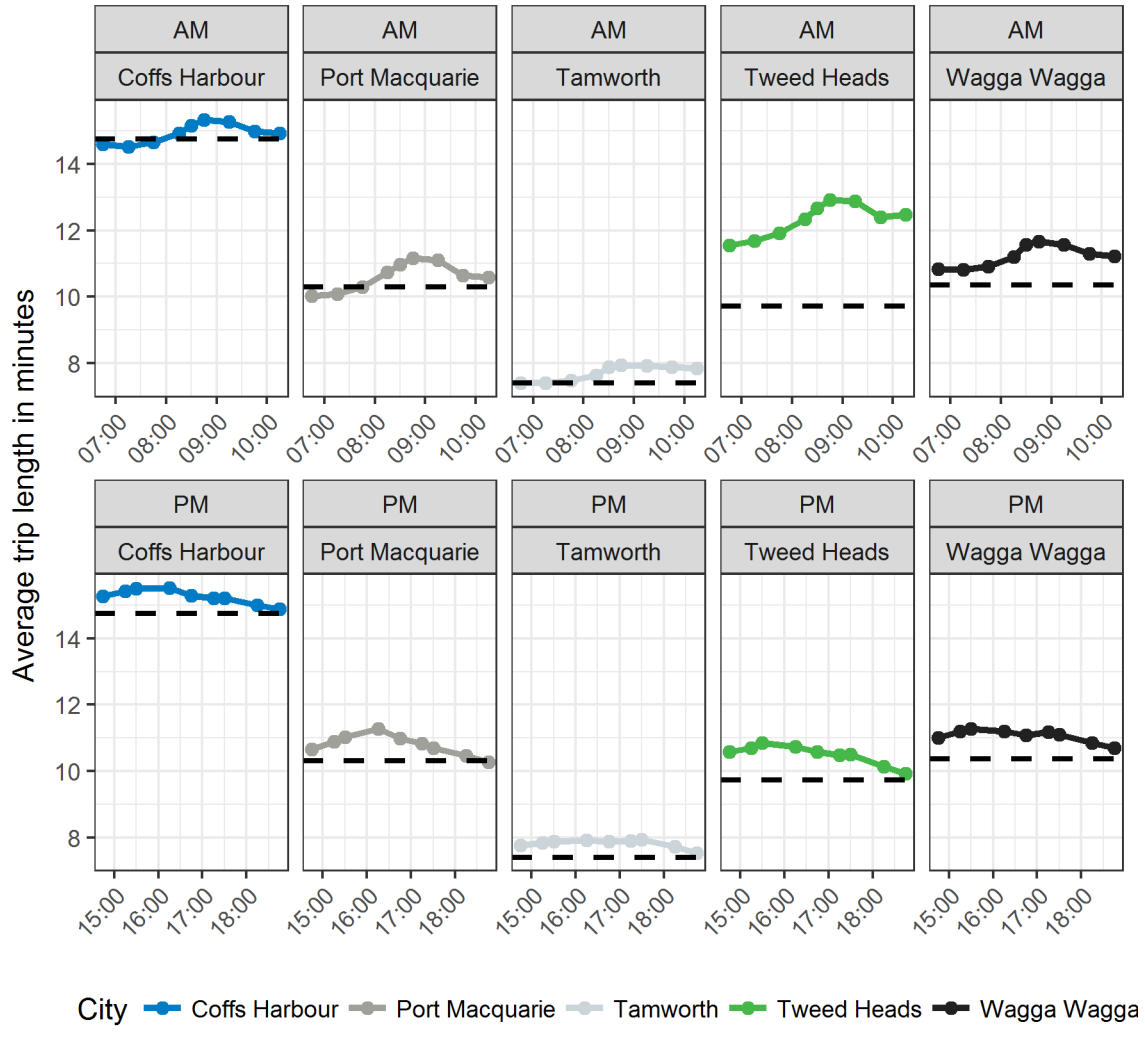
1. Used ABS data to determine the boundaries of the five regional towns. Specifically, we used 'Statistical Area Level 3' data that reflect the area serviced by regional cities with a population over 20,000 people.
2. Decided what routes within the city to collect data on trip times (in other words, where people travel from, and where they travel to, each day):
   - First, the ABS divides each regional town into smaller areas with 200-800 persons, on average ('Statistical Area 1', or SA1). We used the centre of each SA1 as the origin of where people travel from.
   - Second, we selected the destination where people would travel to. As a first exercise, we used the centre of the CBD, which for most towns is the address of the largest shopping centre of the city. We will continue to fine tune the routes that we collect data on. We also modelled the change in travel times to other major employment centres (eg, universities, schools and hospitals) and known traffic bottlenecks within these towns.
   - Third, we modelled a scenario where people travel from each SA1 to the centre of town during the morning peak, and from the centre of town back to the SA1 during the afternoon peak period.
3. Selected the times throughout the day to collect real-time data on travel times. We collected data at 27 times throughout the day:
   - 13 times throughout the morning peak period between 6:00am and 10:00am
   - 13 times during the afternoon peak period, between 2:30pm and 6:30pm, and
   - at 1am in the morning, to form the 'no congestion' baseline.

D.2 Our findings on congestion in rural and regional areas

Figure 1 shows that the increase in travel times during the period 26 July – 4 August. It suggests minimal increase in travel times and congestion during these periods. Other factors unrelated to congestion can affect travel times, including:

- speed limit reductions in school zones (which may increase travel times during peak periods), and
- road works (which might increase travel times more during off-peak times than peak periods).

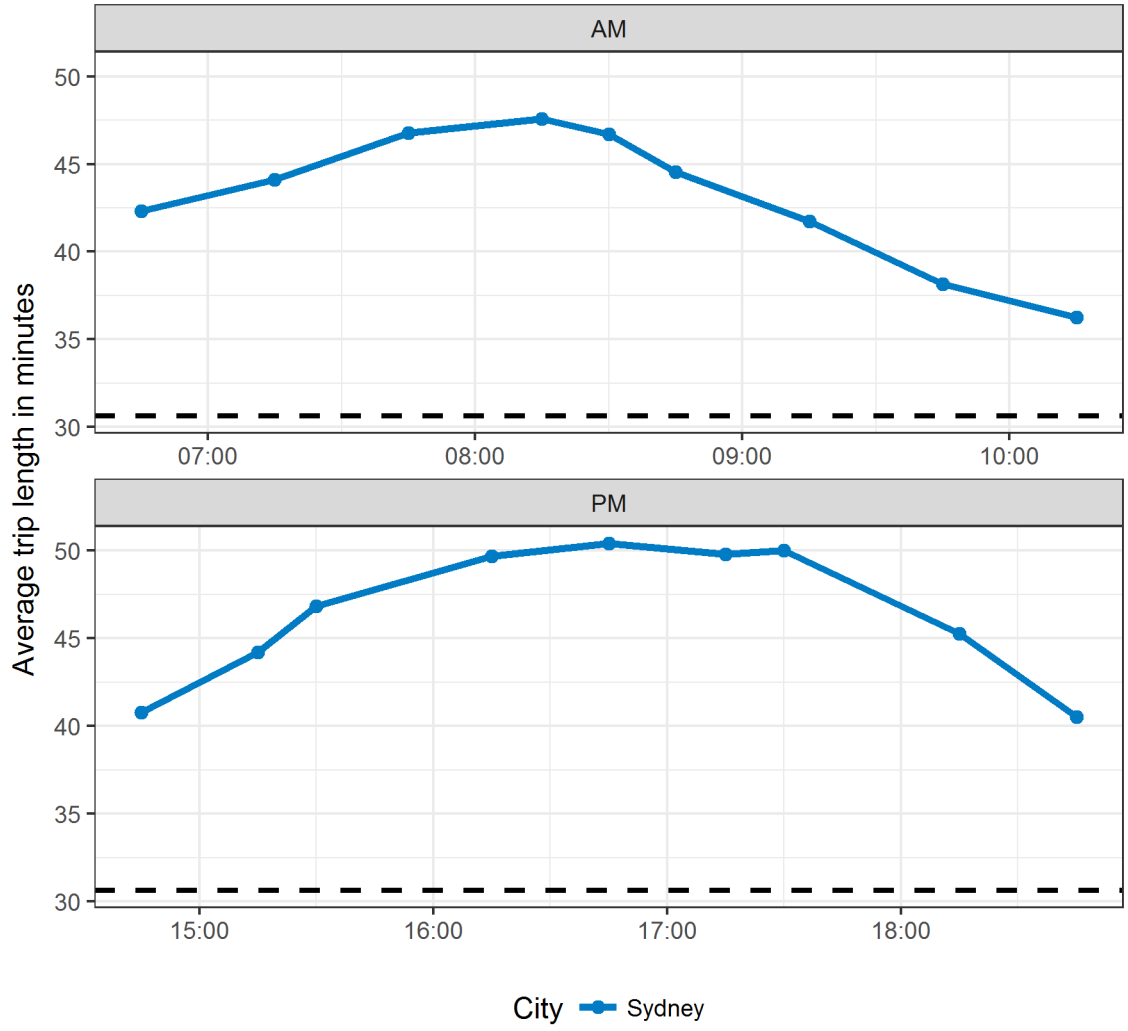
Figure D.1 Average trip times by city and day of week (weekdays only)



Data Source: Google Maps Distance Matrix API. Each point represents the average weekday trip time to/from the CBD of each regional centre from destinations within the metropolitan area. Destinations are the approximate geographical centre of SA1 statistical areas, as defined by the 2016 Australian Statistical Geography Standard.
Note: The dashed black line represents the average of 'baseline' trips, recorded at 1:30AM. It is expected that this time represents minimal congestion.

By comparison, the results for Sydney (Figure D.2) show a much larger change in travel times for the same period. For this exercise, we extracted data on travel times between the Sydney CBD (George St) and the centre of 267 areas in Sydney (which rough equate to suburb/postcode boundaries). The morning peak represents average travel time to the CBD, whilst the afternoon peak represents average travel time from the CBD

Figure D.2 Change in Sydney travel times and average speeds



Data Source: Google Maps Distance Matrix API. Each point represents the average weekday trip time to/from the CBD of Sydney from destinations within the metropolitan area. Destinations are the approximate geographical centre of SA2 statistical areas, as defined by the 2016 Australian Statistical Geography Standard.
Note: The dashed black line represents the average of 'baseline' trips, recorded at 1:30AM. It is expected that this time represents minimal congestion.

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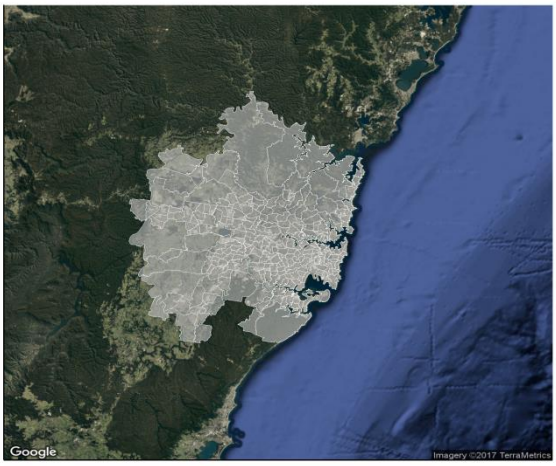
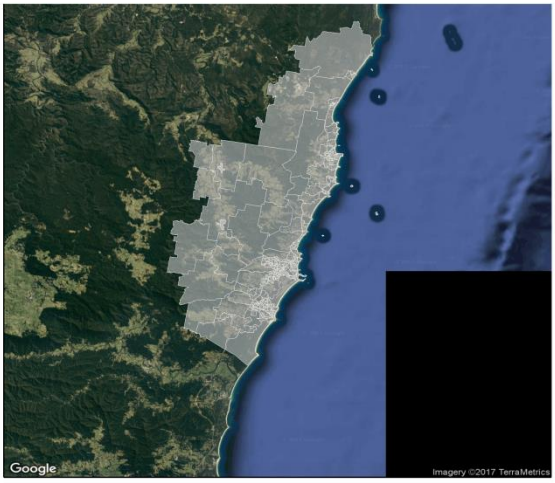
Figure D.3 Areas where we estimated traffic congestion

Sydney



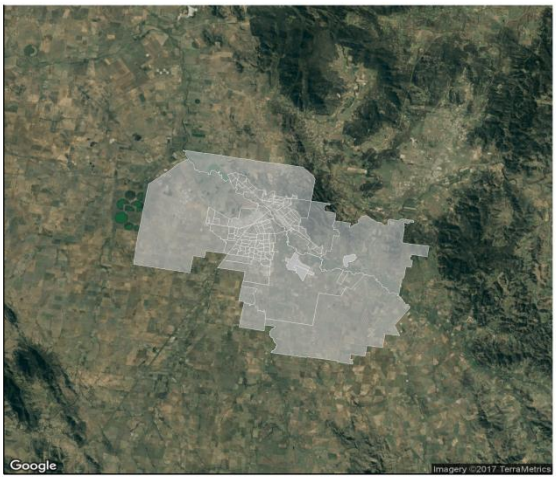
Coffs Harbour



Port Macquarie

Tweed Heads

Tamworth



Wagga Wagga

Note: The white highlighted areas in the six maps show the regions in each city that we have used to model traffic congestion.

Data source: ABS; Google maps; IPART calculations. Google Maps APIs Terms of Service available from https://developers.google.com/maps/terms#section_10 accessed 27 September 2017.

E IPART's building block approach, efficient costs and cost recovery

We used AECOM's unit costs and our standard building block methodology to estimate the total efficient costs of providing bus services in rural and regional areas. To estimate cost recovery from fares, we separately estimated efficient costs for contracts that provide

- only dedicated school services, and
- both dedicated school and regular passenger services.

To estimate costs we assumed 'business as usual' reflects the requirements of the contracts in terms of:

- the number, type and average age of the bus fleet,
- the number of service kilometres travelled in a year, and
- the unit costs of providing the services.

We did not estimate the cost implications of 'optimising' the bus fleet (matching bus size more clearly to likely demand); changing regular bus services; or introducing on demand services. The remainder of this attachment explains in more detail how we estimated 'business as usual' efficient costs.

E.1 We separated 'School only' from 'School and regular passenger service' contracts

We estimated efficient costs for two types of bus contract:

- Contracts that provide only dedicated school services ('School only'), and
- Contracts that provide both dedicated school and regular passenger services ('School and regular').

'School only' contracts include all the Medium, Small and Very small (old) A contracts. 'School and regular' contracts include all the (old) B contracts plus the single Large A contract which, under the new contract system, also provides regular passenger services. However, we excluded from our detailed calculations the Small and Very small B contracts due to data constraints.[113] These (excluded) contracts account for around 20% of all 'School and Regular' contract costs and buses (see Table E.1).

[113] These contracts do not report actual service kilometres (which we need in order to estimate efficient costs).

Table E.1 Number of 'School only' and 'School and regular' contracts and buses included in our analysis

	School only	School and regular (sample)	School and regular (not in sample)	Total
	Medium, Small and Very small A	All Large[a] and Medium B	Small and Very small B	All contracts
Number of contracts	579	29	42	650
Number of buses	1,692	1,059	254	3,005
Average number of buses per contract	3	37	6	5
Contract costs ($ million)[b]	207.7	161.2	35.2	404.1
Average cost per contract ($ million)[b]	0.36	5.56	0.84	0.62

[a] The Large (old) A contract provides both school and regular passenger services under the new contract system,

[b] Average over the five year contract period (before escalation for inflation).

Note: Totals may not add due to rounding.

Source: Data from TfNSW, IPART calculations.

E.2 We used a 'building block' approach to estimate efficient costs

This section explains how we calculated total efficient costs based on our standard 'building block' approach. It first explains how we calculated a regulatory asset base (RAB) and a working capital balance for 'School only' and 'School and regular' contracts respectively. It then explains how we estimated efficient operating costs using AECOM's unit costs. The last section outlines how we used this information to calculate total efficient costs.

E.2.1 We used AECOM's 'standard' bus costs to establish a RAB

To establish a regulatory asset base (RAB) for buses on 1 January 2017 we:

- Modelled the (actual) existing bus fleet in terms of number of buses in each bus category (ie, in terms of bus sizes - see Box E.1)
- Used a standard cost for each bus category, based on the most popular model in each category. This approach is in line with that adopted by AECOM when they reported unit costs ($/km).
- Used an expect life of 15 years for bus categories 1 and 2 buses; and 25 years for categories 3 and 4 buses (based on the maximum service life in the contract).
- Assumed that buses were on average about half-way though their contract lives – 7 years old for bus categories 1 and 2 and 12 years old for bus categories 3 and 4. This provides a reasonable approximation of the actual average age of the bus fleet.[114]

114 See AECOM, *Efficient cost of rural and regional bus operators, Draft Report,* September 2017, pp 5 and 18.

Box E.1 Bus categories

Buses are categorised according to the number of seated passengers they can carry.

- Category 1 – 8 to 14 passengers
- Category 2 – 15 to 28 passengers
- Category 3 – 29 to 43 passengers
- Category 4 – 44 or more passengers

Source: TfNSW

In order to roll forward the RAB over the contract period, we assumed that the total number of buses in each category would remain unchanged[115]. We also assumed that buses were continually being retired and replaced by the same model of bus, so as to keep the average age of the fleet roughly constant. As noted in Chapter 6, we consider that TfNSW should review the reported patronage of bus services to determine whether the size of the bus to allocated to routes is appropriate. Table E.2 and Table 4.3 show the RABs for 'School only' and 'School and regular' contracts respectively.

Table E.2 Regulatory Asset Base for 'School only contracts (2017 $ million)

	2017	2018	2019	2020
Opening value	198.8	198.4	198.0	197.6
Capital expenditure	17.2	17.2	17.2	17.2
Disposals[a]	0.0	0.0	0.0	0.0
Depreciation	17.6	17.6	17.5	17.5
Closing value	198.4	198.0	197.6	197.2

[a] When buses are disposed of at the end of their regulatory lives they are fully depreciated and therefore have no residual regulatory value.

Table E.3 Regulatory Asset Base for 'School and regular' contracts (2017 $ million)

	2017	2018	2019	2020
Opening value	159.8	159.5	159.3	159.0
Capital expenditure	12.3	12.3	12.3	12.3
Disposals[a]	0.0	0.0	0.0	0.0
Depreciation	12.6	12.6	12.6	12.6
Closing value	159.5	159.3	159.0	158.8

[a] When buses are disposed of at the end of their regulatory lives they are fully depreciated and therefore have no residual regulatory value.

E.2.2 We estimated working capital requirements

Bus operators receive monthly contract payments,[116] but have ongoing expenses that do not necessarily coincide with these payments, eg, fuel, wages and maintenance costs. Therefore, we have estimated average working capital requirements on the basis of

[115] We did not attempt to 'optimise' the bus fleet by, for example, replacing large buses with smaller ones.
[116] See Transport for NSW, *Rural & Regional Bus Service Contract (Large)*, Schedule 3.

- Receivables at 15 days, based on half of the 30 day contract payment period, and
- Payables at 7 days, based on a fortnightly wage payment cycle and recognising that other payments may be immediate (eg fuel) while others may be paid within 30 days (eg, maintenance bills).

This is our standard approach to estimating working capital requirements. Table E.4 shows our estimated working capital balances.

Table E.4 Working capital balances for 'School only' and 'School and regular' contracts (2017 $ million)

	2017	2018	2019	2020	2021
'School only' contracts	3.9	4.0	4.0	4.0	4.0
'School and regular' contracts	2.9	2.9	2.9	2.9	2.9

Source: IPART calculations.

E.2.3 We used AECOM's unit costs to estimate efficient operating costs

We used AECOM's bottom-up cost analysis to estimate the efficient operating costs of 'School only' and 'School and regular' contracts. Specifically, we used

- AECOM's unit costs per km for variable costs (driver, maintenance and fuel), and
- AECOMs unit costs per bus seat for overhead costs.

Box E.2 illustrates how we used AECOM's unit costs to estimate efficient operating costs. Table E.5 shows the total efficient operating costs for 'School only' contracts, and Table E.6 shows the total efficient operating costs for 'School and regular' contracts (2017 $ million).

Box E.2 How we used AECOM's unit costs to estimate total efficient operating costs

Variable costs

For each type of bus, AECOM estimated a $/km variable cost (driver, fuel and maintenance). We used this information in two steps:

- Step 1, we calculated the total annual variable costs for bus.
- Step 2, we added the total variable costs for all the buses in the fleet to get the total variable cost.

Step 1 example: Total variable cost for Bus category 4,

(driver $/km + fuel $/km + maintenance $/km) x annual km per bus x number of buses =

($1.28/km + $0.52/km + $0.12/km) x 30,000km x 900 buses =

1.92/km x 30,000km x 600 buses =

$51.8 million pa

We repeated calculation for each type of bus in the fleet.

Overhead costs

AECOM also estimated an overhead cost of $700 per seat per year.[a] Again, we used this information in two steps:

- Step 1, we calculated the total annual overhead costs for each type of bus.
- Step 2, we added the total overhead costs for all the buses in the fleet to get the total variable cost.

Example: Total overhead cost for Bus category 4

700 per seat x 57 seats per bus x 900 buses = $35.9 million

Total operating costs

We added total variable costs plus the total overhead costs for each type of bus to get total operating costs.

a AECOM's average cost of $700 per seat assumes that operators have 10% spare capacity. However, most Very small Small contracts are unlikely to have spare capacity (ie, spare buses). We took this into account by providing an overhead allowance of $770 per seat for all Very small and 50% of Small contracts.,

Source: AECOM data, IPART calculations.

E.2.4 We calculated total efficient costs

Our final step was to calculate the total efficient costs for 'School only' and 'School and regular' contracts respectively, using our standard building block approach. Total efficient costs include:

- Efficient operating costs
- A return on RAB, which we calculated by using a real post-tax WACC of 5.4% (see Appendix F)
- Depreciation (discounted to mid-year value)
- A return on working capital, using a real post-tax WACC of 5.4%, and

- An allowance for tax, using the statutory tax rate of 27.5% that is applicable to business with an annual turnover of up to $10 million per year.[117]

Table E.5 shows the total efficient costs for 'School only' contracts, and Table E.6 shows the costs for 'School and regular' contracts. Operating costs account for over 80% of the total costs.

Table E.5 Total efficient costs for 'School only contracts (2017 $ million)

	2017	2018	2019	2020
Operating costs	141.8	141.8	141.8	141.8
Depreciation[a]	17.1	17.1	17.1	17.1
Return on RAB	10.9	10.9	10.9	10.8
Return on working capital	0.2	0.2	0.2	0.2
Tax allowance	1.2	1.3	1.4	1.5
Total costs	171.3	171.3	171.4	171.4
Operating costs as a proportion of total costs	83%	83%	83%	83%

a Depreciation in total costs is slightly lower than depreciation in the RAB roll forward. This is because depreciation in the RAB roll forward is the year-end value, whereas depreciation total costs is discounted to a mid-year value.

Source: IPART calculations.

Table E.6 Total efficient costs for 'School and regular' contracts (2017 $ million)

	2017	2018	2019	2020
Operating expenditure	101.7	101.7	101.7	101.7
Depreciation[a]	12.3	12.3	12.3	12.3
Return on RAB	8.7	8.7	8.7	8.7
Return on working capital	0.2	0.2	0.2	0.2
Tax allowance	1.0	1.0	1.1	1.2
Total costs	123.8	123.9	123.9	124.0
Operating expenditure as a proportion of total costs	82%	82%	82%	82%

a Depreciation in total costs is slightly lower than depreciation in the RAB roll forward. This is because depreciation in the RAB roll forward is the year-end value, whereas depreciation total costs is discounted to a mid-year value.

Source: IPART calculations

E.3 Efficient costs are significantly lower than contract costs

Our estimated efficient costs are 19% lower than contract costs for 'School only' contracts and 26% lower for 'School and regular' contracts in the first contract year. These differences are in line with AECOM's reported differences in $/km costs (Table E.7).[118]

117 *https://www.ato.gov.au/Business/Small-business-entity-concessions/Concessions/Income-tax-concessions/Small-business-company-tax-rate/*

118 AECOM 's reported $/km contract costs are average costs over the contract period. (AECOM, *Efficient cost of rural and regional bus operators, Draft Report,* September 2017, pp 27 - 29).

Contract costs change over the five year contract period for two main reasons:

- Contract interest and principal payments are only for buses that were in the fleet at the beginning of the contract period. The payments associated with any new or replacement buses are separately taken into consideration.[119]
- Payments in the contract category 'Other' increase on average for some 'School only' contracts and decrease for 'School and regular' contracts.[120]

We did not include the impact of AECOM's recommended downsizing of the buses used on regular passenger services to better match patronage. We consider that TfNSW and operators should consider the potential for downsizing buses as well as the nature of the services provided prior to the current contracts expiring in 2023. See Chapter 9 for further information on our recommended frameworks for procuring transport services including on demand.

We also note that the contract costs reported by TfNSW do not include an allowance for replacing buses as they reach the maximum age limits in the contracts. We have included an allowance for these buses in our efficient cost estimates.

Table E.7 Comparison of contract costs and efficient costs ($2017 million pa)

		'School only'	'School and regular' (total)[a]	Total
Year 1 of contract period				
Contract costs	$ million pa	210.5	203.3	413.8
Efficient costs	$ million pa	171.3	149.8	321.1
Difference	$ million pa	39.2	53.5	92.7
Difference	%	-19%	-26%	-22%
Determination period (2018 to 2020)				
Contract costs	$ million pa	208.0	196.0	404.0
Efficient costs	$ million pa	171.4	151.0	322.4
Difference	$ million pa	36.6	45.0	81.6
Difference	%	-18%	-23%	-20%
Difference in $/km reported by AECOM[b]		-13% to-18%	-19% to-31%	-13% to-31%

a Efficient costs are scaled up to include Small and Very small B contracts, in proportion to their share of total contract costs.

b AECOM reported contract and efficient costs per km for six contract categories, namely Large, Medium, Small and Very Small A contract s and Large and Medium B contracts. Contract costs are average costs over the five year contract period.

Note: Totals may not add due to rounding

Sources: AECOM, *Efficient cost of rural and regional bus operators, Draft Report,* September 2017, pp 27 – 29, IPART calculations

E.4 We estimated cost recovery in two ways

For 'School and regular' contracts, we estimated cost recovery from fares in two ways, namely fare revenue as a proportion of

119 Over the first four contract years, these payments fall by around $6.4 million per year for 'School only' contracts and $4.9 million for 'School and regular' contracts.

120 Over the first four contract years, 'Other' payment increase by around $2.2 million per year for 'School only' contracts fall by around $5.4 million for 'School and regular' contracts.

- total efficient costs and
- the share of efficient costs that we allocated to regular passenger services (with the remaining share allocated to dedicates school services).

We allocated costs between regular passenger services and dedicated school services and on the basis of

- service km for variable costs (driver, fuel and maintenance costs), and
- number of passenger journeys for fixed costs (overheads, depreciation and return on assets).

We found that regular passenger services account for around one third total efficient costs. Consequently we estimate that, while revenue from fares will recover around 5.4% of total efficient costs in 2017,[121] this revenue will recover around 17.5% of regular passenger services' share of these costs. Cost recovery from fares will be slightly lower in 2020 due to lower fares.[122] (See Table E.8.)

Table E.8 Fare revenue as proportion of efficient costs for 'School and regular' contracts (sample), 2017 and 2020

Year	Total efficient costs $2017 million			Revenue from fares $ 2017 million[a]				Revenue from fares as proportion of efficient costs	
	SSTS	Regular passenger services	Total	Adult	Concession	RED	Total	Regular passenger service costs	Total costs
2017									
	86.0	37.8	123.8	2.6	2.0	2.0	6.6	17.5%	5.4%
2020									
	86.2	37.8	124.0	2.0	1.6	12.2	5.9	15.5%	4.7%

a We used average actual fares to calculate revenue from fares in 2017 (not maximum fares). To calculated revenue from fares in 2020, we used our draft fares and assumed that demand responds to lower fares, and that underlying patronage grows at 0.7% per year (due to population growth).

Note: Totals may not add due to rounding.

Source: IPART calculations

121 Revenue from fares in 2017 uses actual fares (not maximum fares).

122 Revenue from fares in 2020 assumes that demand responds to lower fares, and that underlying patronage grows at 0.7% per year (due to population growth).

F Weighted Average Cost of Capital (WACC)

The rate of return is a key input to our calculation for the allowance for a return on assets. We calculate the allowance for a return on assets by multiplying the WACC by the RAB.

Our approach is to use a post-tax WACC to determine a rate of return.[123] We first estimated a WACC range based on current and long term market data. Then we selected a point within the range (established by the mid-points of the two WACC ranges) using our uncertainty index. As our assessment of market uncertainty is currently within one standard deviation from the long term average of zero (ie, economic uncertainty is neutral), we have used the midpoint of the range of WACC values.[124]

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

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

Table F.1 sets out the market and industry specific parameters that underpin our WACC calculation. We then discuss our consideration of the industry-specific parameters – equity beta and gearing for the bus industry.

Table F.1 WACC parameters and values

	WACC – current data			WACC – long-term averages			WACC range		
	Low	**Mid**	**High**	**Low**	**Mid**	**High**	**Low**	**Mid**	**High**
Nominal risk free rate	2.5%	2.5%	2.5%	4.1%	4.1%	4.1%			
Inflation	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%			
Debt margin	2.1%	2.1%	2.1%	3.2%	3.2%	3.2%			
Market risk premium	7.4%	9.5%	11.5%	5.5%	6.0%	6.5%			
Gearing	50%	50%	50%	50%	50%	50%			
Gamma	0.25	0.25	0.25	0.25	0.25	0.25			
Equity beta	0.7	0.85	1.0	0.7	0.85	1.0			
Nominal vanilla WACC	6.1%	7.6%	9.3%	7.6%	8.3%	9.0%			
Real post-tax WACC	3.7%	5.1%	6.7%	5.1%	5.7%	6.4%	**5.1%**	**5.4%**	**5.7%**

Note: Market data sampled to 30 June 2017.

Source: IPART calculations.

123 IPART, *Review of WACC Methodology - Final Report,* December 2013.

124 See IPART, *Review of WACC Methodology - Final Report,* December 2013, p 23 for further details on our decision rule for selecting a point within the range of WACC values.

F.1 Industry-specific parameters

To determine the appropriate level for the equity beta and the gearing, we have evaluated the risks faced by bus operators. We have compared these risks to other businesses/industries we regulate. We have also investigated market evidence available from companies providing bus services.

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

Equity beta and gearing ratio

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

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

Our draft decision is to use:

- an equity beta of 0.7 to 1.0, and
- a gearing ratio of 50%.

Risks relative to other industries

We have reviewed available information on the relative systematic risks of bus transport and updated our empirical analysis using listed comparator firms operating in bus passenger transport business. We found that the **equity beta range (0.70 to 1)** previously used for the 2016 Opal review and the 2014 review of metropolitan and outer metropolitan buses remain appropriate for modelling the efficient cost and cost recovery for providing regional bus services.

Market evidence

Table F.2 presents gearing ratios for comparator firms.

Table F.2 Average gearing ratios 2012-2016 for comparator firms

Company	Gearing ratio	Market cap (USDm)	Weight
SEIBU HOLDINGS INCORPORATED	51.2%	6,148	36.0%
KEISEI ELECTRIC RAILWAY COMPANY LIMITED	46.0%	4,194	24.6%
FIRST GROUP PUBLIC LIMITED COMPANY	63.2%	1,543	9.0%
STAGECOACH GROUP PUBLIC LIMITED COMPANY	30.6%	1,532	9.0%
CHUNIL EXPRESS COMPANY LIMITED	0.0%	107	0.6%
ADA SA	30.2%	28	0.2%
SAUDI PUBLIC TRANSPORT COMPANY SJSC	7.7%	506	3.0%
SBS TRANSIT LIMITED	38.5%	455	2.7%
DAIICHIKOUTSU SANGYO COMPANY LIMITED	81.3%	225	1.3%
BOCHUM-GELSENKIRCHEN AG	41.7%	179	1.0%
BREMER STRASSENBAHN AG	83.8%	26	0.2%
MOLS-LINIEN A/S	64.9%	126	0.7%
WEHA TRANSPORTASI INDONESIA TERBUKA PT	60.1%	10	0.1%
EKA SARI LORENA TERBUKA	32.4%	6	0.0%
ATP30 PUBLIC COMPANY LIMITED	27.5%	22	0.1%
KONSORTIUM TRANSNASIONAL BERHAD	59.6%	12	0.1%
DUC LONG GIA LAI INVESTMENT & DEVELOPMENT OF	9.1%	10	0.1%
JORDAN INVESTMENT TOURISM TRANSPORT COMPANY	11.7%	10	0.1%
GETS GLOBAL BERHAD	24.1%	5	0.0%
CITY GROUP COMPANY KSCP	4.7%	222	1.3%
SAIGONTOURIST TRANSPORT CORPORATION	11.8%	3	0.0%
CHINA MOTOR BUS COMPANY LIMITED	0.0%	521	3.1%
TRANSPORT INTERNATIONAL HOLDINGS LIMITED	12.2%	1,173	6.9%

Source: Thomson Reuters Datastream and IPART analysis.

The average gearing ratio of firms in Table F.2 is 34%, whilst the average weighted by total capital is 43%. Firms with gearing ratios above 50% represent 47% of the market capitalisation shown in this table. In light of these facts, the gearing ratio estimate of 50% is a reasonable mid-point for a sample of transport firms with some bus operations.

This figure is somewhat lower than the 60% gearing ratio adopted for metropolitan bus services in our 2016 Opal review, but firms with gearing ratios above 60% represent only 11% of the market capitalisation.

This analysis does not suggest a lower target gearing ratio than 50%. Firms with gearing ratios above 46% represent 72% of the market capitalisation.

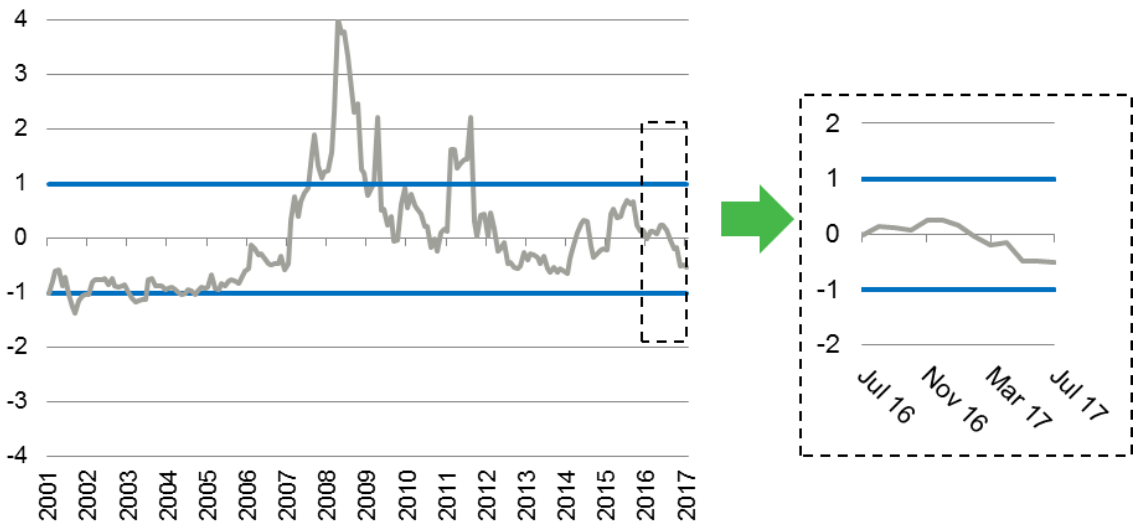
Our WACC decision rule

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

- If the uncertainty index is within or at one standard deviation from the long term average of zero (ie, economic uncertainty is neutral), we will select the midpoint WACC.
- If the uncertainty index is more than one standard deviation from the long term average of zero, we will consider moving away from the midpoint WACC. We will have regard to the value of the uncertainty index and additional financial market information.[125]

Figure F.1 shows that the uncertainty index is currently within one standard deviation from the long term average of zero. Based on IPART's decision rule, we recommend the midpoint of the real post-tax WACC range, 5.4%, as the point estimate WACC.

Figure F.1 Uncertainty index



Data source: Thomson Reuters DataStream and IPART calculation.

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

G Route cost analysis

We have developed a bus cost model which calculates the efficient costs of operating an additional service on a bus route for regular passenger services (ie, the efficient marginal cost). Our cost model uses the unit costs estimated by AECOM.

Using the model, we have analysed the current cost per passenger on around 270 regular passenger routes. We have estimated the efficient marginal costs of four different scenarios. These scenarios are designed to reflect differences in how the fleet is utilised across all services (ie, both regular passenger services and school services):

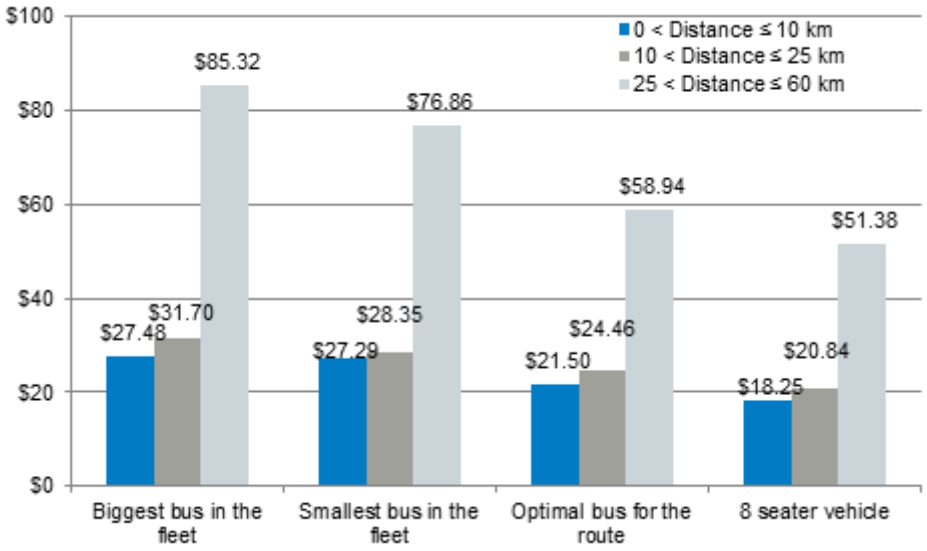
1. **Biggest bus in the fleet**: this assumes that the largest bus in the fleet is used to provide a school service in the morning and regular passenger services at other times. No capital costs of the bus are allocated to the regular passenger services but variable costs and a proportion of overhead costs are allocated to the regular passenger services.
2. **Smallest bus in the fleet**: this assumes that the smallest bus in the fleet is used to provide a school service in the morning and regular passenger services at other times. No capital costs of the bus are allocated to the regular passenger services but variable costs and a proportion of overhead costs are allocated to the regular passenger services.
3. **Optimal bus for the route**: this assumes that the regular passenger service is run as a standalone bus service where the bus is optimised to the level of patronage. The capital costs of the optimised bus as well as variable costs are allocated to the regular passenger service.
4. **8 seater vehicle**: this assumes that the regular passenger service is run as a standalone service using an 8-seat vehicle. The capital costs of the 8 seat vehicle as well as variable costs are allocated to the regular passenger service.

In our modelling we have assumed:

- Dead running speed is 60 kilometres per hour (km/h) and for calculating the tax allowance an average speed of 40km/h.
- A vehicle operates on average at 75% capacity to allow for peaks in demand and for identifying the optimal vehicle for the route.
- An efficient bus operates 60 hours each week for 52 weeks each year, and each service is allocated its share of overheads, depreciation, return on capital and tax allowance based on the service's duration (including dead-running).
- Fuel costs are based on AECOM's estimates of fuel cost and consumption.

Figure G.1 shows how the median efficient marginal cost per passenger journey for routes of different lengths changes as the fleet utilisation assumption is varied.

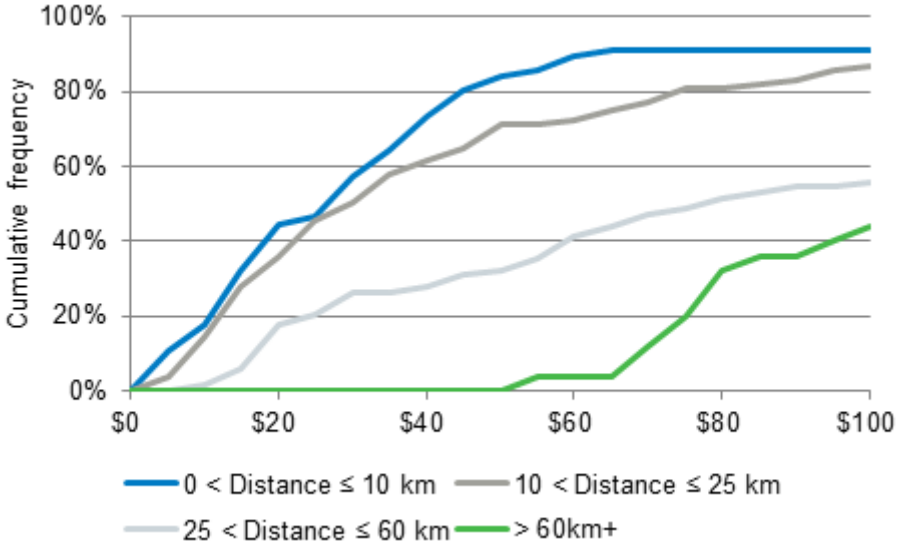
Figure G.1 Median marginal efficient costs per passenger journey by route length



Data source: IPART Analysis.

Figure G.2 shows the cumulative distribution of efficient marginal costs per passenger journey by route length for the smallest bus in the fleet scenario. For example, around 60% of 0-10 km routes have an efficient marginal cost per passenger journey less than $30. This shows that there are many routes with a high cost per passenger journey based on current utilisation.

Figure G.2 Cumulative distribution of cost per passenger journey for the smallest bus in the fleet



Data source: IPART Analysis.

H On demand services and case study assumptions

H.1 On demand services

On demand services can be designed in many different ways to suit local needs and conditions. Table H.1 provides an overview of the advantages and limitations of different types of on demand services described in Section 7.3.

Table H.1 Overview of different types of on demand services

Option	Description	Advantages	Limitations
1a. Fixed route with deviations for booked stops	Normal fixed route service which deviates to pick up passengers from a pre-arranged, mutually convenient stop only when customer books.	▼ Simple to understand for customers ▼ Simple to run for operators ▼ May be able to estimate service kilometres (kms) ▼ Mechanism to better target fixed routes over time	▼ Limited by local geography as it needs workable pickup points close to fixed route ▼ May exclude mobility impaired customers ▼ Optimal system needs sophisticated technology to maximise bus utilisation at fixed stops
1b. Fixed route with deviations including homes	As Option 1a, but customers can also book pickup from home.	▼ As Option 1a but less likely to be able to estimate service kms ▼ Serves mobility impaired customers	▼ Limited to areas with specific housing density ▼ More variability of journey times ▼ May require more driver training to assist customers ▼ Optimal system needs sophisticated technology to maximise bus utilisation at fixed stops
1c. Fixed route with deviations and multiple destinations	As Option 1b, but with several destinations at one end which can be either booked or pre-arranged.	▼ As Option 1b ▼ Increased value of service that can travel to key destinations such as hospital and Centrelink	▼ As Option 1b ▼ Dispersed deviations reduce journey time reliability ▼ Increased uncertainty/variability of dead running with destination on demand
2a. Fixed route plus a roam zone	Many possible pickup points including homes and pre-arranged stops at one end, with one or few destinations on the other end. Final destinations can be booked or fixed but are generally chosen based on community need.	▼ Can be adapted for many purposes including transport network or community services feeder ▼ Works well for mobility impaired and mobile customers ▼ Well suited to satellite towns or outlying suburbs with poor transport ▼ Balances flexibility and reliable journey times	▼ Limited to specific geography/density that will support a cost effective roam zone ▼ Unpredictable service kms ▼ Risk of unreliable journey times if a roam zone is poorly constructed ▼ Road network of roam zones must be navigable.

		▼ Roam zone routes become predictable over time ▼ Can achieve better bus utilisation and lower per passenger cost of bus journey ▼ More demand responsive ▼ Well suited to fill gaps in after-hours services	
2b. Fixed route with more than one roam zone	As Option 2a but after picking up at multiple roam zone points, bus delivers to any point within a new drop off roam zone at the other end and possibly to a fixed terminus.	▼ Can act as a feeder route to important services ▼ Can be adapted for many purposes and suit a variety of community needs ▼ Works well for both mobility impaired and mobile customers ▼ Well suited to satellite towns or outlying suburbs ▼ Highly flexible service and more demand-responsive	▼ Complex for operators and some customers ▼ Stronger geography and density requirements – both roam zones must be cost effective with two sets of sympathetic road networks ▼ Highly unpredictable service kms ▼ Journey time reliability may cause patronage decline and threaten viability ▼ Needs highly sophisticated real time updates for fixed route customers
2c. Many to Many with trunk deviations	As Option 2b, but with booked diversions permitted along the main corridor between pickup roam zones and drop off roam zones, as in Option 1b.	▼ Can be adapted for many purposes and suit a variety of community needs ▼ Works well for both mobility impaired and mobile customers ▼ Well suited to satellite towns or outlying suburbs ▼ Highly flexible and demand responsive	▼ As Option 2b ▼ Unreliable journey times ▼ Limited to road network with workable corridor pickup point
3a. Demand responsive loop	Bus travels a loop only stopping at pre-determined stops when a customer books, and at a few fixed destinations.	▼ Suited to regional centres ▼ More convenient service for booking customers ▼ Can significantly reduce travel times to the fixed destinations during the off peak period ▼ Highly flexible without the cost of a taxi	▼ Unpredictable service kms ▼ Value added over well targeted fixed routes in regional centres is unclear ▼ Difficult to assess the value of the service without section based patronage data ▼ Sophisticated technology is likely to be required
3b. Roam Zone only	Bus picks up and drops off as requested at any of the pre-arranged stops in the zone booked in advance by a customer for a certain time window	▼ As Option 3a ▼ Can compensate for poor frequency of regional centre fixed bus routes	▼ Unpredictable service kms ▼ Difficult to assess the value of the service without section based patronage data ▼ Sophisticated technology is likely to be required ▼ Highly unreliable journey times once demand passes a

			certain threshold. May not be able to effectively meet higher demand for the service.
4a. Point to point Taxi or Community Transport	Regular car or maxi taxi picks up passengers at the exact location and time of their choosing and delivers to destination which can be anywhere – traditional taxi service. Some Community Transport may operate this way, but operational models vary widely. Some Community Transport may require more advanced notice of booking.	▼ Maximum demand responsiveness and service flexibility ▼ Excellent for mobility challenged customers ▼ Can be booked with relatively little notice (taxis). ▼ Can be scheduled to repeat pickups regularly (Community Transport)	▼ Taxis may be a costly option. Could be unaffordable for longer journeys. ▼ Some rural and regional areas do not have enough or any taxis. ▼ Some taxi drivers may not have training required to properly assist special needs customers. ▼ Community Transport is affordable but may be less demand responsive – supply is also variable by region.
4b.Point to point Taxi or Community Transport with multiple stops	As Option 4a, but the route may make several stops along the way to destination at a customer's request, perhaps to share the Taxi/Community Transport vehicle or to assist the customer with errands.	▼ As Option 4a ▼ Even greater flexibility ▼ Especially suited to special needs customers	▼ As Option 4a ▼ For taxis, usually even greater cost ▼ Less journey time reliability for shared Community Transport

H.2 Case study assumptions

We used our bus cost model to estimate costs of the on demand component of our three case study bus routes. The assumptions used are set out in Table H.2.

Table H.2 On demand case study assumptions

Inputs		Suburb to Centre (Route A)	Fixed Route with Side Stops (Route B)	Satellite to Services (Route C)
Length of trip (km)				
	En-route	5.84	6.53	12.80
	Deadrunning	1.75	1.96	3.84
Duration of trip (minutes)				
	En-route	30	30	45
	Deadrunning	10	10	15
Number of passengers		5	2	4
For on-demand				
	Distance of detour (km)	4.36	3.02	4.1
	Added time from detour (minutes)	15	20	15

	Number of passengers on detour	3	8	4
Include in marginal cost				
	Dead-running	Yes	Yes	Yes
	Spare capacity	10%	10%	10%
	Fuel ($/litre)	1.28	1.28	1.28
	Maintenance	Yes	Yes	Yes
	Labour	Yes	Yes	Yes
	Overheads	100%	100%	100%
	Depreciation	0%	0%	0%
	Return on Assets and Tax allowance	0%	0%	0%
Vehicle		Toyota HiAce Commuter	Toyota HiAce Commuter	Toyota HiAce Commuter

Source: IPART Analysis.

Table H.3 On demand case study costs

Outputs		Suburb to Centre (Route A)	Fixed Route with Side Stops (Route B)	Satellite to Services (Route C)
Fixed route marginal cost				
	per route	$30.80	$31.03	$47.55
	per km	$5.27	$4.75	$3.71
	per passenger	$6.16	$15.51	$11.89
	per passenger km	$2.11	$4.75	$1.86
On demand marginal cost				
	per route	$11.94	$15.20	$11.87
	per km	$2.74	$5.03	$2.90
	per passenger	$3.98	$1.90	$2.97
	per passenger km	$1.83	$1.26	$1.45

Source: IPART Analysis.

We assumed that dead running is approximately 30% of the total fixed route based on an analysis of actual reporting under the current bus contracts. However, other assumptions such as journey time, allocation of total journey time to fixed versus on-demand components, and amount of time needed for the deadrun, are based on distance travelled. We also assumed that on average, a passenger on the detour (either in a roam zone or a side stop) is on the bus for 50% of that detour. This assumption holds well for side stop designs but less so for roam zones, particularly if roam zones are drawn over areas where houses are evenly spaced.

H.2.1 Vehicle type is 12-seat Toyota Hiace

We have assumed a 12-seat Toyota Hiace as the service vehicle for all the case studies. We consider that a 12 seat vehicle is appropriate to respond to potential demand spikes in a regional centre, especially as the on demand case studies also have fixed route components which must accommodate unexpected (and non-booked) passengers.

H.2.2 Spatial coverage within roam zones

Where a case study bus route has a roam zone, we have assumed that the driver takes the longest possible route through this zone. This increases the number of kilometres reported for the 'detour' component of on demand routes. We have chosen this approach because the exact kilometre distance of the route through the roam zone is uncertain, and it is more useful to estimate an upper bound to costs. The actual kilometres will depend on different factors including the number and location of bookings from within the roam zone and whether or not route optimisation software has been used.

H.2.3 Fixed route demand responses are not modelled

For on demand bus services there will often be a trade-off between the flexibility and reliability of the services. Highly flexible services with roam zones or door pickups add to the length and may increase uncertainty around the reliability of the journey time. This can trigger a cycle where patronage drops due to unreliable journey times, at which point the journey becomes more reliable with fewer passengers, hence stimulating patronage again. We have chosen Option 2a as a route type with potential in rural and regional NSW, because it can balance this trade-off by keeping the roam zone small and the on demand passengers spatially clustered.

Our modelling does not capture the relationship between the flexibility and reliability of the on-demand service. Generally, there is a trade-off between flexibility and reliability as highly flexible services add to the journey length and increase uncertainty about reliability and this in turn affects the level of patronage. We have assumed that the added journey time and decreased timing reliability have no effect on patronage for the fixed route component of the service.

H.2.4 Other cost considerations

Our model uses existing labour cost data for standard bus services. In most rural and regional areas, standard bus services do not operate after hours. We note that the costs of providing on demand services after hours are likely to be higher because of higher labour costs. Further, the model does not account for any marginal costs of booking, dispatch, payment, or other operating systems needed for on demand. As Chapter 7 discussed, we expect that these costs to decrease over time.

Our model does not account for the way in which a roam zone or any other flexible element may contribute to the deadrun. For late night services where most of the demand is for pickups in town and drop-offs in suburbs or villages without much or any patronage going the other way, the service would likely require a deadrun close to 100% of the route.

I Cross border fares

I.1 NSW–QUEENSLAND

Table I.1 Surfside Buslines (NSW) Fare Schedule ($)

	Adult fares				Pension/Child fares			
Zones	**Single**	**Daily**	**Off-Peak Daily**	**Off-peak Weekly**	**Single**	**Daily**	**Off-Peak**	**Weekly**
1	2.30	4.60	3.50	18.40	1.20	2.40	1.80	9.60
2	3.40	6.80	5.10	27.20	1.70	3.40	2.60	13.60
3	5.20	10.40	7.80	41.60	2.60	5.20	3.90	20.80
4	6.00	12.00	9.00	48.00	3.00	6.00	4.50	24.00
5	6.90	13.80	10.40	55.20	3.50	7.00	5.30	28.00
6	7.60	15.20	11.40	60.80	3.80	7.60	5.70	30.40
7	8.20	16.40	12.30	65.60	4.10	8.20	6.20	32.80
8	8.80	17.60	13.20	70.40	4.40	8.80	6.60	35.20
9	9.60	19.20	14.40	76.80	4.80	9.60	7.20	38.40
10	11.30	22.60	17.00	90.40	5.70	11.40	8.60	45.60
11	12.00	24.00	18.00	96.00	6.00	12.00	9.00	48.00
12	12.90	25.80	19.40	103.20	6.50	13.00	9.80	52.00
13	13.90	27.80	20.90	111.20	7.00	14.00	10.50	56.00
14	14.90	29.80	22.40	119.20	7.50	15.00	11.30	60.00
15	16.40	32.80	24.60	131.20	8.20	16.40	12.30	65.60
16	17.50	35.00	26.30	140.00	8.80	17.60	13.20	70.40
17	18.50	37.00	27.80	148.00	9.30	18.60	14.00	74.40
RED	2.50							

Source: http://www.surfside.com.au/tickets-and-fares/ accessed 23 April 2017.

Table I.2 TRANSLink (Queensland) – South East Queensland Adult fares ($)

Zones travelled	*go* card	*go* card off-peak	Single paper ticket
1	3.20	2.56	4.60
2	3.90	3.12	5.70
3	5.96	4.77	8.60
4	7.85	6.28	11.40
5	10.32	8.26	15.00
6	13.09	10.47	19.00
7	16.28	13.02	23.60
8	19.32	15.46	28.00

Note: Concession fares are 50% of the adult fares.

Source: https://translink.com.au/tickets-and-fares/fares-and-zones/current-fares, accessed 23 April 2017

I.2 NSW-ACT

Table I.3 Qcity Transit (NSW) Fare Schedule ($)

	One Way ($)		Return ($)	
Sections	**Full fare**	**Concession**	**Full fare**	**Concession**
1	2.20	1.10	4.00	2.20
2	3.20	1.60	5.80	3.20
3	4.00	2.00	7.20	4.00
4	4.70	2.30	8.50	4.60
5	5.30	2.60	9.50	5.20
6	5.90	2.90	10.60	5.80
7	6.40	3.20	11.50	6.40
8	6.90	3.40	12.40	6.80
9	7.40	3.70	13.30	7.40
10	7.80	3.90	14.00	7.80
11	8.00	4.00	14.40	8.00
12	8.30	4.10	14.90	8.20
13	8.40	4.20	15.10	8.40
14	9.00	4.50	16.20	9.00
15	9.40	4.70	16.90	9.40
16	9.70	4.90	17.40	9.80
17	10.10	5.00	18.20	10.00
18	10.40	5.20	18.70	10.40

a: Average section length is 1.6km.

Note: Qcity Transit indicated that with the exception of the first section, its fares are below the maximum fares set by the NSW Government.

Source: http://qcitytransit.com.au/fares-sections, accessed 24 April 2017.

Table I.4 ACTION Buses (Canberra) Fare Schedule ($)

	My Way Adult		MyWay Concession		Cash Fare[a]	
	Peak	**Off Peak**	**Peak**	**Off Peak**	**Adult single**	**Adult daily**
Fare	3.06	2.43	1.53	0.00	4.80	9.20
Weekday cap	9.20		4.60			
Weekend/ public holiday cap	5.59		2.07			

a Single cash fare tickets include 90 minute free transfer. Daily tickets are valid until midnight on the day of purchase.

Note: Free 90 minute transfer applicable for all tickets - enables connecting to a different bus or commencing a return journey using the same ticket.

Source: https://www.transport.act.gov.au/myway-and-fares, accessed 24 April 2017.

I.3 NSW-Victoria

Table I.5 Martin's Albury buses – Fare Schedule ($)

Section	Single Fares		Return Fares	
	Adult	Pensioner/Child/ Student	Adult	Pensioner/Child/ Student
1	2.30	1.10	4.40	2.20
2	3.20	1.60	6.20	3.10
3	3.90	1.90	7.60	3.80
4	4.00	2.00	7.80	3.90
5	4.10	2.00	8.00	4.00
6	4.20	2.10	8.20	4.10
7	4.30	2.10	8.40	4.20
8	4.40	2.20	8.60	4.30
9	4.50	2.20	8.80	4.40

Note: Martin's Albury buses notes that with the exception of the first section, all its fares are below the restraints set by the NSW Government.

Source: http://www.martinsalbury.com.au/ticketing/fares-sections, accessed 1 May 2017.

Table I.6 Wodonga - Albury Category A Fare Schedule ($)

Ticket type	Fare for one zone	Fare for two zones
Full Fare 2 hour	2.40	3.20
Concession 2 hour	1.20	1.60
Full Fare Daily	4.80	6.40
Concession Daily	2.40	3.20
Full Fare Weekly	22.40	32.80
Concession Weekly	11.20	16.00
Full Fare Monthly	94.80	134.40
Concession Monthly	47.40	67.20

Source: Victorian Fares and Ticketing Manual, Effective 1 January 2017, Regional Towns Bus Fares, Category A, p 129.

J Concession eligibility for public transport in NSW, Queensland, ACT and Victoria

Table J.1 Concession eligibility for public transport buses – NSW, Queensland, ACT and Victoria

NSW Rural and Regional	Sydney Metro (Opal network)	Queensland	ACT	Victoria
FREE TRAVEL				
Children				
▼ 3 and under	√	4 and under	5 and under	4 and under
▼ Primary/ secondary school students (SSTS)	√	√	√	√
Aged	-	-	ACT Seniors aged 70+	-
People with disabilities				
▼ Vision impaired persons plus attendant and guide dog	√	√	Permanent impairment and TPI Travel Pass	√
▼ Assistance Animals (Hearing Dog)	√	√		√
▼ Attendants for profoundly disabled persons	√	×	Not specifically mentioned	Not specifically mentioned
Veterans/ War Widow/ers				
▼ World War 1 veterans and wives /widows plus attendant	√	DVA Gold Cards embossed with Totally and Permanently Incapacitated (TPI) or Extreme Disablement Adjustment (EDA)	DVA Gold Cards with TPI or EDA plus attendant	DVA Gold Card with TPI or EDA (Victorian resident)
▼ Australian & New Zealand war veterans with service related disabilities and Department of Veterans Affairs (DVA) pension plus attendant	√			
▼ Blinded Soldiers plus attendant	√			
▼ People recognised for service to the State plus attendant	Not specifically mentioned			
▼ Companion accompanying person with profound disabilities of lifelong nature	Not specifically mentioned			
CONCESSION – Half fare				
Children/ Students				
▼ Primary and Junior Secondary Students 4-15	√	Children 5-14	All students of Australian institutions	Children 5-18
▼ Secondary students 16-18	√	√		
▼ Full-time University, TAFE, private college				

(16+) or full time School Students (19+)	√	√ (Queensland residents)		
Apprentices/Trainees				
Indentured Apprentice/Trainee	√	Post-secondary students residing in Queensland	Not specifically mentioned	Not specifically mentioned
Pensioners/Seniors				
▼ Seniors (all states/territories)	√	√	√	√
▼ Pensioners (Centrelink and DVA issued cards - all states/territories)	√	√	√	√
All Pensioners but only NSW Seniors also entitled to RED tickets[a]	Gold Opal			
Centrelink customers				
Jobseekers (on maximum benefit)	√	√	Not specifically mentioned	√
Asylum seekers				
Also entitled to RED ticket	√	√	Not specifically mentioned	√
NSW & Victorian War Widow/ers				
(with DVA card) Also entitled to RED ticket	√	Queensland residents with Gold DVA card	DVA Gold Card	DVA Gold or White Card

a RED ticket approved for services under a Rural and Regional Bus Service Contract that allows Approved Beneficiaries unlimited travel for that day on the Operator's contract bus services.

Note: Eligibility conditions may apply for some travel entitlements. As well, different transport concession authority cards may be issued by **d**ifferent jurisdictions. However, most Commonwealth Government-issued concession cards are accepted across jurisdictions.

Source: https://www.transportnsw.info/tickets-opal/ticket-eligibility; http://www.transport.nsw.gov.au/sites/default/files/b2b/bus/draft-rrbsc-medium-271115.pdf; https://www.transport.act.gov.au/__data/assets/pdf_file/0009/1041849/Concession-Cards-2017-A3-Poster-v1.pdf; https://translink.com.au/tickets-and-fares/concessions; https://www.ptv.vic.gov.au/search/getSearchForm?Search=concession&UserFilter%5B0%5D=0&UserFilter%5B1%5D=1&action_getSearchResults.x=0&action_getSearchResults.y=0; https://transportnsw.info/search/node?keys=gold+opal&=Search; accessed 24 April, 2017

K IPART bus passenger and operator surveys

We conducted online surveys of passengers and operators of rural and regional bus services. The surveys were posted on the IPART website and completed on an opt-in basis following the release of our May Issues Paper. 202 passengers and 78 bus operators completed the surveys. We have used these findings to inform our draft decisions and recommendations on fares and on demand services.

The sections below summarise the findings of IPART's online survey.

K.1 Bus passenger survey

Our bus passenger survey gathered information from local residents about the characteristics of their bus travel and sought feedback on the fare levels and how services could be improved, including the development of flexible bus services.

K.1.1 What we asked rural and regional bus passengers

We asked local residents about:

- the frequency and purpose of their travel by bus
- whether they travel using a concession card
- if they have school aged children, how often they travel to/from school using the School Student Travel Scheme (SSTS)
- whether there are any issues travelling by bus across borders
- views about the level of adult bus fares
- willingness to pay more for more convenience bus services (for example, flexible pick-up and drop-offs, booking a service with an app).

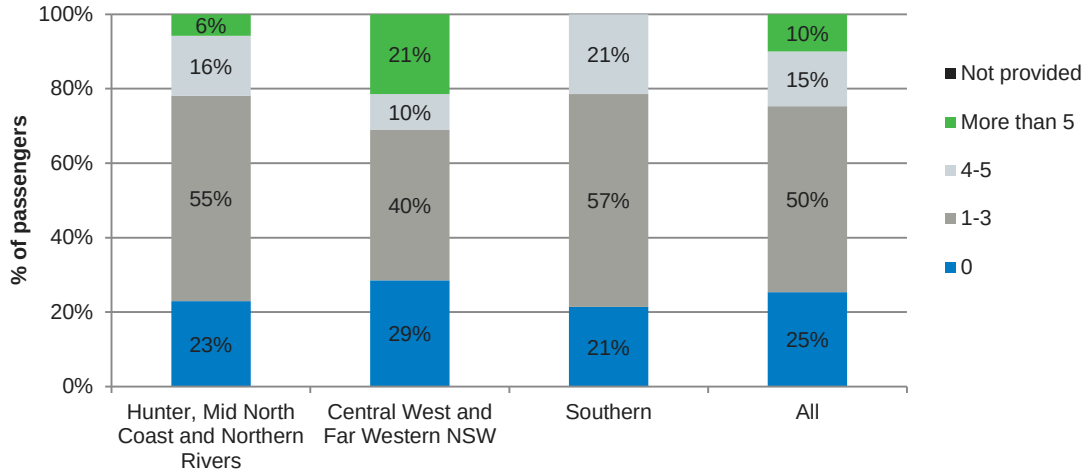
K.1.2 What are the key findings from the survey?

Most passengers use bus services 1-3 times a week

Figure K.1 shows that around 40% to 60% of the respondents across all regions said they use local bus services 1-3 times a week.[126] 21% to 31% use bus services at least 4 times a week.

[126] Responses from the Illawarra have been excluded, due to an insufficient number of responses from Illawarra (n=2).

Figure K.1 Frequency of travel by local buses in rural and regional NSW



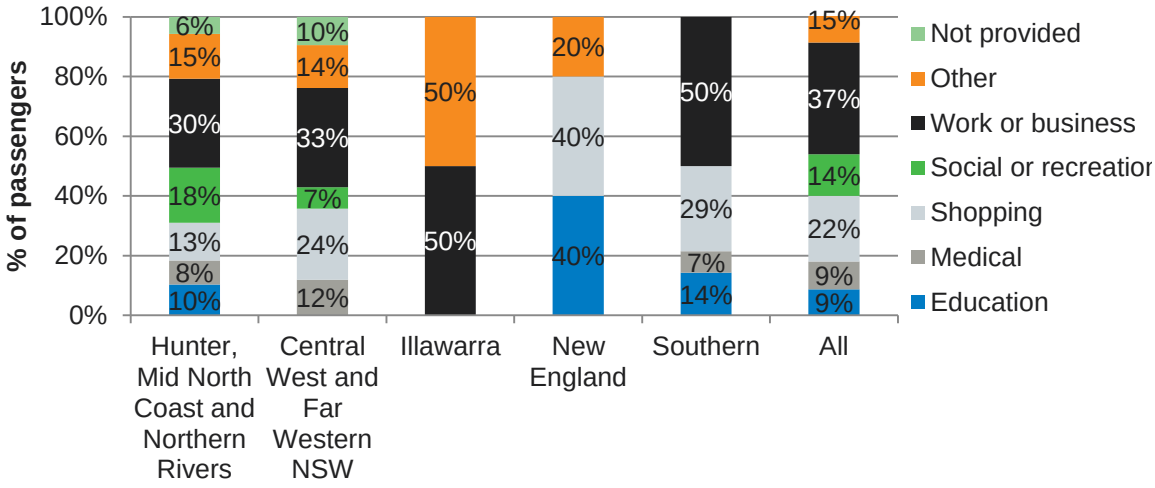
Note: There are an insufficient number of responses from Illawarra (n=2) and New England (n=5) to present the survey results at a regional level.

Data source: IPART rural and regional bus passenger survey, June 2017.

Most passengers use local bus services to travel for work, recreation and shopping

Passengers use local bus services for a range of reasons. They use buses to travel for work or business (37%), shopping (22%), social or recreation (14%), medical appointments (9%), and education (9%).

Figure K.2 Purpose of bus travel in rural and regional NSW



Note: There are an insufficient number of responses from Illawarra (n=2) and New England (n=5) to present the survey results at a regional level.

Data source: IPART rural and regional bus passenger survey, June 2017.

Across all regions, more than 50% of the respondents said that they use bus services to travel in or out of town. Some respondents answered they use bus services to travel across a border to a neighbouring state or territory, such as Queensland and Australian Capital Territory. Several issues were raised in relation to travelling across a border, such as

connectivity of services across border (eg, need to change bus), fare integration (eg, need to purchase different tickets to complete their journey or not being able to use the Opal card).

Most students use bus services every day to travel to/from school

We asked passengers whether they have school aged children and if so how often they travel to/from school using the School Student Travel Scheme (SSTS). Overall, 21% said they have school aged children using local buses to travel to/from school under the SSTS. Of these, more than 90% answered their child travel to/from school using the SSTS every day.

Passengers answered bus services were not good value for money

Overall, 47% did not consider their local bus services were good value for money.

K.1.3 How might local bus services be improved?

The survey respondents provided various ideas on how to improve local bus services. In general, the most common themes were:

- more regular bus services, including outside of business hours and on weekends
- more affordable fares
- more reliable bus services
- rural and regional bus services to be part of the Opal network
- buses running more direct routes and express bus services (for longer journeys)
- better connectivity with different buses and train
- improved services such as newer vehicles, more comfortable seating, and electronic ticketing system
- up-to-date information on bus routes and timetables
- flexible pick-up or set-down points, or on demand bus services using smaller buses, which are accessible via an app, and
- improved bus utilisation with smaller buses.

K.2 Bus operator survey

The bus operator survey gathered information on different bus operations, including the level of bus utilisation during peak and off-peak periods, and sought feedback on the development of more flexible bus services.

K.2.1 What we asked rural and regional bus passengers

We asked bus service providers who hold a rural and regional bus service contract with Transport for NSW (TfNSW) about:

- what bus services they provide

- how many buses they have
- how full bus services are on a typical day, and
- what are the constraints to services being provided more flexibly.

K.2.2 Who participated in this survey?

The surveys were conducted online following the release of our Issues Paper in May 2017. 78 rural and regional bus operators completed the survey.

The respondents were from a range of different regions, including Central West and Far Western NSW (42%), Hunter, Mid North Coast and Northern Rivers (14%), New England (18%), Southern (12%), and Murray-Murrumbidgee (12%). We did not receive any response from operators in the Illawarra region.

K.2.3 What are the key findings from the survey?

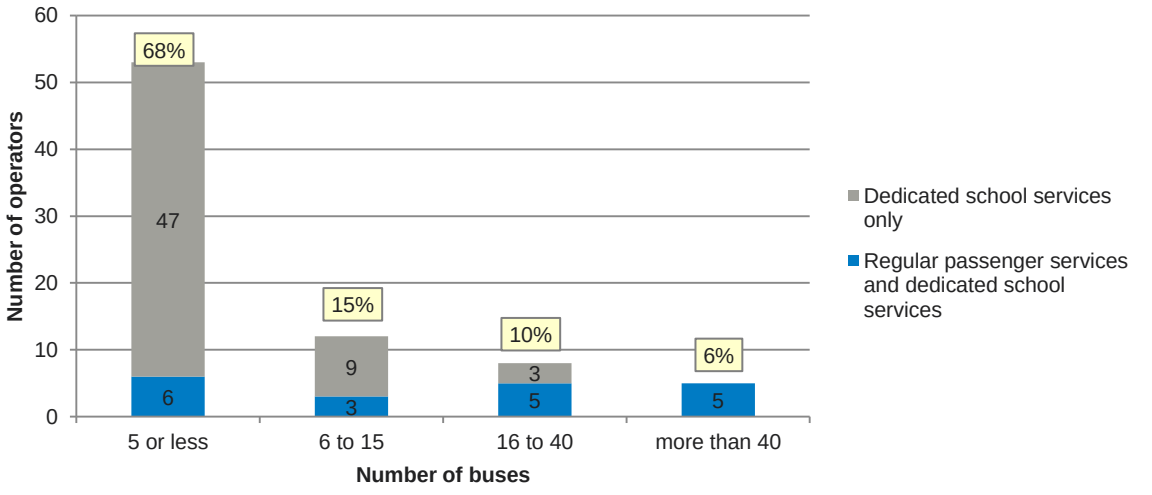
Most bus operators provide dedicated school services only

76% of the respondents said they provide dedicated school services only. The remaining 24% provide both dedicated school services and regular passenger services.

Most bus operators have no more than five buses

Figure K.3 shows that 68% of the respondents said they have no more than five buses in their fleet – these operators hold "Very Small" contracts with TfNSW. 15% hold "Small" contracts with six to 15 buses. 10% and 6% hold "Medium" and "Large" contracts, respectively. The majority of the "Small" and "Very Small" operators provide dedicated school services only.

Figure K.3 Number of buses in operators' fleet



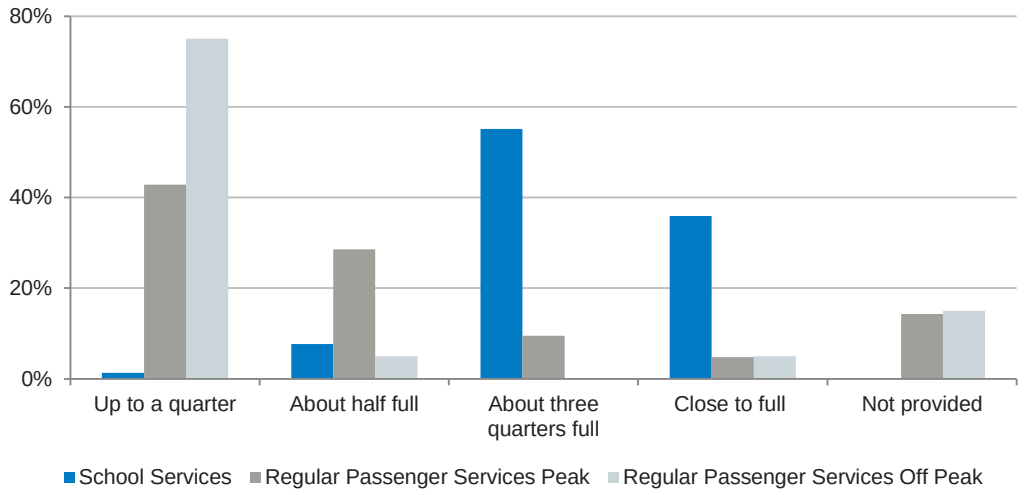
Data source: IPART rural and regional bus passenger survey, June 2017.

Most school bus services run more than 75% full unlike regular passenger services

55% of the respondents providing school services only said bus services are about three quarters full on a typical day. 36% answered school services run close to full capacity.

On the contrary, regular passenger services run less than half full on a typical day during both peak and off-peak periods. Of those operators providing regular passenger services in addition to dedicated school services, 43% said their regular passenger services run less than a quarter full on a typical day during the **peak period**. Only 5% said services run close to full during peak periods. During the **off-peak**, 75% said their regular passenger services run less than about a quarter full, and 5% said services run close to full during peak period.

Figure K.4 Bus utilisation for different services



Data source: IPART rural and regional bus passenger survey, June 2017.

K.2.4 What constraints the development of more flexible bus services?

We sought feedback on the development of more flexible bus services in rural and regional areas. In particular, we asked whether there are any constraints that could prevent the development of more flexible bus services in their respective regional areas.

While several respondents considered more flexible bus services would be well supported, some raised a number of issues including:

- Potential demand given the demographic and population profile: Some respondents said most people in rural and regional areas have their own vehicle and hence flexible bus services could be underutilised.
- Operational issues in terms of costs and finding qualified drivers willing to take on a split shift type of work:
- Handling multiple pick-up and drop-off bookings, and
- Possibly competing with the Community Transport Service for passengers.