

ON-DEMAND TRANSPORT SERVICES IN RURAL AND REGIONAL NSW



This Information Paper discusses on-demand public transport in rural and regional NSW. The Minister's referral for the review of rural and regional bus fares asks IPART to consider the development of on-demand services in regional areas.¹ On-demand public transport (also known as demand-responsive) differs from traditional public transport in that some aspects of the service vary according to customer needs and demand – for example it could be flexibility in departure time, pick-up point and/or drop-off point.

The introduction of on-demand services is supported by the NSW government's long-term transport strategy. This strategy includes the introduction of "flexible/demand-responsive public transport offering a mix of services", as part of its target to increase the use of public transport as a mode from 3 to 5%.²

The strategy states that flexible services in regional NSW will be targeted at regions or routes where services have long travel times or multiple interchanges and lack integration with other modes. They will also target first and last-mile connections to and from transit hubs.

The benefits and costs of on-demand services

On-demand transport benefits customers by responding more closely to their transport needs in terms of pick-up and drop-off locations, and in the timing of the service, reducing travel duration. Tailored pick-up and drop-off is of particular benefit to the elderly and others with limited mobility. Increasing transport mobility provides benefits to users directly in terms of enabling connections to services, education, jobs, and social interactions. In addition, it can benefit the community more broadly through increasing social inclusion and the benefits that flow from that.

Similarly, the NSW government transport strategy states that flexible transport "enables isolated customers to more meaningfully contribute to society through employment and community engagement and also provides access to basic services such as health and shopping in efficient and cost effective ways that are often not ordinarily available through regular scheduled services".³

Hensher has examined the role of public transport in reducing social exclusion in rural and regional Australia, noting that "people living in regions with poor mobility opportunities are at increased risk of social exclusion".⁴ He cites evidence that social exclusion increases the risks of divorce and separation, disability, illness, addiction and social isolation, forming vicious circles that deepen the predicament people face. He also suggests that reducing regional risks of social exclusion has many positive and important flow-on effects, noting that "a meta-analysis has shown connections between social relationships (particularly those with a social integration component) has an effect on improving length of life that is comparable to quitting smoking and exceeds other risks such as obesity and physical inactivity".⁵

¹ IPART, *Review of rural and regional bus fares from January 2021, Draft report*, October 2020, Appendix A.

² NSW Government, *Future transport 2056, Regional NSW services and infrastructure plan*, pp 48-49.

³ NSW Government, *Future transport 2056, Regional NSW services and infrastructure plan*, p 60.

⁴ Hensher, D, *Bus transport, Demand, economics, contracting, and policy*, 2020, p 413.

⁵ Hensher, D, *Bus transport, Demand, economics, contracting, and policy*, 2020, p 413.

The submission to the Issues Papers from Action for Public Transport (NSW) refers to work at the University of Melbourne which indicates that “a lack of transport choice in regional areas is a big factor in low rates of preschool attendance, low levels of educational attainment, and low levels of job readiness”⁶ Similarly, the NCOSS submission notes that for many transport disadvantaged people a lack of bus services is a cause of isolation and reduced educational and employment opportunities.⁷

These benefits should be included in considerations about the design of the public transport network in rural and regional areas, and in establishing appropriate fares. In fact, Hensher has suggested that social inclusion benefits could be valued at an estimated \$18.50 per passenger journey (in 2016 prices).⁸

On-demand buses could also be used to target specific issues of social concern such as youth homelessness. The Advocate for Children and Young People (ACYP) has proposed innovative solutions such as an after-hours bus to transport young people to safe drop-in areas or other services.⁹

On-demand services also incur costs including the bus infrastructure, fuel, labour, booking and scheduling costs (eg, website, phone app or phone staff), and overheads (such as office and depot rent). If services must be booked the day before, this may be less convenient for customers than a regular timetabled bus. The design of on-demand services may also introduce additional costs to customers.¹⁰

The additional benefits of on-demand services need to be assessed against any additional costs, and compared to alternatives such as retaining the existing service, changing the route or frequency of the existing service, or cancelling the service.

Even where there is net benefit in providing an on-demand service, it may require significant government funding to operate. In the context of government funding, it will be necessary to prioritise which on-demand services can be introduced.

⁶ Action for Public Transport (NSW) submission to IPART Issues Paper, August 2020, p 2.

⁷ NCOSS submission to IPART Issues Paper, August 2020.

⁸ Hensher, D, *Bus transport, Demand, economics, contracting, and policy*, 2020, p 413.

⁹ Advocate for Children and Young People submission to IPART Issues Paper, 7 August 2020, p 4.

¹⁰ For example, a ‘first and last mile’ on-demand service forces passengers to change transport mode – from the on-demand service to the regular bus service – which is less convenient than staying on one bus.

Willingness/expectation to pay for on-demand services

Orima undertook a survey for the 2020 review which looked at customers' willingness or expectation to pay for on-demand services, above the fare for a standard route service.¹¹ Most of those surveyed have not used an on-demand service so it was largely a theoretical question about how much customers thought they would be prepared to pay.

The majority of survey respondents would expect to pay between \$2 and \$5 more for a trip using on-demand bus service compared to a standard bus service. However, current users of on-demand services who were surveyed have somewhat lower expectations of how much extra they would pay for an on-demand service – a quarter were not willing to pay anything extra. By contrast only 5% of those who hadn't used an on-demand service expected it would cost no more than a route service.¹² It is possible that current on-demand customers expect to pay the same as a standard route service because to date almost all on-demand trials have not charged more than the standard fare for a route service.

Action for Public Transport (NSW) submitted that passengers should not be expected to pay an additional \$5 per trip unless it is point-to-point.¹³

Trials of on-demand services in rural and regional NSW

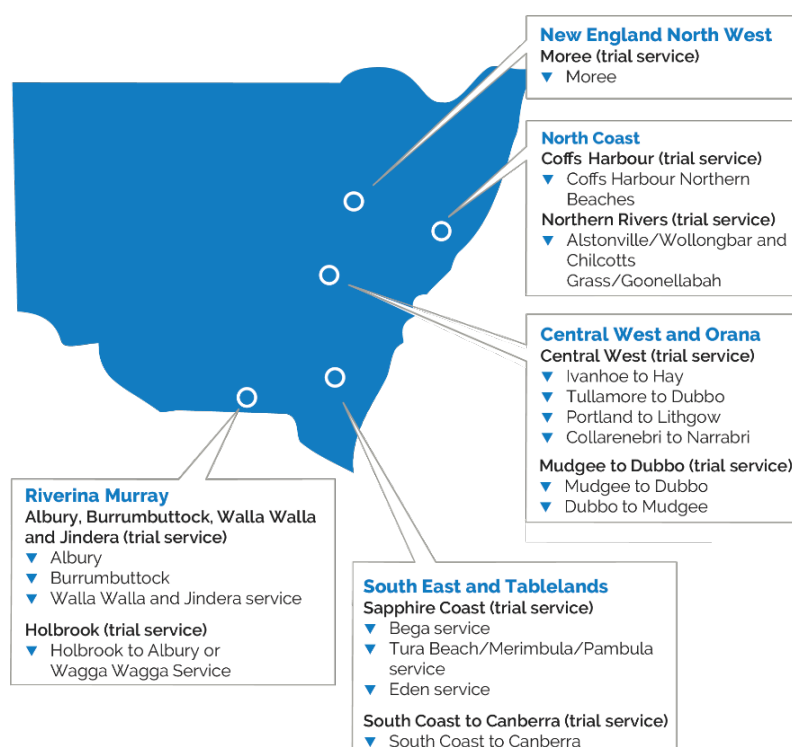
Since 2018 a number of trials of on-demand bus services have been running across rural and regional NSW, as shown in Figure 1.1. Our 2017 review recommended that operators be able to set an optional surcharge of up to \$5 (including GST) on top of the fixed route fare for on-demand components.¹⁴

¹¹ Orima Research, *Survey of rural and regional buses and on-demand transport services*, 21 August 2020, p 38.

¹² Orima Research, *Survey of rural and regional buses and on-demand transport services*, 21 August 2020, pp 38-39.

¹³ Action for Public Transport (NSW) submission to IPART Issues Paper, August 2020, p 7.

¹⁴ IPART, *Maximum fares for rural and regional bus services from 5 March 2018, Final report*, December 2017, p 5.

Figure 1 On-demand services operating in NSW as part of a trial

Source: TfNSW, *On demand public transport*, viewed 3 July 2020.

Table 1 provides further information on the types of on-demand services offered, which involve:

- ▼ Geo-fenced point-to-point services, where customers choose the pick-up and drop-off locations within a defined geographical area
- ▼ Village to town services, linking smaller towns to regional towns, and
- ▼ First-and-last mile services, which link customers to onward trunk route transport connections.

The trials also differed in other aspects such as:

- ▼ Whether they replaced existing route services (or part thereof), or augmented an existing service
- ▼ The frequency of the on-demand service, with some being most days for extended operating hours, and others operating only once or twice a week in the morning or the afternoon
- ▼ The technology used to book the service (phone, internet, phone app), and
- ▼ Whether they used latent (under-utilised) vehicles or required dedicated vehicles.

The trials were intended to run for 2 years, though some were discontinued after a shorter period of time. To date one trial service (the Moree service) has been made an ongoing service, and was put to competitive tender by TfNSW.

Table 1 Summary of rural and regional on-demand trials

Location	Type of service	Operator
1 Moree	Geo-fenced point-to-point service in Moree town. Also a first- and last-mile service from train station.	Reynolds & Fogarty
2 Northern beaches of Coffs Harbour	Geo-fenced point-to-point service	Forest Coaches
3 Northern Rivers – linking villages (Alstoneville/Chilcotts Grass) to Lismore/Ballina route	Geo-fenced point-to-point service and first- and last-mile service connecting to trunk bus route.	Buslines
4 Sapphire/South Coast (Bega, Merimbula, Eden, etc)	Geo-fenced point-to-point service with potential to replace route service	Sapphire Coast Buslines
5 Villages to Port Macquarie and Coffs Harbour	Village to town services	Busways
6 Moore Creek to Tamworth	Village to town services	Macphersons
7 South Coast to Canberra	Villages to regional town service offering flexible pick-up and drop-off points	Rixons
8 Villages to Albury	Village to town service	Regional buses
9 Villages to Wagga Wagga	Village to town service	Regional buses
10 Villages to Narrabri, Dubbo, Lithgow, Hay	Village to town service	Live Better
11 Mudgee to Dubbo via Gulgong	Village to town service.	Ogdens

Source: TfNSW, *On demand public transport, R&R learnings*, unpublished presentation, 28 May 2020.

Outcome of on-demand trials

TfNSW has not published a formal evaluation of the on-demand trials, but has undertaken internal analysis which shows that the trials have had differing success in attracting patronage and in the extent to which the costs of the service have been recovered.

Improved customer outcomes

In surveys by TfNSW the majority (62%) of on-demand customers have indicated that they are 'very satisfied' with the on-demand service.¹⁵ This exceeds the satisfaction levels of customers using traditional buses. The primary reason for overall satisfaction is the friendliness and helpfulness of the driver.

Over half the on-demand customers in rural and regional areas say they are making a lot more journeys than before on-demand was available, while a further third say they are making a few more journeys.

¹⁵ TfNSW, *On demand public transport, R&R learnings*, unpublished presentation, 28 May 2020.

A quarter of on-demand customers say they would not have made the trip if on-demand had not been available.

The majority of on-demand customers see on-demand as much better than any alternative including car, bus, train, rideshare and walking.

NCOSS has submitted that regional organisations support the trial services, and have “provided low income and vulnerable groups greater access to transport, and increased flexibility for households when accessing critical services”.¹⁶

Coffs Harbour City Council state that anecdotal evidence supports the on-demand trials undertaken in Coffs Harbour, and potential expansion elsewhere in the area.¹⁷

Pricing on-demand services

IPART’s 2017 review recommended that bus operators be allowed to charge a surcharge of up to \$5 for on-demand services, on top of the maximum fare allowed for a normal route service for the distance travelled.¹⁸ However, in general operators have not charged any surcharge, and in some cases charge well under the maximum fare allowed for the distance travelled.

The fares were negotiated with TfNSW as part of the design of the on-demand trials. In consultations some bus operators indicated they did not think it would be reasonable to charge a surcharge over route-based fares, particularly where:

- ▼ The on-demand service replaced the previous route service
- ▼ The area included a significant disadvantaged population, or
- ▼ Operators are trying to build patronage for a new on-demand trial service.¹⁹

BusNSW submitted that the appropriate fare for on-demand services is between a fixed bus route and a point-to-point service, and that people should be willing to pay more – the exception being where on-demand services replace a fixed route service, in which case fares should be in line with fixed route bus services.²⁰

¹⁶ NCOSS submission to IPART Issues Paper, 7 August 2020.

¹⁷ Coffs Harbour City Council submission to Issues Paper, 7 August 2020, p 7.

¹⁸ IPART, *Maximum fares for rural and regional bus services from 5 March 2018, Final report*, December 2017, p 5.

¹⁹ IPART meetings with Reynolds & Fogarty (7 August 2020) and Sapphire Coast Buslines (21 August 2020).

²⁰ BusNSW submission to IPART Issues Paper, 7 August 2020, p 15.

Impact on patronage

TfNSW has collected data on the number of passenger trips made on each of the on-demand services involved in the trial. These data indicate that some of the on-demand trials have been more popular than others. The on-demand service in Moree has been the most popular service, growing to about 5,000 passenger trips per month towards the end of 2019.²¹ This compares to patronage of less than 250 passenger trips per month on the previous bus route services which were replaced by the on-demand service (excluding school students).²² It implies there was significant latent (unmet) demand for transport existing before the on-demand service was introduced.

Patronage in all the trials tended to grow over the months following their introduction, indicating that it took time for customers to be made aware of, and take advantage of the service. Patronage has declined on most services over early 2020, coinciding with the coronavirus pandemic.

Some trials have not seen significant uptake by customers and this will provide insights to TfNSW and bus operators in terms of the type of on-demand services that are likely to be successful.

Type of fares being used for on-demand services

Data from TfNSW indicates that a significant proportion of customers using on-demand services purchase concession tickets or RED tickets, though this varies somewhat from one on-demand service to another.²³ Patronage on route services in rural and regional NSW also include a significant proportion of concession tickets and RED tickets.²⁴

Impact on other services

On-demand services may:

- ▼ Increase the number of journeys made by customers (meeting latent demand for transport)
- ▼ Replace journeys that would have been made on the pre-existing bus route service, or
- ▼ Replace other forms of transport such as car, walking, or taxis and rideshare services.

There is limited information available on the impact of the on-demand trials on the use of other forms of transport. Informal feedback suggests that the introduction of on-demand services in Moree reduced the demand for taxi services in that area.²⁵

²¹ TfNSW. *On demand public transport, R&R learnings*, unpublished presentation, 26 May 2020.

²² Previous route patronage from data provided by TfNSW under s22 request.

²³ TfNSW, *On demand public transport, R&R learnings*, unpublished presentation, 26 May 2020.

²⁴ IPART, *Review of rural and regional bus fares from January 2021, Draft report*, October 2020, p 8.

²⁵ IPART meeting with TfNSW, 18 May 2020.

As a highly flexible point-to-point service the Moree on-demand service is likely to be a reasonable substitute for taxi trips within the service area, and within the service times. Nonetheless, taxis provide greater flexibility because the on-demand service must be booked at least a day ahead, is not available in the evenings, and may involve sharing the vehicle with other customers. Furthermore, given the high proportion of passenger trips using concession fares, it seems likely that a significant proportion of customers increased the number of journeys they made, rather than substituting trips they would otherwise have made via taxi.

The potential for subsidised on-demand services to replace (to some extent) non-subsidised forms of transport highlights the importance of considering competitive neutrality when introducing on-demand services. TfNSW has indicated that ongoing on-demand services will be offered for competitive tender, to allow other bus operators and transport providers to bid to provide the service, and we support this approach.

Cost per trip and cost recovery

There is a significant variation in the gross cost per passenger trip reported by TfNSW.²⁶ In part these cost differentials reflect differing trip distance and duration (eg, a maximum 6km trip in Moree compared to almost 150km from the South Coast to Canberra). However, the cost per trip is also highly dependent on patronage – popular services improve utilisation and reduce the cost per trip. BusNSW has submitted that “the general experience in on-demand trials is that the cost per passenger journey is much higher than fixed route bus services”.²⁷

The cost recovery (from fares) for the on-demand trials has also varied significantly. We do not have information comparing the cost of each on-demand trial (in terms of payments from TfNSW) compared to the contract payments in relation to the previous route services that were replaced. Any increase in cost needs to be balanced against the increase in patronage (and associated customer benefits) offered by the on-demand service.

²⁶ TfNSW, *On demand public transport, R&R learnings*, unpublished presentation, 26 May 2020.

²⁷ BusNSW submission to IPART Issues Paper, 7 August 2020, p 14.

Conclusions on-demand trials

We have not undertaken a detailed evaluation of the on-demand trials. However, we note that the information provided by TfNSW suggests that:

- ▼ The trials attracting the highest patronage (as a percentage of the local population) are the Moree, Coffs Harbour and Sapphire Coast services. These services offer:
 - Point-to-point flexibility for pick-up and drop-off
 - A geo-fenced area of service (ie, service anywhere within a defined geographical zone)
 - Availability of RED concession tickets, and
 - 6-7 day service (for either half or the full day).
- ▼ The trials recovering the highest proportion of costs are the Moree, villages to Albury, and Coffs Harbour services.

Some trials were costly (in terms of cost per trip) and did not attract patronage. TfNSW and operators need to undertake further analysis to understand why these trials did not meet customer needs, or how they could be improved. As noted by BusNSW,

On-demand services should not be viewed in isolation, but as part of an integrated transport network. Experience has shown that on-demand services require a degree of trial and error to find the right level of service and integration with other transport services in each community.²⁸

²⁸ BusNSW submission to IPART Issues Paper, 7 August 2020, p 16.