

Prioritising the bus: Low cost, high impact

Millions of trips are typically made by Perth and Peel residents on bus services each month to access work, study and essential services and community facilities. Yet many popular high frequency bus services operate along congested roads, hindering their potential to move more people, more efficiently. Increasing priority on high frequency bus routes is a proven low cost, high impact means of enhancing the attractiveness of the humble bus and getting more out of our roads and public transport system.

Perth's public transport system plays a major role moving people around our city and this will need to continue to grow and evolve with our city. By 2031, it is expected to cater for almost half a million trips each weekday, nearly 40 per cent more than today¹.

While buses carry more than half of all public transport trips in Perth currently, they have the potential to play an even greater role in moving people. Perth currently has the second lowest proportion of work trips by bus of any capital city in Australia² and we will continue along this road if appropriate action is not taken.

Following COVID-19's dramatic impact on travel patterns and public transport patronage in Perth, it is now more important than ever to find proven ways to improve the attractiveness of public transport while also ensuring people feel safe to travel.

Funding bus priority initiatives along high frequency corridors can improve travel times and reliability, boost patronage and reduce operating costs.

It's time to roll out the 'red carpet' for buses...

The important role of Perth's buses

Although the spotlight has been on Perth's rail network in recent years, buses remain the heavy mover and a vital component of Perth's public transport system. Our bus network performs an important feeder service to rail stations, provides high frequency services to and from the Perth Central Business District (CBD), and connects local centres to enable improved mobility for many in our communities.

RAC's recent Pulse of Perth study³ showed that of the 360,000 passengers that boarded our public transport system on an average weekday, more than half (55 per cent) were people using buses. Of these, almost 28,000 bus trips were made between 7AM and 8AM. This represents approximately 23,000 less cars on the road during the morning peak hour, which is the equivalent of 10 freeway lanes of traffic⁴.

Average morning peak hour

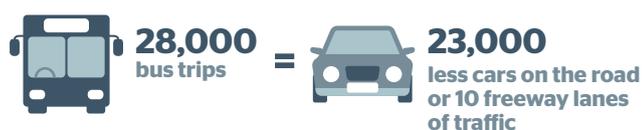


Figure 1 - Key Pulse of Perth patronage statistics

Bus services are expected to become increasingly important for our future travel needs due to Perth's population growth. The 2019 Australian Infrastructure Audit⁵ found that by 2031, bus boardings in Perth are estimated to grow by 40 per cent with significant crowding expected on major routes. Without action the annual cost of this crowding is expected to increase nearly ten-fold, from \$17 million in 2016 to \$159 million in 2031.

67% of Perth and Peel residents ranked expansion of public transport services within and around the Perth CBD as the top priority for investment to manage additional travel created by population growth (followed by more high frequency public transport corridors, 66 per cent)⁶.

Doing more with less

On a cost per passenger basis⁷ (Figure 2), Perth's high frequency '900 series' bus services⁸ typically carry passengers at approximately half the cost of our rail services, with the 950 bus service carrying passengers at less than a quarter of the cost per boarding^{9,10}. This is achieved with only a fraction of the upfront capital expenditure that is required for rail.

Transperth operational costs per boarding

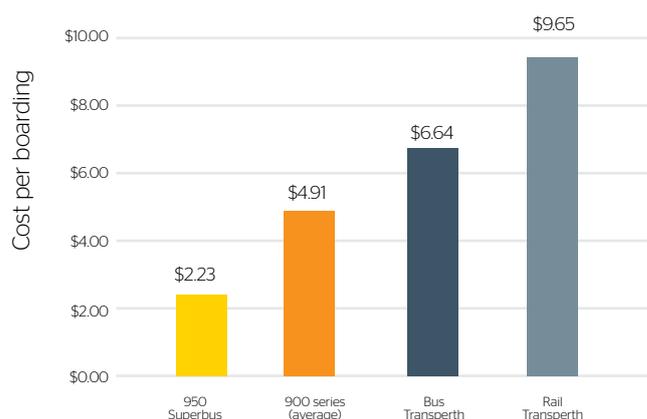


Figure 2 - Transperth operational costs per boarding⁷⁹

1 Infrastructure Australia (2019). "Australian Infrastructure Audit 2019". <https://www.infrastructureaustraliagov.au/publications/australian-infrastructure-audit-2019>

2 Data retrieved from ABS 'TableBuilder'

3 Using aggregated SmartRider data provided by the Public Transport Authority from across an average week in October 2017 determined patronage for a 'typical weekday'.

4 Austroads (2017). "Guide to Traffic Management Part 3: Traffic Studies and Analysis". <https://austroads.com.au/publications/traffic-management/agt3m03>

5 Infrastructure Australia (2019). "Transport Modelling Report for Perth". <https://www.infrastructureaustraliagov.au/sites/default/files/2019-08/Transport%20Modelling%20Report%20for%20Perth.pdf>

6 RAC (2019). "Urban Planning and Connected Communities survey". <https://rac.com.au/about-rac/advocating-change/getting-around/urban-planning/survey-results>

7 Public Transport Authority WA (2019). "Annual Report 2018-19". https://www.ptawa.gov.au/Portals/29/AnnualReport/PTA_Annual_Report_2019.pdf

8 Transperth (2020). "High Frequency Bus Corridors". <https://www.transperth.wa.gov.au/JourneyPlanner/High-Frequency-Bus-Services>

9 Western Australia Auditor General (2017). "Planning and Management of Bus Services". https://audit.wa.gov.au/wp-content/uploads/2017/11/report2017_23-Buses.pdf

10 Public Transport Authority WA (2019). "Annual Report 2018-19". https://www.ptawa.gov.au/Portals/29/AnnualReport/PTA_Annual_Report_2019.pdf

Catering for bus priority

While the seven bus routes in the 900 series are popular and provide direct services linking key destinations with the Perth CBD, many operate with minimal priority. When buses are caught in congestion and experience other delays it limits their ability to move more people more efficiently and impacts their attractiveness to potential passengers.

Buses need to be viewed as reliable and offering a time competitive alternative to the private car to encourage people to make the switch.

53% of regular public transport users in Perth and Peel currently believe buses are reliable (compared to 73 per cent in 2020)¹¹.

Bus priority gives buses the right-of-way over general traffic, reducing delays and improving service reliability and travel time for passengers. Bus priority treatments can include:

- » Full-time 24-hour bus lanes;
- » Peak direction bus lanes (e.g. inbound lanes 6:30am-9am and outbound lanes 4pm-6pm);
- » Queue-jump facilities at signalised intersections;
- » Bus-only bridges; and
- » Intelligent transport systems to enable buses to 'talk' to traffic lights.

Beyond improving service quality for passengers, bus priority can also provide many operational benefits. Separating buses from traffic can reduce the number of buses needed to operate a high frequency service. This reduces service running costs and allows buses to be used on other routes or to further increase frequency.

The next level of priority provided for buses is bus rapid transit (BRT). A BRT system brings together a range of bus priority treatments, but BRT systems are a step-change. They typically have dedicated bus lanes with traffic signal priority or separated busway infrastructure for most of their route and they can also feature branded buses and stops and off-board ticketing. The design can be flexible, and BRT can be introduced into constrained urban corridors.

Bus priority in action

The USA National Association of City Transportation Officials (NACTO) has shown that a bus lane can carry three to four times more people than a mixed traffic lane with frequent buses¹². Austroads recently evaluated several Australian case studies¹³ where on-road bus priority has been installed and found that even low cost projects can deliver significant travel time improvements for buses.

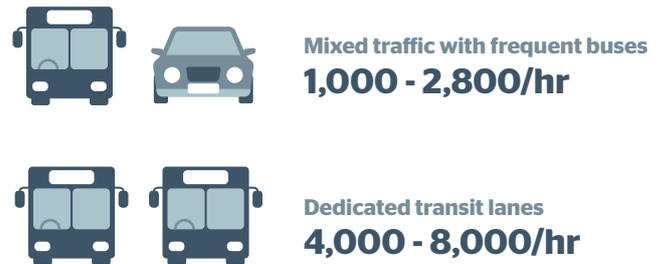


Figure 3 - Capacity of traffic lane to move people with and without a transit lane¹⁴

Getting quick runs on the board

Cities in the US have started to pilot 'tactical transit lane' projects as a low cost and 'quick win' solution. A project in Boston used parking cones to separate six bus services from general traffic along a heavily congested two kilometre stretch of road for a one-month trial. During the most congested hour, bus travel times improved by 20 to 25 per cent¹⁵. The City has since approved the installation of a permanent bus lane due to overwhelming public support.



Photograph: TransLink

¹¹ RAC Member Priorities Tracker, February 2020 and March 2021. Regular public transport users were classed as those who use it once a week or more.
¹² National Association of City Transportation Officials (2020), "Transit Street Design Guide", <https://nacto.org/publication/transit-street-design-guide/introduction/why/designing-move-people/#>
¹³ Austroads (2017), "Prioritising On-Road Public Transport", https://austrroads.com.au/publications/network/ap-r550-17/media/AP-R550-17_Prioritising_On-road_Public_Transport.pdf
¹⁴ National Association of City Transportation Officials (2020), "Transit Street Design Guide", <https://nacto.org/publication/transit-street-design-guide/introduction/why/designing-move-people/#>
¹⁵ City of Boston (2018), "Permanent Bus Lane to be Established on Washington Street in Rosindale", <https://www.boston.gov/news/permanent-bus-lane-be-established-washington-street-rosindale>

There are already some great examples of where bus priority initiatives have been successful in Perth and there are more such opportunities to be seized. The Charles Street Bus Bridge and bus lanes leading to Perth's Underground Busport (which uses an innovative dynamic stand management system) for example was estimated to save passengers from the northern suburbs around six minutes each journey¹⁶.

Building the case for bus lanes: Beaufort Street

In 2014 bus lanes were installed on 4.8km of Beaufort Street at an estimated cost of \$14 million, complementing the introduction of the new Route 950 'Superbus' which connects the strategically important centres of Morley and UWA/QEII (via the Perth CBD) which are not directly served by Perth's rail network.

- Route 950 achieved 17,000 boardings per weekday two months after opening, a 39 per cent uplift on the previous year's boardings on the four routes it replaced.
- In 2018 buses carried about 39 per cent of people on that section of Beaufort Street but only represented 6.5 per cent of vehicles¹⁷.
- On average during the morning peak buses going towards the city¹⁸ experienced a travel time saving of 7 minutes and 25 seconds and improved travel time reliability by 65 per cent due to the bus lanes¹⁹.

Increasing return on existing investment

Accelerated delivery of bus priority infrastructure is required to provide improvements to service quality, reliability and travel time, helping to increase patronage, boost fare revenue and reduce pressures around the growth of the government subsidy. According to the 2020-21 State Budget, 76 per cent of the cost to operate public transport services in Western Australia is subsidised. A recent WA Auditor General Report²⁰ highlighted the need for strategies that help facilitate bus priority measures in a timely manner to boost patronage and enable bus services to be operated more cost effectively. In response, the Public Transport Authority (PTA) identified installation of bus priority lanes as a key initiative to improve patronage. While 24 high frequency public transport corridors have since been reviewed²¹ and 10 underperforming routes considered to have the highest potential bus priority benefit were identified for further investigation²², no timeframes or funding commitments have been established.

"It is important that future mass transit corridors and public transport infrastructure are identified and bus priority measures are implemented."

- WA Auditor General's Report: Planning and Management of Bus Services

With only \$393,000 allocated for bus priority projects in 2020-21 and nothing beyond this currently committed²³, while other Australian cities are ramping up investment in their bus network, we seem to have hit a road block.

Prioritising investment in bus priority

Brisbane has a world-class BRT system and buses across South East Queensland carry more than twice the number of passengers than by rail, with over 117 million bus trips in 2018-19²⁴. Ongoing major investments in Brisbane's BRT system demonstrates the importance of busways to Brisbane's transport system and commitment from all levels of Government to improve transit services for the benefit of the community.

Public transport and COVID-19 - bus priority's role

Due to the impact of COVID-19 on travel patterns across Perth, there was an 82 per cent decrease in patronage for buses in April 2020 compared to the same time the previous year.

In May 2020, RAC surveyed its members to learn about their travel behaviour and attitudes towards public transport due to COVID-19. RAC found 1 in 2 (45 per cent) of members were worried taking public transport may impact their health.

RAC asked members this question again in March 2021 and found that only 20% are now worried, and only 6% of those who took public transport less often in the last year identified health concerns as the reason.

PTA data from March 2021 shows patronage on buses is now only down by 16 per cent compared with March 2019. There is still room for improvement and bus priority can provide the extra boost needed to encourage more people to take public transport, more often.

16 Minister for Transport; Planning (2017), "Improved bus journey times for northern suburbs passengers", <https://www.mediastatements.wa.gov.au/Pages/McGowan/2017/06/Improved-bus-journey-times-for-northern-suburbs-passengers.aspx>

17 Public Transport Authority (2018), "Public Transport: Major Road Corridor Review 2018", <https://www.ptawa.gov.au/about-us/working-with-the-pta/urban-design-and-planning-guidelines>

18 Services between Morley Shopping Centre and WA Museum

19 Public Transport Authority (2018), "Public Transport: Major Road Corridor Review 2018", <https://www.ptawa.gov.au/about-us/working-with-the-pta/urban-design-and-planning-guidelines>

20 Western Australia Auditor General (2017), "Planning and Management of Bus Services", https://audit.wa.gov.au/wp-content/uploads/2017/11/report2017_23-Buses.pdf

21 These corridors are consistent with existing "high-frequency public transit" corridors and aspirational "high-priority public transit routes" identified for the development of Perth and Peel@35million strategic frameworks and Perth and Peel@35million: The Transport Network plan in March 2018.

22 Public Transport Authority (2018), "Public Transport: Major Road Corridor Review 2018", <https://www.ptawa.gov.au/about-us/working-with-the-pta/urban-design-and-planning-guidelines>

23 Government of Western Australia (2020), "2020-21 WA State Budget Statements Part 9 Transport", <https://www.ourstatebudget.wa.gov.au/2020-21/budget-papers/bp2/2020-21-wa-state-budget-bp2-part9.pdf>

24 Queensland Government (2019), "TransLink Tracker quarterly report - April to June (Q4) 2018 - 2019", <https://www.publications.qld.gov.au/dataset/translink-division-quarterly-reports/resource/31643189-648d-4d83-b10b-3356969859a9>

What can be done?

RAC calls on the Government to progress the planning and delivery of bus priority to complement and maximise the benefits of committed investment in expanding the rail network, and to support more connected and liveable communities and the sustainable growth of Perth. Key recommendations include:

» Empower strategic planning for bus priority

The Department of Transport with its strategic transport planning function, should be empowered to have greater responsibility for decision making relating to road use priority on key urban corridors to better balance the competing priorities between State Government transport agencies (including PTA and Main Roads WA). These competing priorities were noted by the Auditor General's Report as contributing to extensive delays in delivering bus priority measures. The development of road network operations plans with specified service goals for all road user groups reflective of the movement and place functions of corridors would aid decision making.

» Develop and fund a bus priority plan

Commit funding to plan and deliver a network of bus lanes and other bus priority treatments at suitable locations along 900 series and other high frequency bus corridors building on the findings from the PTA's Major Road Corridor Review. Locations should be prioritised to support the efficient movement of people while also ensuring good access to areas of high demand such as activity centres, train stations and mixed-use developments.

» Trial innovative, quick win, low cost solutions

Identify locations to trial 'tactical transit lanes' along short sections of road for high frequency services without formal bus priority to fast-track improvements and demonstrate the benefits.

» Develop and fund a BRT program

Building on the proposed high-priority transit routes identified in Perth and Peel@3.5million: The Transport Network plan, resource and fund planning and project development activities to identify and progress a BRT network including branded stops and services to support enhanced passenger experience and increase patronage. Providing strong connections to major activity centres, particularly through the inner and middle suburbs, should be a key priority.

» Promote service improvements

Investment in public transport should be supported by effective marketing, promotion and travel behaviour change initiatives to help drive increased patronage and maximise the benefits.

About RAC

RAC is a purpose-led member organisation and represents the interests of more than 1.1 million members across more than 60 per cent of Western Australian households. For more than 115 years, RAC has existed to be a driving force for a better WA by championing change that will deliver transport options that are safe, more sustainable and that better connect Western Australians and their communities now and in the future.

For further information please
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