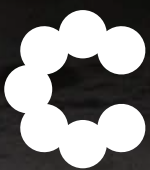# Plan B: Better buses for Sydney

Committee for Sydney

Acknowledgement of Country

The Committee for Sydney acknowledges Aboriginal and Torres Strait Island peoples as the traditional custodians of the land. Sovereignty was never ceded: this was, and always will be, Aboriginal land.

Cover image source: Transit Systems NSW.

This page: Depot, credit Tom Payne

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Executive summary

>

Buses are an important asset to any city. But in Sydney buses have been underappreciated by passengers, planners and government alike.

This report is focused on raising the bar for buses in Sydney, so they reach their full potential and help Sydney and its residents to reach theirs.

There has long been an almost apologetic element to bus planning that says buses are not as important as other mass transit modes, and that we should therefore accept lower standards for buses.

This is seen in service level assumptions, like half hourly or hourly services in off-peak and weekend times, that would never be considered for Metro, Trains or Light Rail. It is also seen in the lack of bus priority infrastructure, like bus lanes.

The outcome of low bus service levels and limited bus priority infrastructure is poor public transport accessibility for people in Sydney who don't live near Metro, Trains or Light Rail stations – most notably in Greater Western Sydney.

This report calls for a rapid bus network across Sydney, as well as an increase in bus service frequency and route directness

across the city, but particularly in Sydney's west and south-west.

Addressing the inequality of bus services in Sydney, and the associated inequality of public transport accessibility, will create a myriad of benefits. Better bus services will increase people's access to education, employment, services and social activities.

Better bus services will also increase the amount of time people can spend with their family, rather than commuting, and will enable more people to get out of their car and onto the bus.

Ultimately, better buses will help ensure a more economically and environmentally sustainable Sydney for current and future generations.

We can't afford to lock in car dependency and the associated negative outcomes on places and the environment, so shifting more trips to buses is essential.

To raise the bar for buses in Sydney we need to ensure the bus network and services are more adaptive, effective and attractive. These three outcome-based principles are used to frame the recommendations in this report.

The good news is that momentum is building for better buses in Sydney. Like the Committee for Sydney, the NSW Bus Industry Taskforce is also working on recommendations to Government on how to improve and increase bus services in Sydney.

The NSW Government's focus on Transport Oriented Development (TOD) presents a significant opportunity to better link and integrate bus planning with land use planning. While the TOD program currently focuses on housing supply around rail stations, this report highlights the possibility for uplift around bus corridors and hubs.

This report presents a holistic vision and approach for what is needed to make buses more adaptive, effective and attractive. It does so while recognising that some of these outcomes are dependent on issues that are outside the scope of this report – such as bus driver shortages and the transition to zero emission buses.

The Committee for Sydney recognises the importance of addressing these broader issues. They have not been included in detail in this report as addressing them comprehensively requires broader economic and regulatory reform. This is something the Committee for Sydney may address in future reports.

The focus of this report is how to improve bus service standards and legibility, adhere to long-term strategies and plans, increase reliability and frequency, integrate with the transport network and land-use planning, and refresh and revive buses and bus stops – all of which will

ultimately revive the bus's social license and lift people's level of public transport accessibility across Sydney.

This report seeks to raise the bar for buses in Sydney, so they reach their full potential and create opportunities for Sydneysiders, not obstacles.

"Transport certainly can make or break your future. It can create opportunities or create an obstacle." *Resident in Willmot, NSW*

Image source: Transit Systems NSW

This report seeks to raise the bar for buses in Sydney, so they reach their full potential and create opportunities for Sydneysiders, not obstacles.

Summary and prioritisation of recommendations

Recommendation	Actions	When	Effective	Adaptive	Attractive
1. Create a legible service	1.1. Define and publicise a bus hierarchy and associated service standards	Now	●		●
	1.2. Review and simplify the bus numbering convention	Now	●		●
	1.3. Make all tier one services yellow (or pick a colour)	Next			●
	1.4. Upgrade or replace PTIPS	Now	●		●
2. Adhere to long-term strategies and plans	2.1. Adopt a mode-share target for Greater Sydney	Now	●		
	2.2. Plan for a tier one rapid bus network in Sydney	Now	●		
	2.3. Develop a business case for the tier one bus network	Now	●	●	
	2.4. Create a delivery agency for the tier one bus network	Next	●		
	2.5. Review the bus network every five years	Now	●	●	●
3. Lift frequency and reliability with bus priority	3.1. Increase the frequency and hours of operation of all bus services	Now	●		●
	3.2. Legislate the road user space allocation policy	Now	●		●
	3.3. Update the Bus Priority Infrastructure Planning Toolbox	Now	●	●	●
	3.4. Review and expand the Bus Priority Infrastructure Program	Now	●	●	●
	3.5. Expand the use of signal priority for buses	Next	●		●

Recommendation	Actions	When	Effective	Adaptive	Attractive
4. Integrate with the wider transport network	4.1. Optimise the bus network before new rail lines open	Now	●		
	4.2. Western Sydney Airport rapid buses need to be expanded and integrated	Now	●		
	4.3. Trial bike racks on buses in Sydney	Next	●		
	4.4. Install bike parking at major bus stops	Now	●		
	4.5. Make sure bus stops are accessible by footpath	Next	●		
	4.6. Exceed Disability Discrimination Act standards for bus stops	Now	●		
5. Integrate with land-use planning	5.1. Align accessibility and density	Now			●
	5.1. Create strategic bus hubs as part of the TOD program	Now			●
	5.2. Increase first and last mile solutions in areas with low walkability	Next	●		●
	5.3. Ensure new development prioritises access to buses	Now	●		
	5.4. Ensure new developments have bus services from day one	Now	●		●
	5.5. Diversify the bus fleet	Next	●	●	●

Recommendation	Actions	When	Effective	Adaptive	Attractive
6. Refresh the bus	6.1. Do everything possible to meet the 2035 electrification target	Now	■		
	6.2. Gradually reduce the age of the bus fleet	Next			■
	6.3. Create bus capacity guidelines	Next			■
	6.4. Ensure all buses have real time information screens and audio	Next	■		
	6.5. Ensure all buses have free wi-fi and USB charge points	Next			■
	6.6. Consider updating seat-covers to evoke Sydney's identities	Later			■
7. Design and deliver respectable bus stops	7.1. Pay for, upgrade and standardise bus stops across Sydney	Next	■		
	7.2. Install real-time information screens at more bus stops	Next	■		
	7.3. Finish rolling out B-poles as a priority	Now	■		
	7.4. Set up a bus stop maintenance program	Next	■		
	7.5. Increase amenity at major bus stops	Later	■		
	7.6. Make some bus stops for birds and bees	Next	■		
	7.7. Allow buses to stop anywhere after 11pm	Now	■		
8. Revive the bus's social license	8.1. Promote catching the bus	Now			■
	8.2. Celebrate festivities with the bus	Now			■
	8.3. Develop internal communications about the importance of the bus	Now	■		■
	8.4. Make bus service and network data publicly available	Now	■		■
	8.5. Make Sydney buses a legacy	Now	■		■
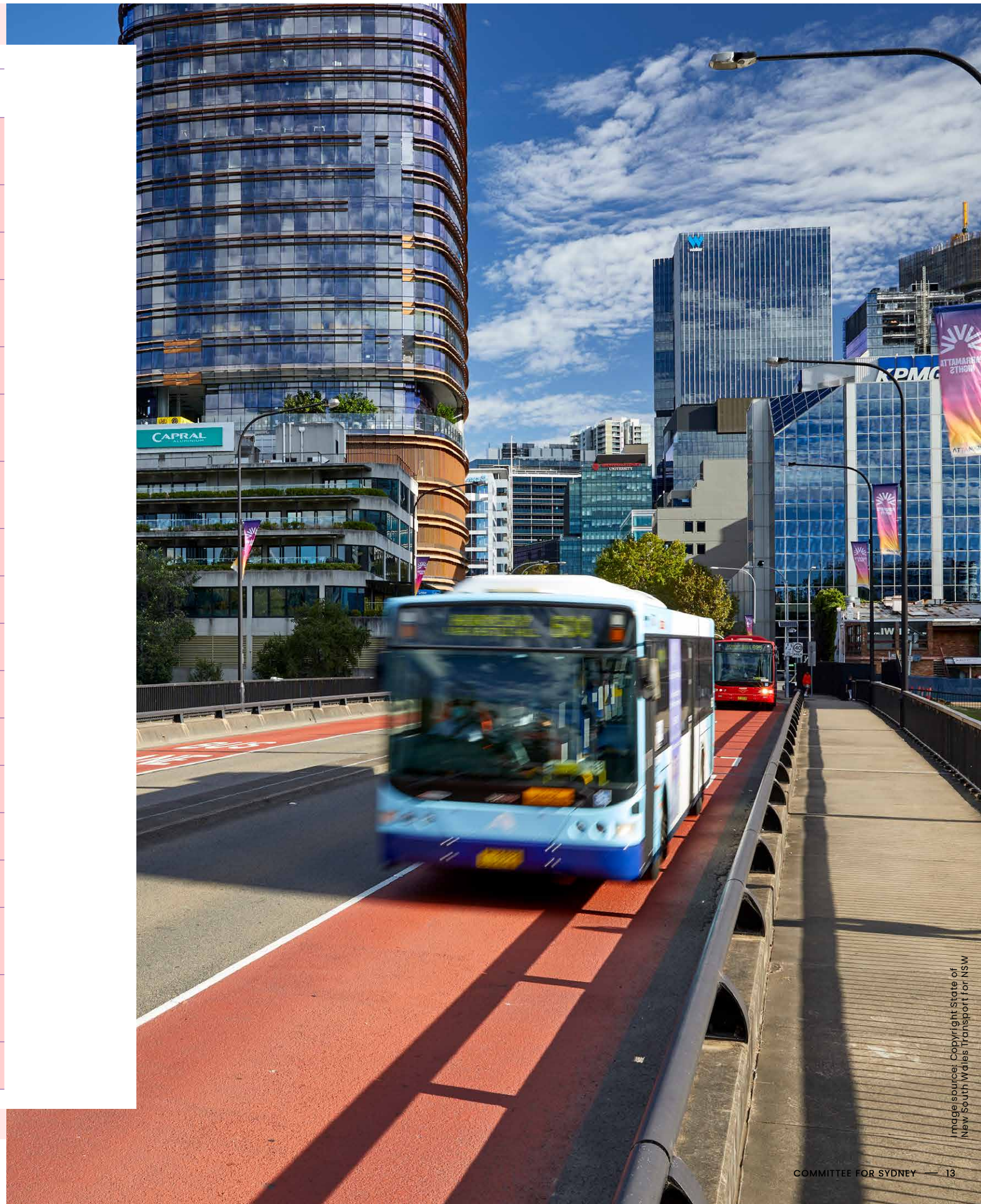
Image source: Copyright State of New South Wales Transport for NSW

Not all bus services are created equal

Sydney is a big sprawling city. When the car became a common household item in the 1950s, it became easier to go further faster, so low-density sprawl was an attractive option for people wanting to live the 'Australian dream' on a quarter acre suburban block. Sydney began building out, rather than up.

But the provision of public transport in Sydney has struggled to keep up with this style of development and has a checkered history in competition with the car. In the 1960s, a wide-reaching tram network was ripped up to make way for the car, leaving a gaping hole in our public transport system that was filled by buses.

The sprawling nature of Sydney makes it difficult to provide adequate and equitable bus services. Historically, buses have been planned to prioritise coverage over frequency – making many routes indirect and slow. While this means most people live close to a bus stop, the low frequency of services hinders people's real level of access.

Sydneysiders who live close to a Train, Metro, or Light Rail have greater access to public transport than those who don't, because these modes of transport have dedicated right of way and they run at higher frequencies than most bus services.

People who live close to rail lines have better public transport access
Public Transport Accessibility Level, 2021

Source: Mecone

LEGEND

DPHI Centres
- ◉ Metropolitan Centre
- ◉ Metropolitan Cluster
- ▢ Strategic Centre
- — Bus Lanes
- — Train Lines
- — Light Rail Lines
- National Parks

PTAL 2021
- 1 - Low
- 2 - Low-Medium
- 3 - Medium
- 4 - Medium-High
- 5 - High
- 6 - Very High

0   2.5   5   7.5   10 km

Sydney's mode-share is heavily skewed towards the car

Greater Sydney journey to work mode-share, 2016[1]

Walk or Bike	5.4%
Tram or Ferry	0.5%
Bus	7%
Train	18.6%
Car	65.2%
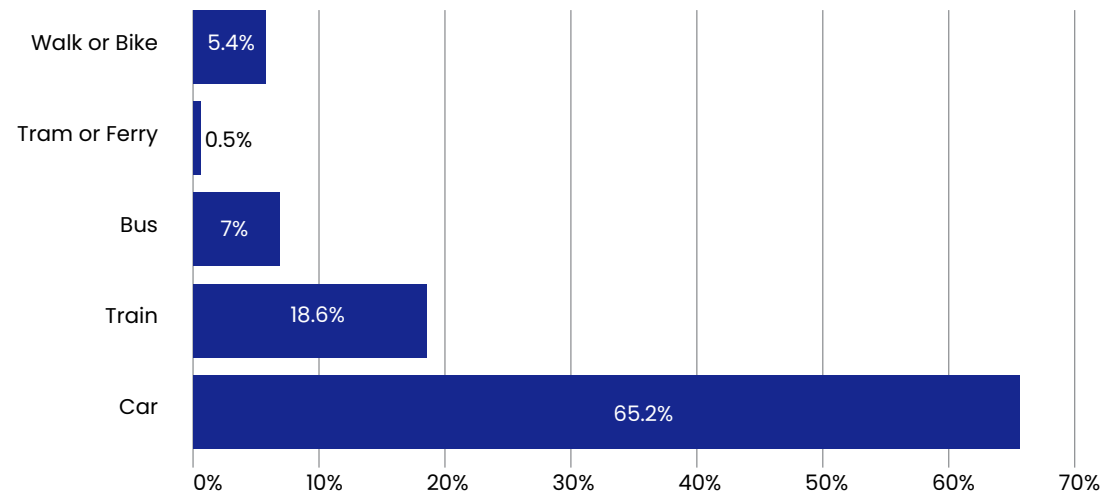
Source: ABS Census Data

There is a higher share of car trips in areas with lower public transport accessibility

Journey to work mode-share to centres (destinations), 2016[2]
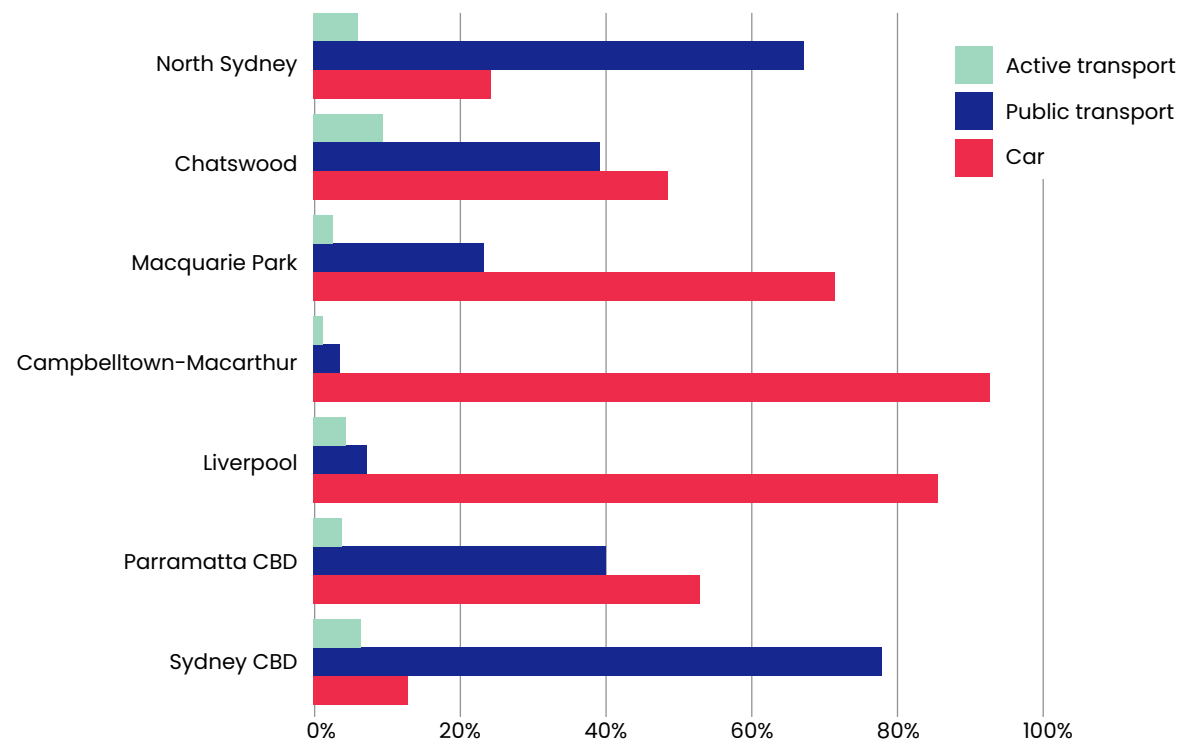
Legend:
- Active transport
- Public transport
- Car

Centres: North Sydney, Chatswood, Macquarie Park, Campbelltown-Macarthur, Liverpool, Parramatta CBD, Sydney CBD

Source: ABS Census Data

While buses can't carry as many people as rail, there is an opportunity for them to run at similar frequencies. Where they do already – typically on routes with bus lanes – people living close by have higher levels of public transport accessibility. But Sydney doesn't have many bus-lanes, meaning most bus services are slow and unreliable as well as infrequent.

Sydney's current mode-share, which is heavily skewed towards the car, is a symptom of:

- poor public transport accessibility exacerbated by urban sprawl
- an historical trend of prioritising car movement over other modes.

People will always use the most adaptable, efficient and attractive transport option available to them, so it is essential that we revamp Sydney's buses to have these qualities.

If we get this right, buses will connect more people from home to wherever they need or want to go. Sometimes buses will be able to take people directly to their destination, other times buses will take people part of the way and link them to other modes, like rail, for the rest of their journey.

What is mode-share and mode-shift?

- Mode-share is the percentage of trips taken by each mode i.e., car, bus, train, Metro, Light Rail, ferry, foot, bike or motorbike.
- In Australia, this is typically analysed in terms of travel to work as there are few data sources for all trips.[3]
- Active (walking and cycling) and public transport modes are sustainable modes, whereas private car travel is an unsustainable mode – in terms of environmental impact and the amount of space required to move and store cars.
- Mode-shift typically refers to growing the percentage of trips taken by sustainable modes and reducing the percentage of trips taken by the car.

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1 Note: 2016 journey to work census data has been used throughout this report in preference of 2021 journey to work census data because the 2021 data was captured during a Covid-19 lockdown so is skewed.
2 Ibid

3 The Household Travel Survey by TfNSW does look at all types of trips by mode throughout the day, but it is relatively limited when it comes to analysing smaller geographies because of its sample size. New data sources, such as GPS tracking and mobile data, improve and deepen our understanding of mode-share, but these are often not publicly available.

Buses can create equal opportunity

There is a spatial correlation between low public transport accessibility and socio-economic disadvantage in Sydney. This should not be surprising, as people who live close to various and frequent public transport options have better access to education, employment, services and social activities.
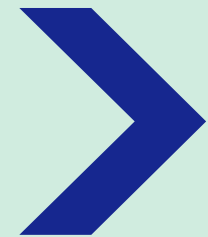
Image source: Copyright State of New South Wales Transport for NSW

Socioeconomically disadvantaged areas also tend to have poor access to public transport
Socio-Economic Indexes for Areas 2021
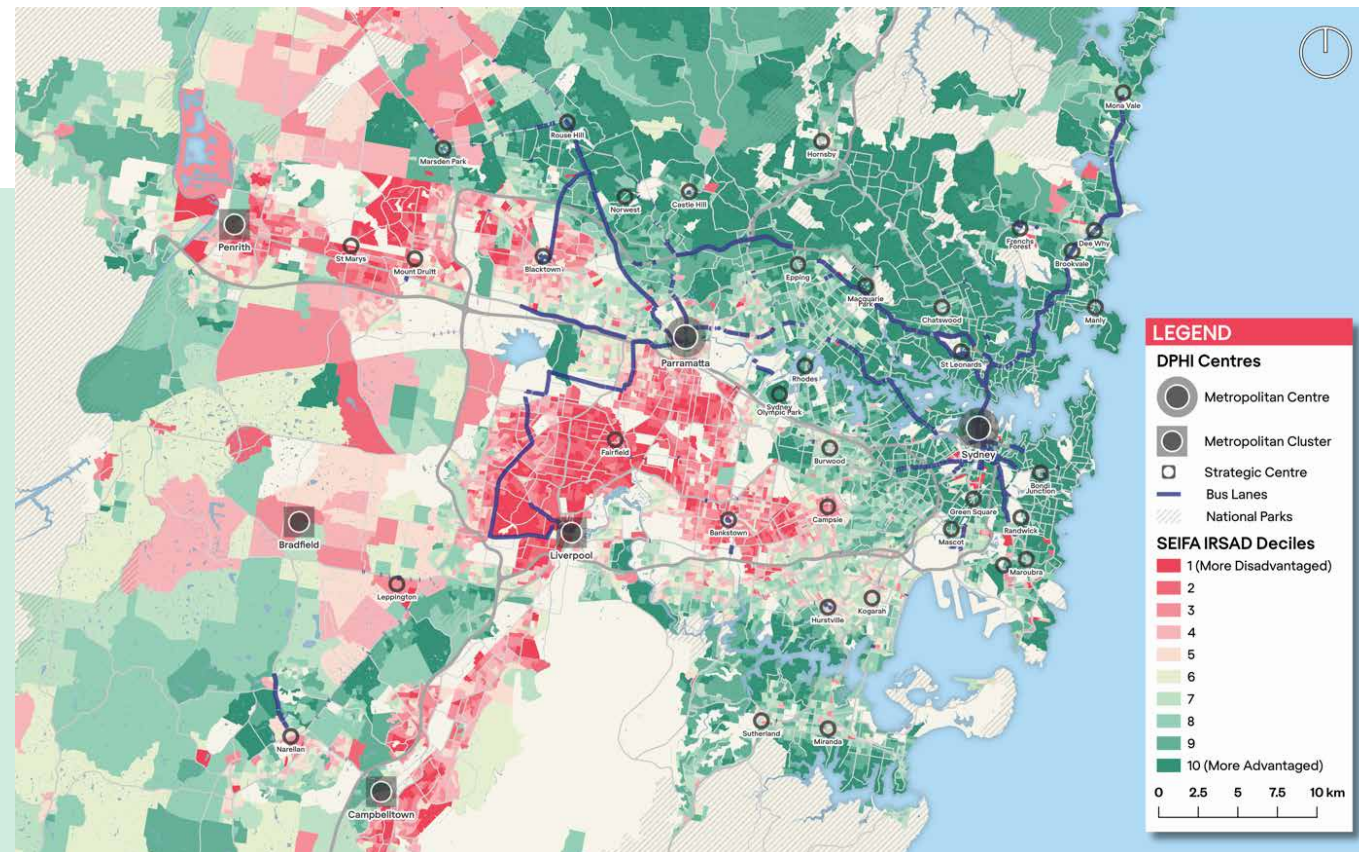
Source: Mecone

Socioeconomically disadvantaged areas also tend to have poor access to public transport
Public transport accessibility level 2021
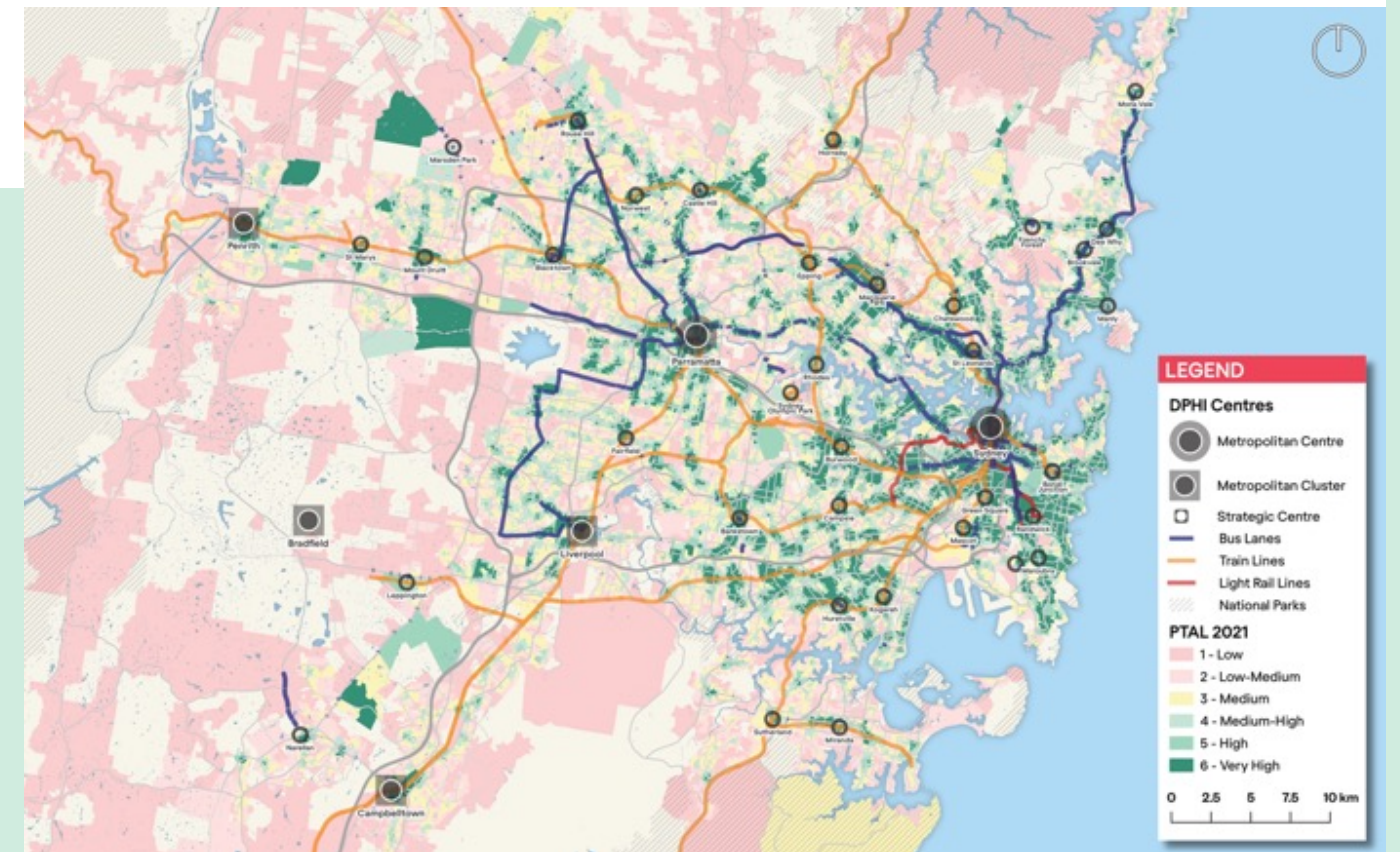
Source: Mecone

Image source: Copyright State of New South Wales Transport for NSW

People who don't live close to frequent public transport have to spend more time and money – purchasing a car, paying for fuel, and sitting in traffic – to access the same opportunities. But for those who can't afford a car, aren't able to drive, or choose not to drive, the cost of time – waiting for infrequent and unreliable public transport – can create an even greater barrier to accessing opportunities.

Transport for New South Wales estimates that 'lost person time' – the delay people experience due to the slow operation of congested buses – costs the State's economy $53 million per year. If nothing is done to fix this, it will cost $230 million by 2036.[4] This is likely to be an underestimation of the productivity loss as it doesn't take into account the wait-time caused by infrequent buses.

Loss of personal time as a result of long commute times reduces economic productivity when viewed across the whole city, but it can also have significant impacts on the individual. Those who spend longer getting to or from work, school or other commitments spend less time with family and friends, which can impact wellbeing.

More adaptable, efficient and attractive buses can help to create more equal opportunity and greater convenience for current and future Sydneysiders. If we don't address the inequitable access of public transport in Sydney, other efforts to address socioeconomic disadvantage and divide will be undermined.

While poor public transport accessibility can create and perpetuate socio-economic divides, good public transport accessibility can help reverse these trends. Better bus services will induce sustainable mode-shift and increase the chances of maximising equity, opportunity and productivity across Sydney for generations.

At the same time, better bus services will help ensure a more sustainable and traffic-light future. We have an obligation to use the finite resource of road space efficiently, and this means encouraging and enabling more people to move in fewer vehicles.

4   TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

Buses have been left behind

NSW has spent the past two decades investing in roads and rail. The M7, WestConnex, Light Rail in the Inner-West, City and South-East and Parramatta, as well as NorthWest Metro have all been delivered. In this time, we have implemented only one rapid bus service – the Northern Beaches B- Line.

Over the next 15 years, Parramatta Light Rail Stage 2 will be delivered, along with three more Metro lines – City and Southwest, West and Western Sydney Airport. Strategic cycleway corridors have also been indicatively planned but not yet funded.

We have spent the last two decades building and planning the next 50 years of

rail-based mass transit in Sydney. While these investments are crucial for Sydney's connectivity and prosperity, they are extremely expensive, meaning other types of infrastructure and services – particularly buses – have not received transformational capital funding.

The focus should now be on buses – a key mode and connector of our public and active transport network. Improving and increasing bus services and frequencies will maximise the past 20 years of investment in roads and rail. It will also help address the inequality of access to public transport that exist predominantly in parts of Sydney that aren't connected to rail, such as the Northern Beaches and parts of west and south-west Sydney.

Bus priority infrastructure spending is very low compared to other modes
Percentage of infrastructure investment by mode, financial year 2019 to financial year 2027*

Mode	Percentage
Rail / Metro	49.9%
Roads / Martime	39.8%
Other	7.6%
Buses	2.6%
Ferries	0.1%

(x-axis: 0%, 10%, 20%, 30%, 40%, 50%, 60%)
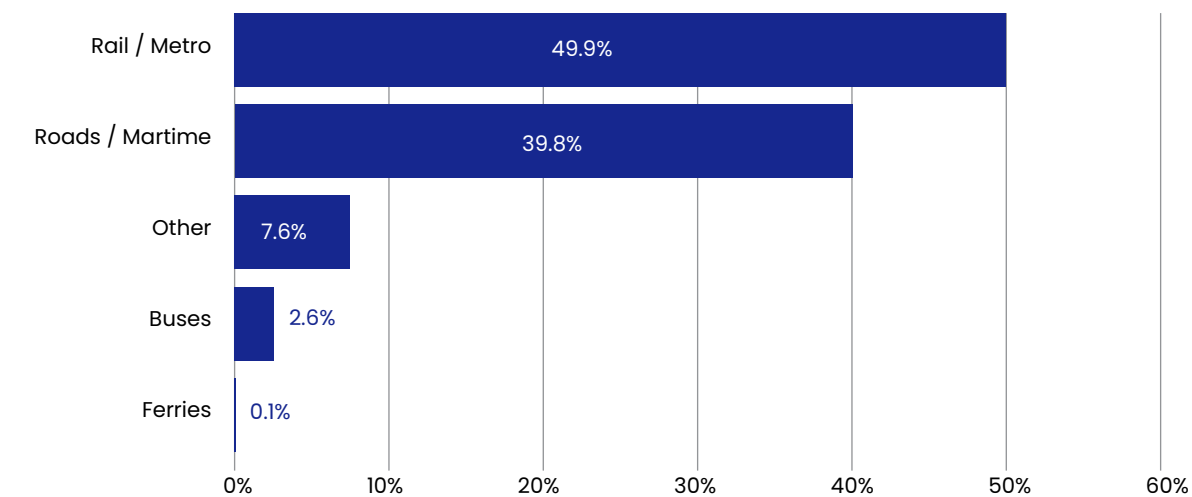
*Bus infrastructure investment shows dedicated funding for bus priority on roads

Source: NSW Bus Industry Taskforce 2023-2024 (TfNSW)

Image source: Tom Payne
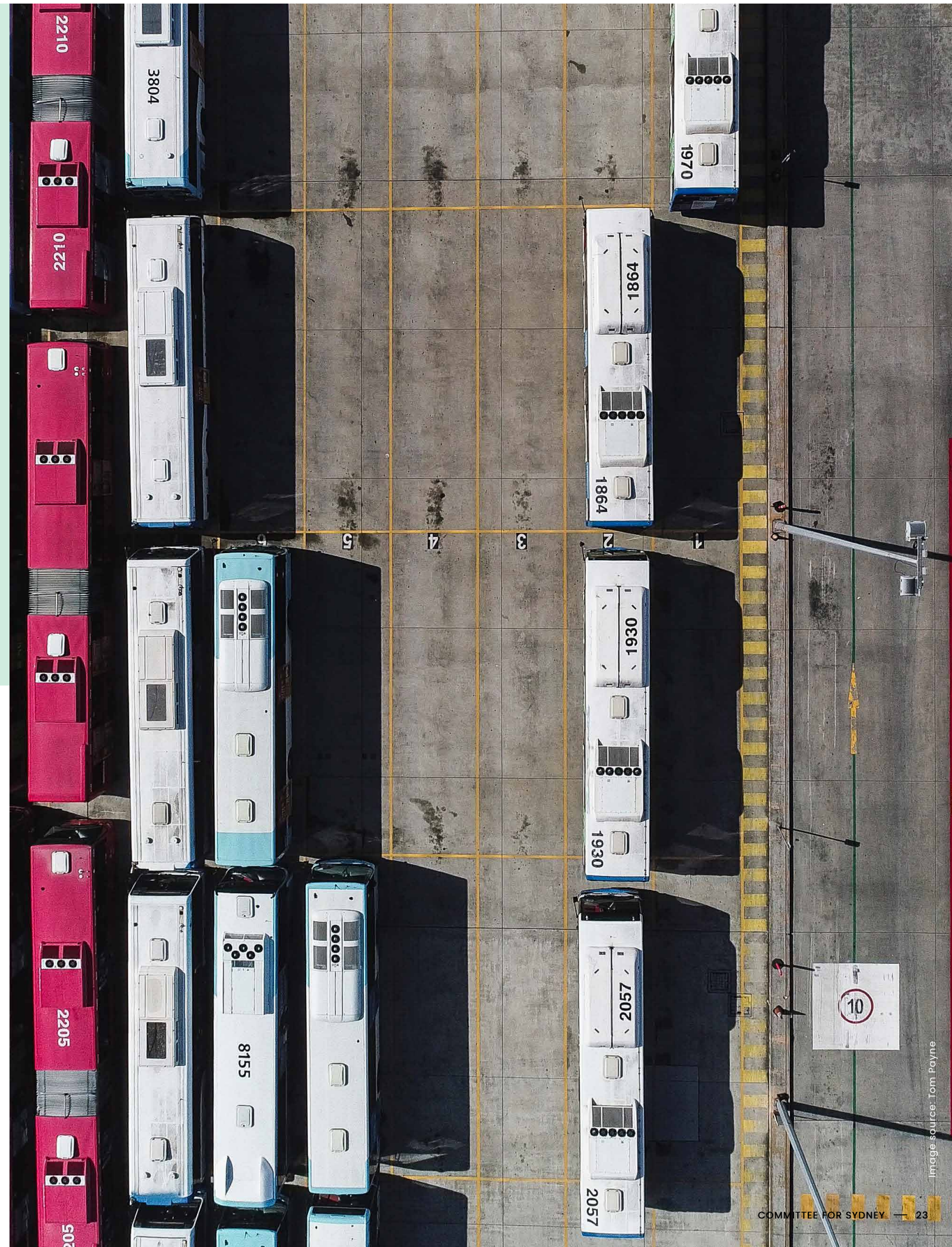
A good investment opportunity

Buses are the perfect connective tissue for any public transport system. There is an opportunity now to increase and improve bus services in Sydney to enhance public transport accessibility in a relatively low-cost, flexible and timely manner.

Compared to other public transport modes, buses require far less capital and operational expenditure. An illustrative calculation of annual operating cost by mode, divided by Opal trip data, shows buses are the most cost-effective form of public transport in Sydney, costing roughly $1.50 per passenger trip (ppt), compared to roughly $19 ppt for trains.

Furthermore, the B-Line from Mona Vale to Sydney CBD and the Liverpool to Parramatta T-way cost roughly $600 million and $350 million respectively to deliver, while the City and South East Light Rail cost roughly $2.1 billion. Both modes are important parts of Sydney's public transport network, but the comparison highlights the difference in capital expenditure required for the provision of bus infrastructure compared to other public transport modes.

It is also relatively easy to network and re-network buses and to continuously optimise the network, because, unlike rail, buses are not fixed in place. This has two key advantages:

1. Buses can be used to quickly generate sustainable trips. New rapid and high frequency bus services across Sydney are far quicker and easier to deliver than a new rail line. Sydney's road network has the capacity to carry more buses today, whereas new heavy rail typically has to be tunnelled due to lack of space.

2. Buses can adapt to Sydney's growth patterns because services are relatively easy to re-route or increase. In some cases, rapid or high frequency routes may be used to identify future rail corridors. In this case any 'removed' buses can be redeployed to increase service frequency on another route or to service a newly-needed bus route.

The transition to zero emissions buses also means buses won't have as many negative environmental and place outcomes as they do today. Like cars and car traffic, diesel buses degrade the street environment making streets and roads smelly, noisy and hot. Zero emissions buses do not emit any pollutants and are much quieter.

While many challenges lay ahead to transition the bus fleet to zero emissions, there is an opportunity to retain and increase domestic manufacturing. This will not only boost employment and the local economy but will help retain some diversity in the Australian economy.

Sydney buses are relatively cheap to operate
Calculation of operational cost per passenger trip, by mode

Mode	Operational cost	Opal trips	Dollar spend per passenger trip (operational cost/Opal trips)
Bus	$ 266,500,000 (FY22–23)	173,764,308 (calendar 2022)	$9.20
Train	$ 4,053,400,000 (FY21–22)	210,086,542 (calendar 2022)	$19.29

Sources: 2022-23 Budget Paper No. 2 - 09 Transport Cluster, Sydney Trains Annual Report 2021-2022

Image source: Transit Systems NSW

Buses should play a bigger role in Sydney

Image source: Copyright State of New South Wales (Transport for NSW)

There is an untapped potential for buses to better connect the dots and plug the gaps in Sydney's public transport network. This opportunity could help shift the dial on decarbonising Sydney's transport, not only through the upcoming electrification of the bus fleet but by inducing mode-shift.

The ultimate goal is for buses to rival the convenience of the car for a variety of trip purposes across Sydney. To achieve this, we need to address many shortcomings of the current bus network and services, so that buses play a bigger role in Sydney's multi-modal network.

The importance of integrating land-use planning with transport planning is not a new idea. However, in Sydney, low levels of public transport accessibility across the city indicate a need for better integration between land-use and transport planning to ensure density is relative to public transport accessibility.

Integrating land-use and transport planning is exactly what the NSW Government is now doing with its Transport Oriented Development program. However, so far, the program has only focussed on land-use uplift around rail and not everyone in Sydney lives near rail. Bus corridors can also achieve land-use uplift with more dedicated bus priority infrastructure, direct bus routes and frequent bus services.

We also need to ensure that access to buses does not always favour coverage over frequency. This is the situation where bus route design prioritises how far a route reaches, but not how often buses may run along it. This has led to circumstances where parts of Sydney are notionally serviced by a bus route, but the service is so infrequent that it does not provide the level of access needed for regular patronage.

The reason for prioritising coverage over frequency is that it is harder and more expensive to run frequent services for circuitous routes that maximise coverage. While almost everyone in Sydney lives within 800m of a bus stop,[5] the lack of direct frequent services reduces the level of access that many stops provide. Higher frequency and direct bus services in Sydney, along with the development of a Bus Rapid Network across the city, are needed to address the current imbalance between coverage and frequency.

At the same time, a review of the bus network is required to ensure it is well integrated with the wider public transport network. This is particularly important as new public transport options like Metro and Light Rail come online. Frequent feeder bus services into these modes have the

potential to dramatically increase public transport accessibility across Sydney while leveraging investment in rail.

Increasing the frequency of bus services in Sydney, along with developing a Bus Rapid Network for Sydney, will not be possible without addressing the current lack of bus priority infrastructure, particularly bus lanes. Bus lanes are the most important piece of bus priority infrastructure because they allow for the free-flowing movement of buses despite traffic.

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5   TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

Bus lanes in Sydney are sparse and disconnected
Existing bus lanes* in Sydney, 2023

LEGEND

DPHI Centres

⬤ Metropolitan Centre

◉ Metropolitan Cluster

☐ Strategic Centre

— Bus Lanes

National Parks

0   2.5   5   7.5   10 km
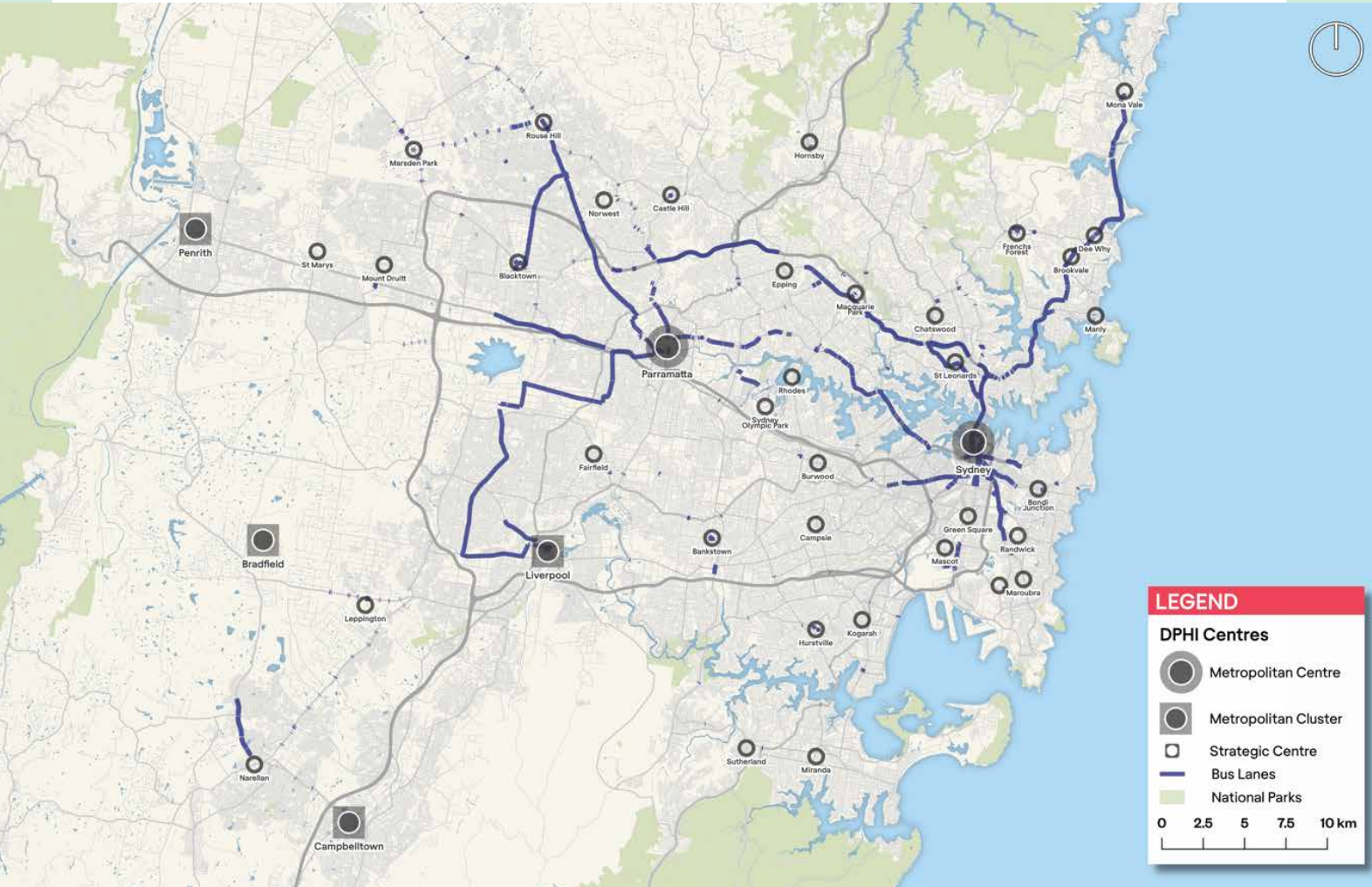
*This map shows all bus lanes in Sydney. Please note that not all bus lanes operate 24/7 or run in both directions, for example the bus lane from Mona Vale to Sydney CBD is only operational during the AM Peak running north to south, and some sections of it are T3 transit lanes

Source: Mecone

It is not enough to only address the integration and frequency of bus services. We also need to address the experience of catching the bus: getting to the bus stop, waiting at the bus stop and being on the bus.

Bus stop infrastructure across Sydney has huge variability, with many stops having no shade, shelter or seating. If it is hot or rainy, this makes catching the bus a huge inconvenience. It also means people with low mobility or heavy bags have nowhere to sit and rest while waiting for the bus. Upgrading bus stops and making sure they're consistent across the city is critical to increasing patronage.

We also need to increase the legibility of bus services in Sydney. Currently, it is not clear to most Sydneysiders whether a bus service is frequent or not, or where each service goes. Additionally, the lack of real-time information at bus stops and onboard makes it difficult for people to know how long it is until the next bus arrives, or to know where they need to get off the bus, especially at night.

The above issues culminate in poor public perception of the bus. The NSW Bus Industry Taskforce 2023-2024 found Sydneysiders feel buses are confusing, complex, unreliable, indirect and infrequent.[6] We need to address the cause of these issues, but we also need to invest in public campaigns that promote the benefits of catching the bus.

SIDEBAR
This report recognises but doesn't cover all issues relating to buses

While outside the scope of this report, other issues relating to buses also need to be addressed. These include:

- The bus driver shortage

- Contracting for procurement of zero emissions buses.

These issues are being investigated by the NSW Bus Industry Taskforce that has made sound recommendations about how to address them.[7]

Wage levels and improved working conditions are needed to attract more people of all genders to the role.

Macro-economic conditions need to be addressed, such as the affordability of living in Sydney and the socio-economic divide of different parts of Sydney.

With regard to contracting issues for procurement, risk allocation needs to be carefully considered to ensure it is not holding up the transition. Government will likely need to take on more of the risk.

At the same time, the NSW Government should work with other states and territories to develop a national strategy for the manufacturing of electric buses.

6   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

7   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

Funding bus improvements is an investment in Sydney and Sydneysiders

A significant increase in both capital and operational expenditure is necessary to achieve an improved bus network and improved services across Sydney. This is critical for a more sustainable and equitable city today and for the future.

The required increase in funding is significant relative to current funding for buses. However it is relatively insignificant compared to the funding needed for ongoing heavy and light rail projects in Sydney – which carry more people per vehicle but have a smaller geographical scope than buses.

Better buses will help improve productivity and wellbeing at a relatively low cost to Government by better connecting more people to more jobs, services and centres.

In our view, there are several ways the NSW Government could increase bus funding:

- Increase operational expenditure to a higher percentage of the public transport budget. This could be benchmarked against patronage of buses as a share of all public transport trips

- Increase capital expenditure to a higher percentage of the roads budget. This could be relative to the Road User Space Allocation Policy

- Ensure bus priority infrastructure receives funding through other major road projects, such as WestConnex

- Ensure a percentage of the Transport Oriented Development investment program is dedicated to bus kilometre improvements, in addition to existing bus route kilometre funding

- Allow for Developer Contributions, Voluntary Planning Agreements and Value Capture mechanisms to fund bus infrastructure and services

- Introduce a congestion charge model with tied transit funding, such as in New York City, to fund bus improvement and induce greater mode-shift.

Image source: Copyright State of New South Wales Transport for NSW

Outcome based principles for a better approach

Image source: Copyright State of New South Wales Transport for NSW

Make buses more adaptive

The bus network and services should be adaptive to meet service standards, passenger capacities, surrounding land-use patterns, and the broader public transport network that changes over time.

Make buses more effective

The bus network and services should be effective through ongoing planning, review and implementation that aims to provide frequent, direct, reliable and legible bus services across Sydney that integrate with the wider transport network and land uses.

Make buses more attractive

The bus network and services should be as attractive as possible for existing and potential passengers, with frequent, reliable and legible services and pleasant, comfortable, safe and accessible buses and bus stops. The bus should also be advertised through positive public campaigns.

Recommendations

B-Line, Keolis Downer

Image source: Keolis Downer

1. Create a legible service

It should be easy for people to understand the types of bus services offered in Sydney, and what to expect from each type of service. But there is no clear hierarchy of bus services in Sydney, with each type of service having routes that run at different frequencies and with different hours of operation.

Sydney has a number of bus services that might be classified as 'rapid', but each service differs from the other and has a different naming convention. For example, the B-Line in the Northern Beaches and the Liverpool to Parramatta T-Way.

While existing 'rapid' services have different naming conventions, they are arguably the most legible bus services in Sydney because they have a distinct naming convention and a decent level of bus priority infrastructure. In the case of the B-Line, buses and bus stops are clearly branded and colour coordinated, making it easy for people to identify them.

'Frequent' buses in Sydney are completely indistinguishable from 'local' buses. Transport for New South Wales and the NSW Bus Industry Taskforce 2023–2024 refer to the unequal distribution of 'frequent' bus services in Sydney, and present different maps of where these services operate.[8, 9] For the average Sydneysider, there is no way to 'read' which bus services are frequent and which aren't without delving into timetables.

8 TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

9 NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

INTRODUCTION   1. CREATE A
LEGIBLE SERVICE   2. ADHERE TO LONG-TERM
STRATEGIES AND PLANS   3. LIFT FREQUENCY
AND RELIABILITY
WITH BUS PRIORITY   4. INTEGRATE WITH THE
WIDER TRANSPORT
NETWORK   5. INTEGRATE WITH
LAND USE PLANNING   6. REFRESH
THE BUS   7. RETHINK
BUS STOPS   8. REVIVE THE
BUS'S SOCIAL
LICENSE   REFERENCES

Image source: Copyright State of New South Wales | Transport for NSW
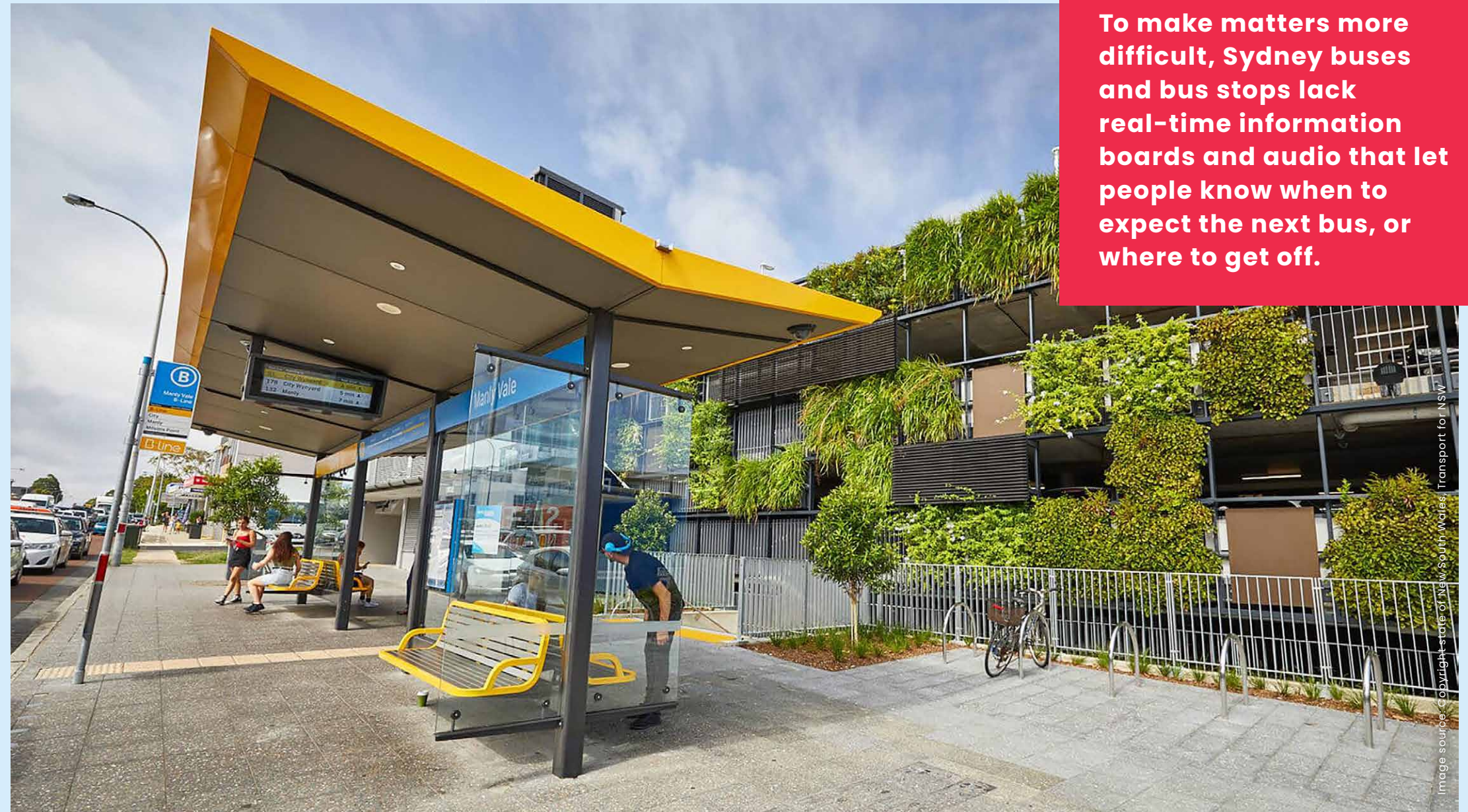
To make matters more difficult, Sydney buses and bus stops lack real-time information boards and audio that let people know when to expect the next bus, or where to get off.

Furthermore, because Transport for New South Wales doesn't clearly define or publicise how frequent 'frequent' buses are, in effect, it is up to the passenger to determine what they consider frequent. One person may interpret frequent as a bus that arrives every five minutes, while another might interpret it as being a bus that arrives every 10 minutes.

So it is no surprise that people in Sydney perceive buses as complex and confusing.[10] To make matters more difficult, Sydney buses and bus stops lack real-time information boards and audio that let people know when to expect the next bus, or where to get off. All these aspects of illegibility compound, creating a barrier to potential patronage.

A clearly defined and publicised bus hierarchy creates a legible service offering. Service legibility makes it easier for people to know what to expect from different bus services and builds trust in the bus offering. This further helps people to engage with network reviews or proposals for new networks and services.

As well as increased bus service legibility, Sydney needs better bus service standards. Typically, buses in lower density parts of the city run less often for fewer hours of the day. This is because lower density areas have lower patronage, simply because fewer people live near those routes than in higher density areas. It is therefore not as 'viable' to run frequent buses for more hours of the day.

But this creates a vicious cycle where poor services lead to even lower patronage, which leads to fewer services and so on. This cycle should be reversed so that good bus services – right across Sydney – lead to higher patronage and more services. Sydney therefore needs baseline bus service standards, so that areas with perceived lower demand for buses don't end up with inadequate access to direct and frequent public transport options.

10   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

1.1 Define and publicise a bus hierarchy and associated service standards

A clearly defined bus hierarchy should be used to set bus service standards and passenger expectations for different tiers of bus services across Sydney.

A clear bus hierarchy and service standards
The Committee for Sydney's recommended service standards and hierarchy

Tier	Types of priority infrastructure	On peak frequency	Off peak frequency	Hours of operation	Stops
Tier one "Rapid"	Entire route is bus-only lane 24/7; signal pre-emption at lights	Every 1-4 minutes	Every 1-7 minutes	24/7	Stops every 1km-3km
Tier two "Frequent"	Majority of route is bus-only lane on peak; sections of route are bus lane off peak; signal pre-emption at some lights; some stops are in-lane boarding	Every 5-10 minutes	Every 7-15 minutes	5am-1am	Stops every 800m-1km
Tier three "Local"	Sections of route are bus lane on peak; some stops are in-lane boarding	Every 10-15 minutes	Every 15 minutes	5am-11pm	Stops every 400m-800m
Tier four "On demand"	NA	NA	NA	24/7	NA
Tier five "Special" e.g. community buses and school buses	Some stops are in-lane boarding	NA	NA	As required	As required

From a customer perspective, the bus network and services remain complex and undefined. While the Transport for New South Wales White Paper, *Directions for On-Street Transit,*[11] sets out characteristics of 'rapid', 'frequent', 'local' and 'on demand' bus services in an infographic, these are vague and not clearly communicated to passengers.

For example:

- The definition of existing networks is inconsistent across the various operators. Where bus service types are mapped or specified, limited customer-facing information is available to clarify the service levels to be expected

- Only high-level performance information is publicly accessible, so it is difficult for customers to understand the extent to which that service is meeting expectations.

A clear hierarchy of bus service types must be defined through specific service standards. Existing guidelines and definitions should be unified toward legible and well-defined types. Associated standards should be required and made public and, in some instances, need to be more ambitious than those currently indicated by Transport for New South Wales.

The hierarchy and service standards should connect service inputs and desired outcomes to ambitious and measurable targets. This is critical to inform decision-making related to bus service allocation against strategic goals, community needs and broader network effectiveness. It is also critical to assess existing route and network performance against service guideline performance objectives.

Each tier of the bus hierarchy should have service standards that aim to improve current on-peak and off-peak frequencies, hours of operation, percentage of route prioritised and distance between stops for two key reasons:

1. So Sydneysiders have access to equivalent, world-leading bus services no matter where they live.

2. So Sydney bus services are world-leading and level-up to those in cities like Auckland, London and New York.

Once a bus hierarchy and service standards have been updated, defined, unified and made public, Transport for New South Wales can begin the work required to meet these standards. This will include growing the bus fleet and increasing and upgrading bus infrastructure.

Lead agency: Transport for NSW

11   TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

*Image source: Copyright State of
New South Wales Transport for NSW.*

1.2 Review and simplify the bus numbering convention

The bus numbering convention should be updated so passengers are clearly able to identify which tier of bus service they are catching. This means a new convention should flow from a clearly defined and publicised bus hierarchy.

We suggest the first number, letter or symbol of a bus route should identify whether the bus is tier one, two, three or four. We could even spell it out. This could be as simple as:

- '1' or 'R' or 'Rapid' for tier one/rapid services

- '2' or 'F' or 'Frequent' for tier two/ frequent services

- '3' or 'L' or 'Local' for tier three/local services.

Lead agency: Transport for NSW

1.3 Make all tier one services yellow (or pick a colour)

To make the tier one or rapid bus network and services highly legible, we suggest making all the buses and bus stops the same colour. Given the B-Line is already yellow, we recommend this colour so the legibility of the B-Line isn't disrupted.

To link bus services with their locality, decals with imagery that reflect the place the bus typically services could foster people's connection to the bus. For example, there may be surfboard decals in the Northern Beaches and river decals in Parramatta.

To maintain flexibility of the fleet and network, frequent and local buses should not be colour coordinated, so buses can be deployed and redeployed for different tiers of service, depending on what is needed across the network.

Lead agency: Transport for NSW

1.4 Upgrade or replace PTIPS

The Public Transport Information Priority System (PTIPS) has not been upgraded since 2015 and has reached its end-of-life.[12] PTIPS needs to be updated or replaced urgently.

PTIPS is the real-time tracking of buses that feeds data to:

- Sydney Co-ordinated Adaptive Traffic System (SCATS), to provide bus priority at traffic lights

- TripView and Google Maps, to advise passengers of bus arrivals times

- Transport for NSW, to manage bus performance and contracts.

So people can accurately know when their bus is arriving, PTIPS needs to be upgraded or replaced. Faults in the system mean that sometimes buses show up without displaying on real-time information apps. At other times they show on real-time information apps but have actually been cancelled or rescheduled. This is causing passengers serious headaches.

The issues with PTIPS make it likely that the system is no longer properly integrated with SCATS, meaning bus priority along the T80 and elsewhere in Sydney is potentially non-existent. It is difficult to determine if this is an accurate assumption because SCATS and PTIPS data is not publicly accessible.

When the system is upgraded or replaced, we recommend making data on bus priority at traffic lights publicly accessible to increase accountability of the Road User Space Allocation Policy and potential mode-share target.

Lead agency: Transport for NSW

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12   NSW Bus Industry Taskforce. 2023. First Report, https://www.transport.nsw.gov.au/system/files/media/documents/2023/Bus-Industry-Taskforce_First-Report_July-2023_0.pdf

2. Adhere to long-term strategies and plans

Time and money invested in Sydney's bus network has not kept pace with investment in other modes. Strategic plans and whole-of-network reviews have been either non-existent or abandoned. The last long-term strategic plan, Sydney's Bus Future,[13] was published in 2013 and although parts of the plan for a rapid bus network made it to the business case stage, it was never implemented.

Prior to that, an independent review of bus services in NSW was published in 2004[14] and while the recommendations were supported by Government, many weren't implemented. Since 2004, Sydney's population has increased by 35% (more than one million people) and one new Metro and two light rail lines have been added to the public transport network, with more on the way.

Over the next 20 years, Sydney's population is set to increase by another one million people. Most of this increase, as well as the associated increase in jobs, is predicted to be in Sydney's west. It is therefore crucial that a long-term bus strategy and plans are developed, implemented and periodically reviewed and updated. Without this, Sydney's public transport network will continue to under-serve our growing population.

We're playing catch-up. But the ultimate goal is to be ahead of the game, so that public transport can absorb the increased demand that comes with a growing population. If we remain on the back foot, we will further entrench car dependency, negative environmental impacts and inequitable access to education, employment, services and leisure activities for generations.

A long-term bus strategy needs to be well integrated with long-term planning and transport strategies. A new bus strategy for Sydney should sit under the next region plan, Future Transport 2056, and the Greater Sydney Services and Infrastructure Plan. Sydney's bus strategy also needs to consider, and be considered in, plans for future Metro, Light Rail and Cycleway Corridors.

The NSW Bus Industry Taskforce of 2023-2024 and Transport for New South Wales White Paper, Directions for On-Street Transit,[15] indicate that bus improvements are back on the table. The indicative rapid bus network[16] and 40:80:1000 vision[17] – which includes 40 new rapid bus routes,

Bus Rapid Network plans for Sydney have been made several times but never realised
Bus Rapid Network plans for Sydney indicated in Sydney's Bus Future 2013, overlaid with revised indicative plans in the Directions for On-Street Transit White Paper
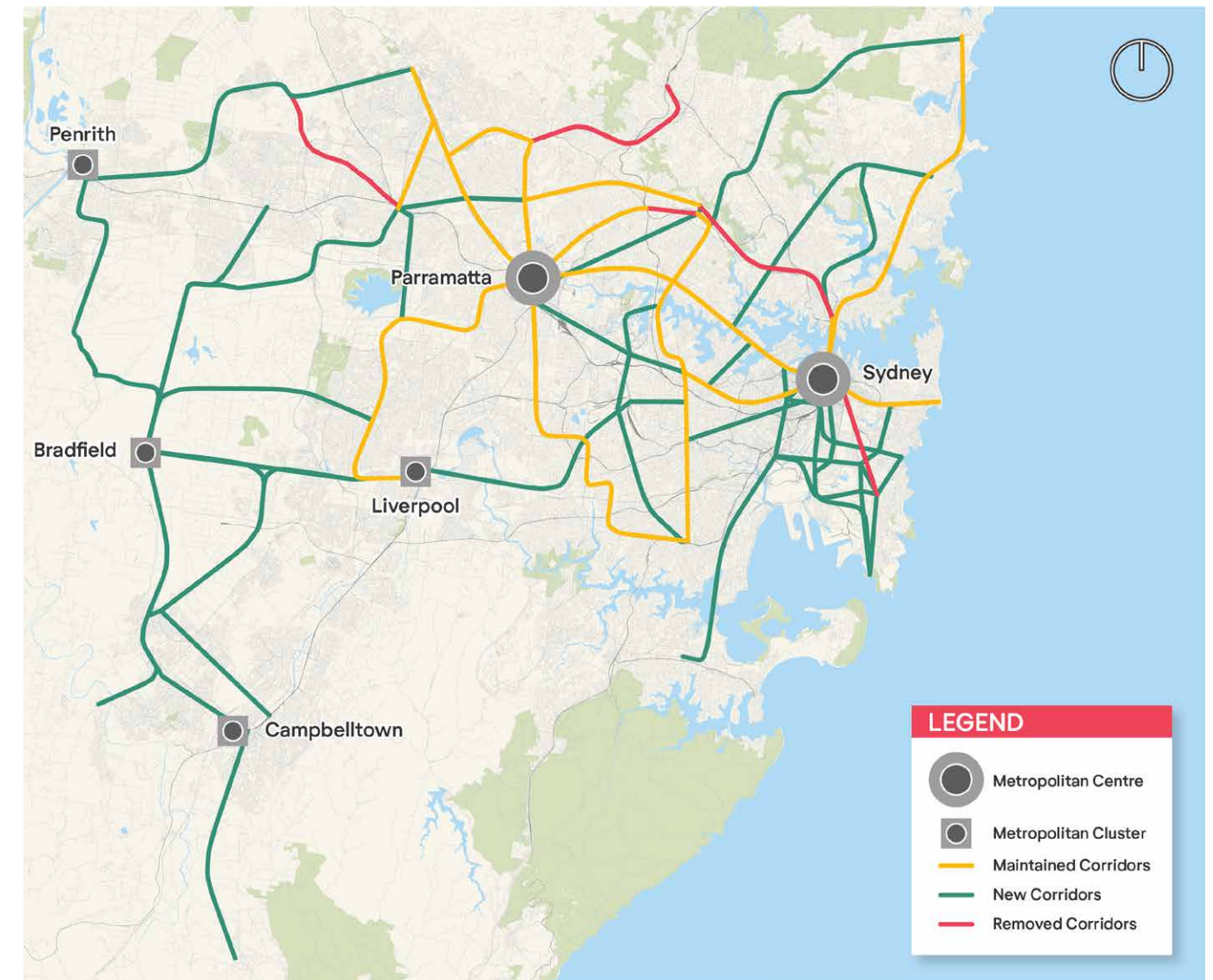
Source: WSP

80 new frequent bus routes, and 1000 improved local routes – demonstrates the ambition needed to lift Sydney buses to meet the needs of our current and future population.

Historically, implementation has been the biggest hurdle for bus improvements in Sydney. This section makes recommendations to help ensure that planning and implementation is staged, transparent and ultimately successful.

13   TfNSW. 2013. Sydney's Bus Future: simpler, faster, better bus services, https://www.transport.nsw.gov.au/sites/default/files/media/documents/2017/sydney-bus-future-final-web_0.pdf

14   Unsworth, B. NSW Ministry of Transport. 2004. Review of bus services in New South Wales : final report

15   TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

16   TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

17   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

2.1 Adopt a mode-share target for Greater Sydney

A mode-share target should sit at the heart of all current and future strategic transport plans. It should be adopted by the NSW Government and be a central aim of key strategies, such as Future Transport and the next region plan.

If adopted, the recommendations in this report will contribute to achieving a more sustainable mode-share across Sydney, by shifting more trips from the car to the bus.

Implementing a modeshare target as an overarching key performance indicator for Transport for NSW could help align sometimes incongruous outcomes sought by traffic engineers and place makers. In particular, it could clarify where and why the throughput of cars in certain places needs to be deprioritised, with the throughput of active and public transport being the highest priority.

Mode-share targets are useful as they guide effort, attention and investment. Creating a clear target for what the mode split should be in the future, and measures to achieve the target, will also focus and align with road space allocation strategies and policies. If a target is set, all Transport for NSW and Planning gateway documents and business cases should demonstrate how they would help achieve the targeted mode-share.

Investment in better public transport is key to achieving a more sustainable mode-share. This is notable with the introduction of the B-Line – a rapid bus service from Mona Vale to Sydney CBD – that saw a 22% increase in bus users, resulting in a 5% mode-shift away from private cars.[18]

Given Sydney has very different land-use patterns and associated levels of public transport accessibility, we recommend that a mode-share target may initially be devised for each city – Western Parkland City, Central River City and Eastern Harbour City – with the intention of progressively increasing the sustainable mode-share target for each city over time.

We suggest a future mode-share target for Sydney could be*:

Mode	Current mode-share in Sydney[19] (% of trips to work that involve leaving the home)	Proposed future mode-share target for Sydney (% of trips to work)
Car	65.2%	40%
Train	18.6%	30%
Bus	7%	15%
Tram or Ferry	0.5%	2%
Walk	4.6%	8%
Bicycle	0.8%	4%
Other	2.8%	1%

*We note that a mode-share target should be for all trips, not only trips to work. Given the limited availability of publicly accessible data on mode-share in Sydney or its three cities, we were unable to provide this analysis or make an associated suggestion on a mode-share target for all trips.

Lead agencies: Transport for NSW, NSW Department of Planning, Housing and Infrastructure

CASE STUDY

Sustainable mode-share target, London

Summary

- London's mode-share target is for 80% of all trips to be made on foot, by bicycle or using public transport by 2041.

- The sustainable mode-share target is further delineated to 95% of all trips in central London, 90% of all trips in inner London, and 75% of all trips in outer London by 2041.

- The target is part of the Mayor's Transport Strategy 2018 which aims to create a more liveable city that is fairer, greener, healthier and more prosperous.

- At the time the target was set, 63% of all trips in London were made by foot, bicycle or using public transport.

Strategies to achieve the target

- Improving street environments to make walking and cycling the most attractive options for short journeys.

- Providing more, and better, services to make public transport the most attractive option for longer journeys.

- Ensuring that any regeneration or new development adheres to these principles:

  - Good access to public transport

  - Highdensity, mixeduse developments

  - People choose to walk and cycle

  - Carfree and carlite places

  - Inclusive, accessible design

  - Carbonfree travel

  - Efficient freight.

- Using the Healthy Streets Approach as a framework, which puts human health and experience at the heart of planning the city.

- Transport demand management including fairer user pricing mechanisms such as congestion charging or distance-based charging mechanisms.

Why this is important

- Setting a modeshare target is essential to focus government strategies to increase the share of active and public transport trips, and reduce the share of car trips.

- Shifting Sydney's modeshare will improve public health outcomes and reduce the city's carbon emissions.

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18   TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

19   ABS, 2016, Method of Travel to Work (note: 2016 data has been used as 2021 census was taken during Covid Lockdown so has skewed mobility data)

A Bus Rapid Network is critical to help shift to a more sustainable mode-share

Indicative Bus Rapid Network for Sydney overlaid with percentage of people who drove to work by SA2, 2016[20]

LEGEND

— Train Route

- - - Proposed Rapid Bus Routes

Percentage of people who drove to work
- <20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%
- N/A

◉ Metropolitan Centre

◉ Metropolitan Cluster

0   5   10km

2.2 Plan for a tier one rapid bus network in Sydney

A new rapid bus network across Sydney is critical. Indicative plans should be formalised and published, with an aim of delivering the rapid network over the next 5 to 10 years. This means four rapid routes and services should be delivered each year, with routes in Western Sydney being prioritised.

Indicative plans for a revised and improved bus network in Sydney have surfaced from the NSW Bus Industry Taskforce 2023-2024, and the Transport for New South Wales White Paper, Directions for On-Street Transit.

In developing plans, the whole bus network should be reviewed to ensure new services and routes are well integrated with the rest of the bus and public transport network. Bus performance data and details on how the plan is developed should be openly shared with the public to build support.

Work is already underway to deliver the first three routes. It is critical to move quickly and to maintain momentum to ensure Sydney's public transport adequately services the population.

Lead agency: Transport for NSW

Source: WSP

20   Note: 2016 journey to work census data has been used throughout this report in preference of 2021 journey to work census data because the 2021 data was captured during a Covid-19 lockdown, so is skewed.

A Bus Rapid Network is critical to service job growth in Sydney's west
Indicative Bus Rapid Network for Sydney overlaid with projected employment growth by SA2, 2024-2046

Source: WSP

A Bus Rapid Network is critical to service population growth in Sydney's west
Indicative Bus Rapid Network for Sydney overlaid with projected resident population growth by SA2, 2024-2046
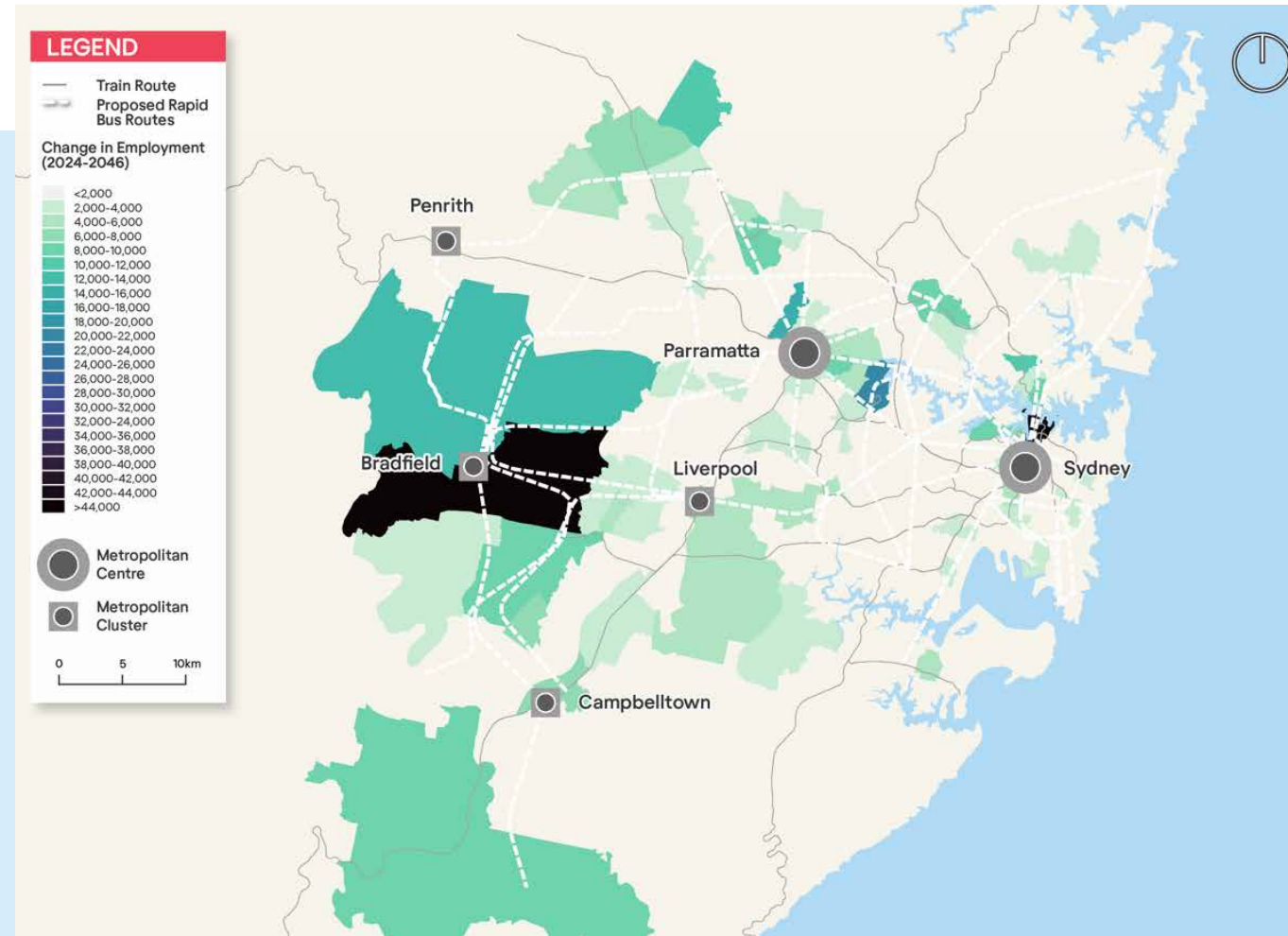
Source: WSP

2.3 Develop a business case for the tier one bus network

A key lesson learned from the collapse of plans for rapid buses in Sydney's Bus Future is that business cases for new bus service tiers and their networks should not be fragmented route by route. Instead, a business case should be developed for the entire tier one network.

This will save money and time, helping to enable quick delivery. Critically, it will also ensure the benefits of a rapid bus network are calculated as a whole. One rapid bus route alone has fewer benefits than a rapid bus route that is part of a well-integrated rapid bus network.

Lead agency: Transport for NSW

2.4 Create a delivery agency for the tier one bus network

Transport for New South Wales should establish a delivery agency, much like Sydney Metro, to deliver Sydney's rapid bus network.

Delivering 40 rapid bus routes across Sydney over the next 5 to 10 years is a huge undertaking. It requires a coordinated approach to implement the routes across state and local roads, with 24/7 bus-only lanes, new bus stop infrastructure, upgraded signal priority and a new fleet of buses.

A Sydney Rapid Bus agency should be responsible for the planning and delivery of the network. This will help ensure the entire network is delivered in a timely and cost-effective manner and will establish the rapid bus network as a key part of the NSW Government's infrastructure program.

Lead agency: Transport for NSW

2.5 Review the bus network every five years

To ensure optimal bus operations and services, a bus network review every five years should become a legislative requirement.

The aim of a review should be to ensure that strategies and plans are on-track, while identifying what is and isn't working by engaging with operators and the community to inform updates to existing strategies and plans, and shape future plans.

A review should identify bus routes that may need upgrading to a different tier of service in the bus hierarchy. For example, a tier three service may need to update to a tier two service to meet levels of demand, or to accommodate future demand expected from new planning proposals.

The review should take into account the entire active and public transport network to ensure connections between the modes are effective. At the same time, the review should consider which tier one or tier two bus services may need to be upgraded to a different mode, such as Light Rail or Metro, to adequately meet service demand.

Another useful metric that may be compared is the average travel speed of buses compared to cars, with the intent to implement strategies to ensure buses travel faster than, or at an equivalent speed to, cars for trips. This metric would help identify where bus priority infrastructure is lacking.

Lead agency: Transport for NSW

Image source: Copyright State of New South Wales Transport for NSW.

3. Lift frequency and reliability with bus priority

More people in Sydney need to be able to arrive at a bus stop and just go. While Sydney has a decent bus network, services are not frequent or reliable enough. Too many buses run only once every half hour to an hour, which makes catching the bus a carefully planned activity.

Missing a bus that goes once every half hour or hour, or even once every 20 minutes, can disrpt a whole day's plan. It can jeopardise employment and education, cause the cancellation of important appointments, and impact social activities. With so much at stake, it's no wonder that people want faster and more reliable buses.

Low frequency buses also tend to have indirect routes, with the aim of increasing coverage. However, this has the unintended effect of further decreasing the attractiveness and effectiveness of the bus as it slows down a person's journey. On the flip side, direct routes enable higher frequencies and fewer service kilometers.

The lack of bus priority infrastructure in Sydney also means bus trips are slower than they should be. Even frequent and direct services get stuck in traffic, so become unreliable. Some of our existing 'rapid' services lack priority infrastructure, with inefficient signal priority, breaks in bus lanes and bus lanes that only operate during the AM or PM peak.

Bus priority infrastructure includes, but is not limited to:

- Bus lanes and bus-only lanes, which can operate 24/7 or during peak periods

- Signal priority, enabled by the integration of the Public Transport Information and Priority System with Sydney Co-ordinated Adaptive Traffic System

- In-lane bus stops, so buses don't need to pull in and out of traffic

- Bus and bike only streets.

Frequency, reliability and route directness can all incentivise or disincentivise bus patronage. Far too many bus services in Sydney currently disincentivise patronage due to their low frequency and poor reliability. Research[21] has found Sydneysiders feel buses are:

- Slow due to traffic and overly circuitous routes

- Unreliable with services not turning up on-time

- Indirect with few direct services between destinations.

Incentivising bus patronage by improving the frequency and reliability of Sydney buses across the city will be key to achieving a mode-share target and a more inclusive, equitable and sustainable city.

Sydney's frequent bus services are concentrated in the north and east
7 to 9 am bus service frequency at bus stops across Sydney
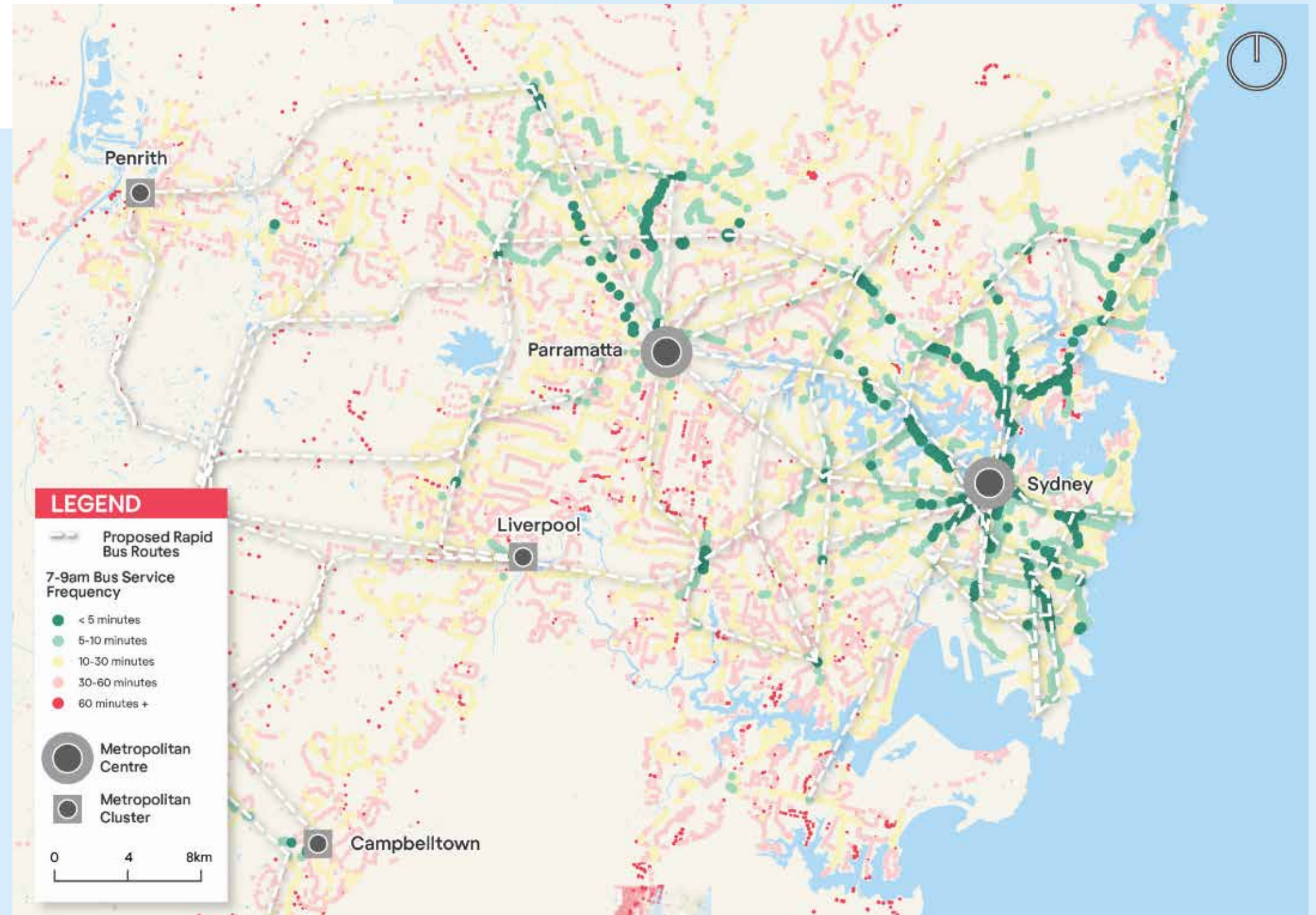
Source: WSP

21   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

ANALYSIS

Bus occupancy and time delay show frequent services induce demand

Summary

- For this report, we analysed the occupancy and time delay of five Sydney bus services including the 500X, 665, 811X, 894X and B1.

- This analysis shows higher frequency buses with less time delay have higher occupancy than lower frequency buses with more time delay. This indicates that bus demand can be induced, just like general traffic demand.

Background

- The data sample size is small, taken from a single week in October 2023, so represents a typical week rather than a yearly, monthly or other aggregate.

- Performance is measured against the scheduled timetables which are usually developed to consider travel time delays and are conservative.

Findings

- The less frequent routes, including the 811X and the 894X which have an hourly frequency, had the lowest average occupancy. The most frequent routes had the highest average occupancy.

- The B1, 500X and 665 show that high occupancy and crowding can factor into delay. This is also when the passenger experience is the worst – the bus is running late and it's hard to get a seat.

- Bus lanes make a considerable difference to reliability – services with priority are generally less than 60 seconds late.

- The 894X, which does not run on a bus lane, has a delay greater than three minutes. It also has the lowest occupancy of all the routes analysed.

- Because scheduled timetables consider travel time delays, some services, like the 665, run late along the route and then arrive early. A check of the timetable shows the schedule allows eight minutes travel time between Westmead and Parramatta Station inbound in the peak. This is less than a 2 km trip.

Why is this important

- Higher frequency services aren't as inconvenient to passengers when running late because another service will arrive shortly afterwards.

- Bus lanes are critical to allow for greater frequency and reliability of services.

- Higher frequency bus services induce demand because they are more convenient.

500X
West Ryde to City Hyde Park
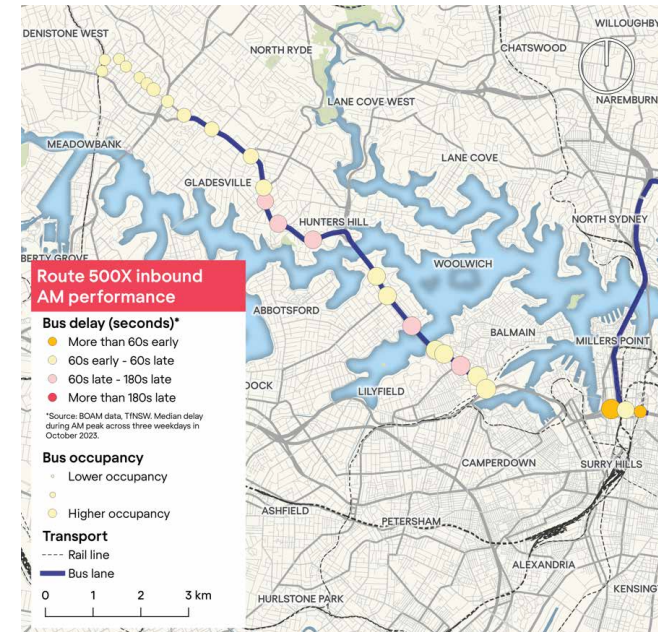
Source: Arup

665
Rouse Hill Station to Parramatta
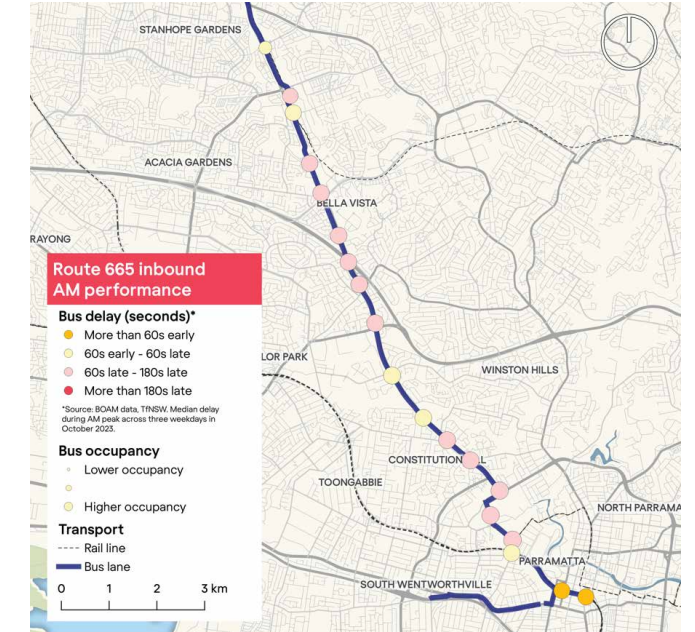
Source: Arup

811X
Pemulwuy to Parramatta

Source: Arup

894X
Bridgewater Estate to Campbelltown
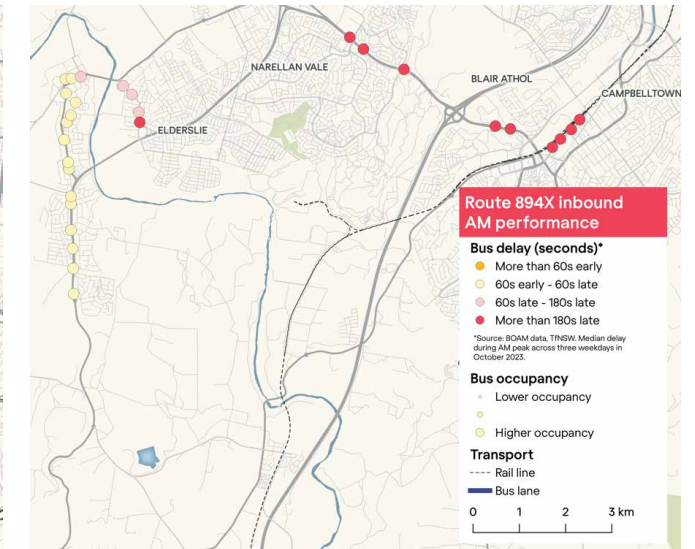
Source: Arup

B1

Mona Vale to City Wynyard

Route B1 inbound AM performance

Bus delay (seconds)*
- More than 60s early
- 60s early - 60s late
- 60s late - 180s late
- More than 180s late

*Source: BGAM data, TfNSW. Median delay during AM peak across three weekdays in October 2023.

Bus occupancy
- Lower occupancy
- Higher occupancy

Transport
---- Rail line
— Bus lane

0   1   2   3 km

Source: Arup

3.1 Increase the frequency and hours of operation of all bus services

As per recommendation 1.1, service standards for all tiers of the bus hierarchy should be more ambitious, with all tiers of service available across the city with on-peak frequencies as follows:

- Tier one or 'rapid' – every 1 to 4 minutes, 24/7

- Tier two or 'frequent' – every 5-10 minutes, 5am to 1am

- Tier three or 'local' – every 10 to 15 minutes, 5am to 11pm

See recommendation 1.1 for more details on desirable off-peak frequencies and service treatments.

Sydney's all-day frequent bus routes are currently concentrated in the eastern part of the metropolitan area. Their network design largely serves trips to and from the Eastern Harbour CBD.

But tier one and two, or rapid and frequent, bus services need to be distributed broadly and equitably across Metro Sydney. West and southwest Sydney currently lack these services, forcing those who don't live near a Train or Metro line to rely on a car.

It is important to recognise that frequent high-quality bus services can create demand. For example, a bus route with a service frequency of 30 minutes will have far less demand than the same route with a service frequency of seven minutes because it isn't as convenient.

To help ensure greater frequencies are met, bus capacity guidelines should be revised to ensure overcrowding doesn't reduce demand or cause delay – see recommendation 6.3. Further, when implemented carefully and with supportive policies and infrastructure, frequent services can also help shape land use – see recommendations 5.1 and 5.2.

Lead agency: Transport for NSW

CASE STUDY

Infrequent buses affect access to school, Willmot

Image source: Transit Systems NSW

Summary

- Year six students from Willmot Primary School, in the City of Blacktown, are advocating for more frequent bus services in their area.

- They are particularly concerned about how infrequent and indirect buses will impact their ability to get to high school.

Findings

- The students surveyed other students at the school to understand how buses were affecting access from Willmot to other places.

- 38% of respondents said bus wait times are too long.

- 30% of respondents said public transport in Willmot is bad.

- 91% of respondents said if there was a bus to the local high school in Shalvey they would catch it.

Why this is important

- Infrequent and indirect buses, as well as a lack of school buses, affect how kids are able to get to school in parts of Sydney.

- Due to the infrequency of buses in Willmot, if a student misses their bus they will more than likely be late for school, impacting their education.

3.2 Legislate the road user space allocation policy

Legislating the road user space allocation policy, along with the adoption of a mode-share target, is vital to ensure Sydney buses are prioritised on the road. Importantly, it will justify the investment required to deliver Sydney's rapid bus network and to increase the number of frequent bus services.

Rapid, frequent and local bus services cannot be expected to run reliably at the frequency stated in a service standard if they are not supported with road space allocation and bus priority infrastructure, such as bus lanes.

The NSW Bus Industry Taskforce 2023-2024 revealed a widespread view that bus priority is hampered by a bias to minimise impacts on general traffic, and that bus priority improvements are provided in a manner that minimises impact on general traffic.[22] This is concerning as priority should be given to moving the most amount of people in the most efficient way, which will typically be via public transport.

This is why the taskforce has recommended that the road user space allocation policy, which clearly allocates a higher level of priority to buses over cars, is reviewed to ensure it is properly applied. We support the intent to ensure that the policy is properly applied, but instead suggest the policy should be legislated in the Roads Act 1993.

We further recommend that approval mechanisms within Transport for NSW are adjusted to ensure gateway processes and business cases demonstrate how the policy is being upheld for any given project.

Lead agency: Transport for NSW

22   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

3.3 Update the Bus Priority Infrastructure Planning Toolbox

The Toolbox should be updated to align with a clearly defined and publicised bus hierarchy. Transport for New South Wales should strengthen internal processes to ensure guidance is applied. This may include requiring any business cases for new roads or bus routes to show how guidance in the Toolbox has been applied.

The Bus Priority Infrastructure Planning Toolbox[23] is a useful guide for practitioners in Transport for New South Wales and local traffic committees on the types of bus priority infrastructure that suit different roads, streets and land use contexts.

While the Toolbox currently references a 'hierarchy', this is not clearly defined by Transport for New South Wales. The document could be divided into chapters so that guidance is delineated by service tier, and by the different roads, streets and land use contexts. It should also provide a greater level of detail so it can be more easily applied by practitioners.

The Toolbox also references how bus priority infrastructure should integrate with walking and cycling, but pays little attention to the comfort of people using the footpath. This needs to be updated and considered because pedestrians are unnerved by fast-moving buses or cars in the kerbside lane.

Where there is a six-lane carriageway that is not on a motorway, the kerbside lane should only be used for bike and car parking, parklets, trees and bus stops. Bus lanes should then run next to the kerbside lane. This is also possible with a four-lane carriageway but needs to be carefully planned, ensuring bus priority with infrastructure such as in-lane stops, queue jumps and signal pre-emption.

23   TfNSW. 2021. Bus Priority Infrastructure Planning Toolbox, https://www.transport.nsw.gov.au/system/files/media/documents/2021/Bus-Priority-Infrastructure-Planning-Guide.pdf

Image source: Copyright State of New South Wales Transport for NSW

It is important to remember that allocating more road space to buses is far more efficient than allocating more road space to cars. Double-decker buses carry up to 120 people at capacity, and cars typically only carry 1.2 people. So one 12m long double-decker bus can carry the same amount of people as half a kilometer of cars.

Lead agency: Transport for NSW

> **Rapid, frequent and local bus services cannot be expected to run reliably at the frequency stated in a service standard if they are not supported with road space allocation and bus priority infrastructure, such as bus lanes.**

3.4 Review and expand the Bus Priority Infrastructure Program

The Bus Priority Infrastructure Program should be expanded to more than $100 million in annual funding, for projects that cost less than $10 to $15 million. Projects in the existing pipeline should be reviewed and, where required, be updated to ensure they adhere to the road user space allocation.

This cost is still a fraction of the of delivering new rail or light rail and will enable a much faster delivery of the priority infrastructure required for an increased number of frequent – tier two – bus services in Sydney.

The Bus Priority Infrastructure Program currently receives $20 million of funding annually, and is responsible for:

- Small 'pinch-point' projects that cost less than $2 million
- Large discrete projects, such as the Liverpool to Parramatta T-Way and the Northern Beaches B-Line
- Signal priority for buses.

The program's funding allocation has not increased for 20 years. Given the high rates of inflation and the increasing costs of delivering infrastructure, the funding pot for bus priority infrastructure has essentially significantly decreased over the past two decades.

We recommend the Bus Priority Infrastructure Program is not used to deliver any of Sydney's rapid bus network – this should be done by an established delivery agency (as per recommendation 2.4). Instead, the program should be used predominantly for frequent – tier two – bus priority infrastructure.

According to our definition of tier two bus services, all tier two routes should have the following bus priority infrastructure characteristics:

- majority of route is bus-only lane on-peak (AM and PM)
- sections of route are bus lane off-peak
- signal pre-emption at some lights
- some stops are in-lane boarding.

Critically, there needs to be a programmatic approach that focuses on increasing travel time certainty for buses over cars. This requires changing the traffic models used to approve bus lanes. Current allowable models for bus lane approval do not discount car traffic disruption and have too high a threshold for acceptable disruption.

If we want buses to be efficient, they need their own space. Funded projects should adhere to the Road User Space Allocation Policy. This means bus priority projects should reallocate road space away from cars for buses, otherwise we end up increasing capacity for cars while providing priority for buses.

The NSW Bus Industry Taskforce has suggested that $117 million in capital funding over 10 years should be made available to deliver the infrastructure required for eight new frequent bus routes.[24] This is a smaller allocation of annual capital funding than the already underfunded Bus Priority Infrastructure Program. Instead, we recommend expanding the Bus Priority Infrastructure Program to $150 million in annual funding for projects that cost less than $15 million.

Lead agencies: Transport for NSW, NSW Treasury

Image source: Copyright State of New South Wales Transport for NSW

24   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

3.5 Expand the use of signal priority for buses

All rapid and most frequent bus routes should have signal priority to allow faster and more reliable bus travel times.

Transport for NSW has a priority signaling software that interfaces with the existing Public Transport Information and Priority System (PTIPS).

The system provides priority only for T80 services at signalised intersections, based on an agreed set of rules. Since implementing this new priority system, weekday peak travel times along the T80 transitway have reduced by up to 10 minutes and 13%. Travel time savings of this magnitude are incredibly difficult to achieve, even with significant infrastructure investment.

This low cost, low intervention solution could be rolled out quickly across the existing and proposed Rapid Bus Network and provide substantial time and reliability improvements to benefit existing customers and to attract new customers.

It is worth noting that signal priority does not work when there is network congestion ie when there is no clear lane ahead to discharge into. This means signal priority upgrades need to be made in tandem with other bus priority infrastructure upgrades, namely bus lanes.

For this to be rolled out for a new Rapid Bus Network in Sydney, PTIPS will need to be upgraded or replaced – see recommendation 1.4 for more details.

Lead agencies: Transport for NSW

Bus travel time improved by an average of six minutes with signal priority
Average travel time of all bus routes along the T80 to Liverpool, 2020-2023

Day	2020	2023
Monday	59	53
Tuesday	59	53
Wednesday	58	53
Thursday	58	53
Friday	58	53
Saturday	59	54
Sunday	59	52
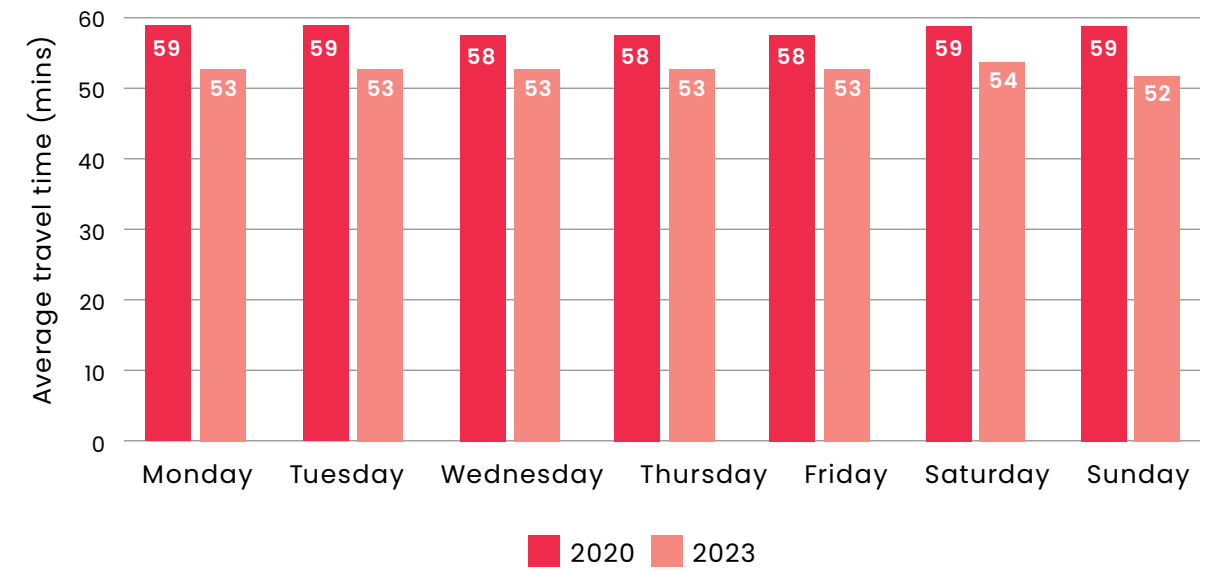
Source: Aurecon

Bus travel time improved by an average of four minutes with signal priority
Average travel time of buses along the T80 to Parramatta, 2020-2023

Day	2020	2023
Monday	58	55
Tuesday	59	55
Wednesday	58	55
Thursday	59	55
Friday	59	54
Saturday	60	58
Sunday	59	56

Source: Aurecon

Image source: Copyright State of New South Wales (Transport for NSW)
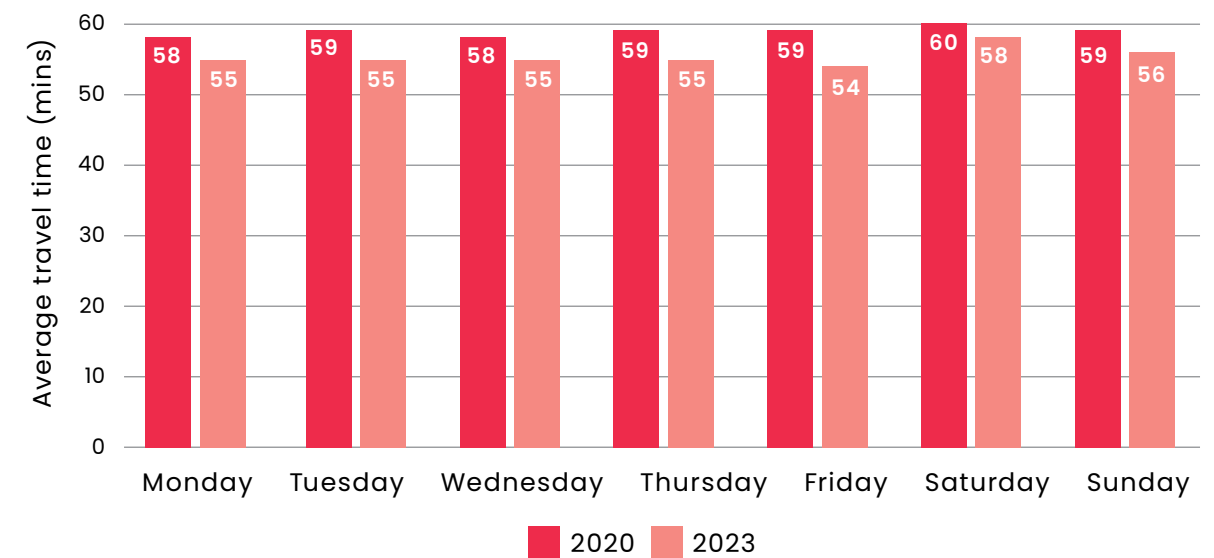
4. Integrate with the wider transport network

Buses connect people to places. But buses should also connect people to other buses and to other public and active transport modes. The more connections between buses and other modes, the more options people have to move around. An improved bus network and services should make it possible for anyone to get anywhere in Sydney without a car.

It's not just spatial connectivity that's important. Temporal connectivity, enabled by frequent services, unlocks the possibility of more multi-modal journeys. People are far more likely to use two or more modes of public transport if they know that when they arrive, they'll be on their way again within five minutes.

People in Sydney feel that buses are poorly coordinated with other transport services.[25] There is considerable latent demand for buses in Sydney, but people who want to catch the bus find that routes and services do not meet their needs. To achieve mode-shift, it is imperative that buses better connect spatially and temporally to the rest of the transport network in Sydney.

Better bus connections to other modes, and greater mode-shift, has the added benefit of leveraging the record investment made into Sydney's rail and light rail infrastructure over the last decade. Increased ridership ultimately increases fare collection and maximises the social and economic benefits of Sydney's public and active transport network.

4.1 Optimise the bus network before new rail lines open

When new Train, Metro or Light Rail lines are being constructed, there is an opportunity to review and optimise the surrounding bus network.

One of the advantages of buses is their adaptability to a changing public transport network. New rail lines will potentially duplicate some bus services. By removing any duplicated bus services, and re-routing other services to feed into the higher capacity rail lines, we can reduce bus congestion in centres.

Example of opportunities to better connect West Metro with buses
Potential feeder bus services into West Metro for further investigation
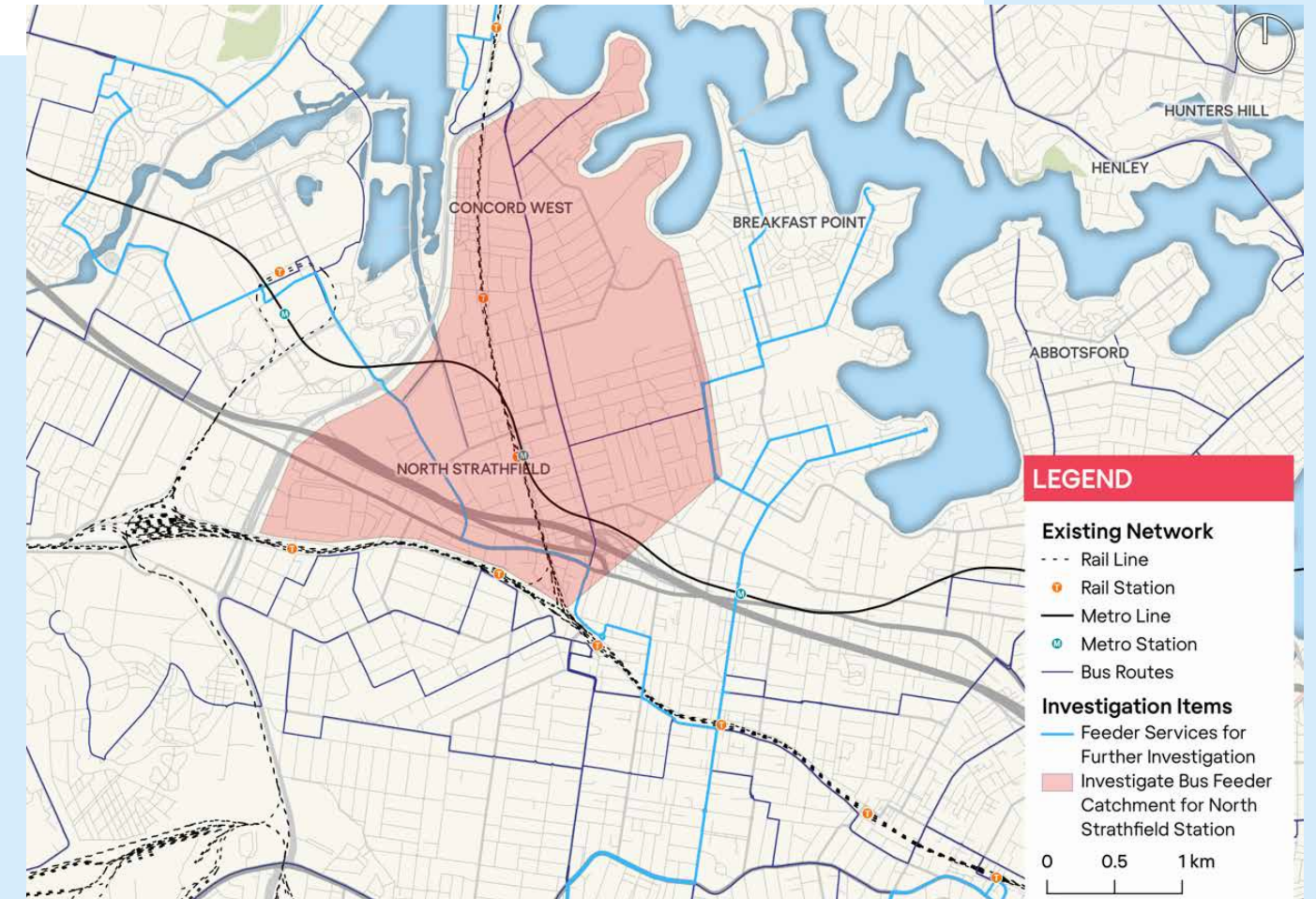
Source: Arup

Some buses can be redeployed to implement new direct services elsewhere, or to increase the frequency of existing services without additional investment in the bus fleet. The role of buses in connecting centres and workplaces, filling gaps between other transit lines, and getting transit into developing and growing areas, is critical and should be emphasised during the optimisation process.

Optimisation should be planned during the construction of new rail lines, so bus network and timetables update on the same day that the new rail line opens. If this timing is not aligned, the new rail line will not achieve the reinvestment of resources envisaged in its business cases because people may continue to use alternate bus routes, making it difficult to optimise them at a later date.

It is critical that buses connecting to rail are frequent, and that their timetable aligns with the rail service. This ensures both modes have the same hours of operation and service frequencies are matched.

Lead agency: Transport for NSW

25   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

Image Source: Tom Payne

ANALYSIS
How buses could be optimised when new rail opens

Summary

- For the purposes of this report, we investigated how buses could be redeployed and services optimised if, in the future, Sydney's Light Rail were extended down Parramatta Road to Maroubra Junction and up Victoria Road.

- We note this extension could be Light Rail or a trackless tram. The point of this analysis is to exemplify how existing buses could be optimised when higher capacity services open.

- We estimate that if all three potential Light Rail line extensions took place, more than 160 buses, roughly eight different services inbound to the Eastern Harbour CBD, could be reconfigured or redeployed.

Background

- An existing bus service may 'graduate' from one tier of bus hierarchy to another.

- A rapid or frequent bus route operating at maximum frequency with full capacity could help identify future heavy or Light Rail corridors.

- Three key principles were used to guide this analysis:

  1. Express services that duplicate the assessed potential Light Rail alignments will terminate at the alignment. Passengers will transfer to Light Rail services onwards to the city.

  2. Services which provide local connectivity before duplicating the assessed alignments will terminate at the alignment to interchange with Light Rail services.

Light Rail down Parramatta Road could reduce bus services to the CBD
Potential Light Rail extension down Parramatta Road, along with potential bus route optimisations for further investigation

Source: Arup

Light Rail to Maroubra Junction could reduce bus services to the CBD
Potential Light Rail extension to Maroubra Junction, along with potential bus route optimisations for further investigation

Source: Arup

Light Rail up Victoria Road could reduce bus services to the CBD
Potential Light Rail extension up Victoria Road with potential bus route optimisations for further investigation

Source: Arup

3. Feeder services crossing the assessed alignments will be retained.

- Light Rail down Parramatta Road would mean several existing bus services could be downsized and could terminate at Taverner's Hill, Leichhardt, Camperdown or Glebe.

- Light Rail to Maroubra Junction would mean several bus services duplicate the L3 Kingsford Line. These services could be rationalised based on the capacity of Light Rail services.

- Light Rail up Victoria Road would mean several existing bus services could be downsized and could terminate at Top Ryde, Gladesville or Drummoyne.

Why this is important

- Allowing and planning for services to graduate from one mode to another will help ensure public transport accessibility keeps pace with population growth.

- Feeding buses into other modes will increase faster and more frequent intermodal journey options in Sydney.

- There is an opportunity to redeploy excess buses, ensuring growth areas requiring new bus routes or higher frequency buses can be serviced without additional investment in the bus fleet.

4.2 Western Sydney Airport rapid buses need to be expanded and integrated

To make the most of the Western Sydney Airport Rapid Bus Network, it should be expanded and include an integrated package with first and last mile solutions to ensure accessibility for existing communities to the airport and other key employment centres.

Western Sydney Airport has identified that obtaining a significant public transport mode- share that increases over time is critical for operational efficiency and a good user experience. Additional rapid routes to connect Blacktown, Fairfield and Parramatta should be committed to now.

The 24/7 operation of the airport will require bus and Metro services to match these hours of operation.

A package of first and last mile solutions should include:

- Walking and cycling network upgrades

- Bike parking facilities

- On-demand bus services

- Improvements in local bus services, to feed into rapid routes

- Consideration of re-routing rapid routes from arterials to better service existing communities and local centres

- Commuter carparks or kiss and ride facilities, only where other solutions are not viable.

The NSW Government has already committed to three rapid bus routes connecting Western Sydney Airport Metro with Campbelltown, Liverpool and Penrith. These are planned to be in operation in 2026 when the airport opens.

We analysed access to the three rapid bus routes, based on indicative routes outlined by the NSW Bus Industry Taskforce 2023–2024.[26] Our analysis looked at population and jobs within an 800m walking catchment of likely bus stops. Because of surrounding land use, we found that the provision of first and last mile connection to the rapid bus services will be critical.

The proposed routes will be accessible within walking distance (800m) for around 20,000 residents and 50,000 jobs. However, most people living within existing suburbs along the routes will not be within walking distance of the bus stops.

This demonstrates that, without investment in first and last mile connectivity solutions, the reach of the proposed network to existing communities will be extremely limited. At this stage, there is limited public information from Transport for New South Wales on what these solutions may entail and whether dedicated funding is available.

26   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

Western Sydney Airport Rapid Bus won't be easy to access on foot

Percentage of residents by suburbs who live within 800m of likely bus stops

Suburb	Percentage
Oran Park	9%
Edensor Park	7%
Bonnyrigg	6%
Glenmore Park	5%
Harrington Park	3%
Bonnyrigg Heights	1%

Source: Aurecon

These rapid routes are essential to leverage the investment of both the Metro and Airport. It is important that the routes are carefully and strategically planned to ensure they are easy for people to access by foot, bike or other bus services as, at this stage, it is likely routes will run along major roads that are separated from residential areas and commercial centres.

Western Sydney Rapid buses will need first and last mile solutions

Indicative map of the three Western Sydney rapid bus routes, including 800m walking catchments around likely bus stop locations

Source: Aurecon

These services need to be rapid from day one, as promised, in order to build community uptake and trust in the service. While demand may initially be lower than for other rapid routes in Sydney, the projected job and population growth, as well as the airport demand, will require rapid bus services in the very near future.

Lead agency: Transport for NSW
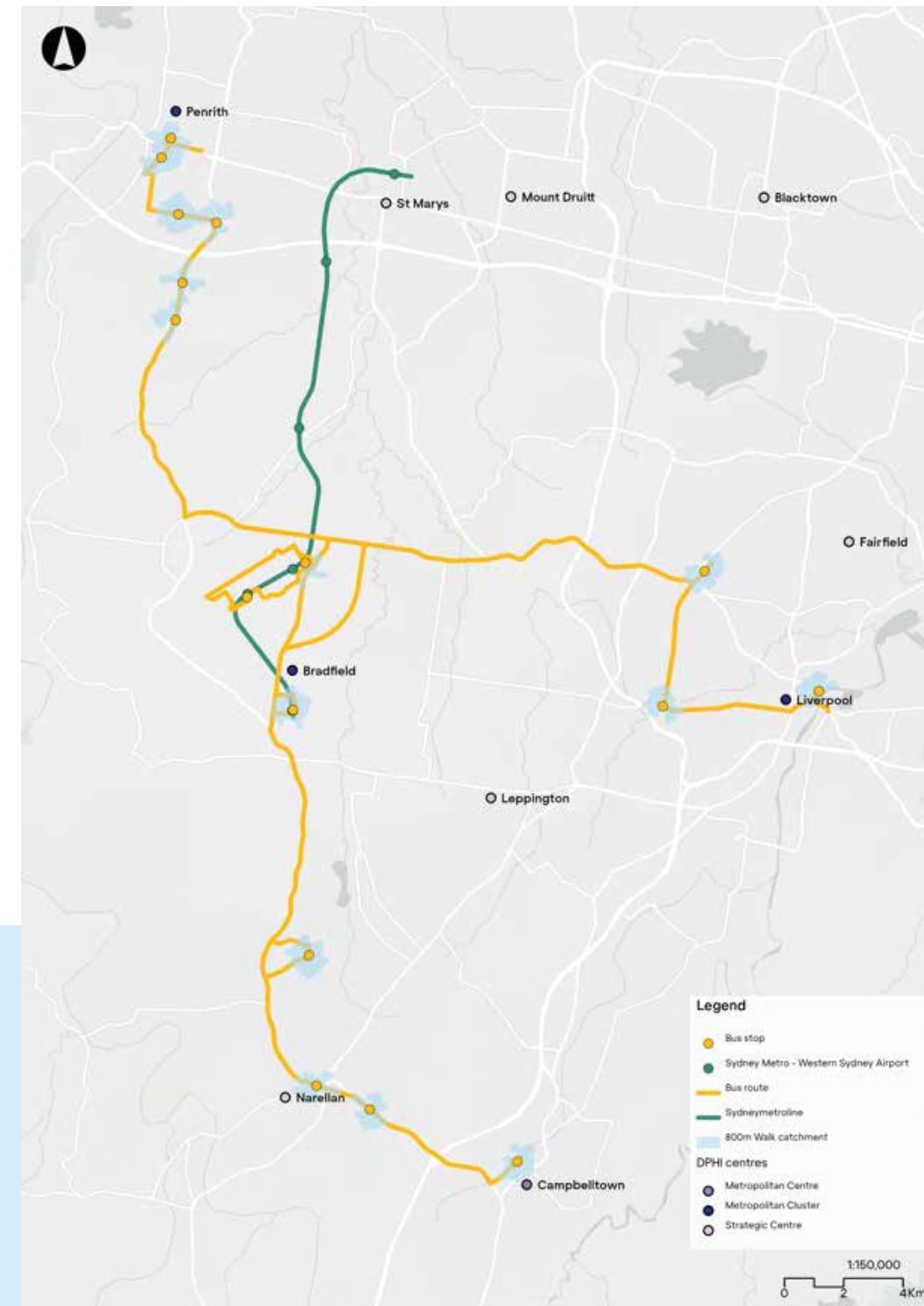
4.3 Trial bike racks on buses in Sydney

Bus bike racks will make it easier for people to make multi-modal trips, particularly once the strategic cycleway network is delivered.

Bike racks on buses have been successfully trialed in Queanbeyan, Yass and Canberra and are common in cities across New Zealand, the United States and Canada. Bike racks make it easier for people to make multi-modal bike and bus trips, which have positive health and environmental outcomes.

A trial may help determine the most appropriate routes and locations for bike racks on buses in Sydney, and the impact on operational dwell time. While there may be some impact, buses should be ready to support trips with additional transportation tools, like bikes, prams and other mobility devices, so should promote these capabilities accordingly.

Lead agency: Transport for NSW

4.4 Install bike parking at major bus stops

Bicycle parking at major bus stops helps to integrate public transport with active transport, giving people more options for how they get around.

Sydney also has a lack of decent bike parking in centres, so installing bike parking in secure cases at major bus stops would increase the overall provision. Wherever possible, bike parking should be in the kerb lane, directly before or after a bus stop, to reduce clutter on the footpath. Bike parking should take up a minimum space of one car parking spot.

Lead agencies: Transport for NSW, local councils

4.5 Make sure bus stops are accessible by footpath

The new Bus Stop Standard should guide councils to ensure bus stops are connected by:

- Footpaths on both sides of the street with kerb ramps and continuous footpaths, where possible

- Footpaths with a preferred minimum width of 2 metres, with a desirable width of 2.5 metres.

We recommend a bus stop access grant program is established to help local councils fund bus stop footpath accessibility.

The image of a lone, single car parking spot in the middle of a field is quite ridiculous. How is anyone supposed to park

in that spot if they cannot drive there? Yet this is precisely the condition of some bus stops in Sydney.

Many bus stops in Sydney are not easily accessible by foot or bike and do not comply with the Disability Discrimination Act.[27] For older people or people with mobility devices or prams, having a footpath to get to the bus stop is essential.

It goes without saying that all bus stops must be connected to a footpath to achieve the absolute minimum level of accessible design. Sydney must endeavour to go beyond the absolute minimum.

Transport for New South Wales is developing a Bus Stop Standard to help with compliance, and to guide local councils on how to improve access to bus stops.[28] While this is an important first step, many local councils want to improve bus stop access but struggle to fund required improvements. A grant program should be established to help with this.

The new Bus Stop Standard should guide councils to ensure bus stops are connected to a footpath network that provides multiple points of access. Too often, bus stops are located at the end of a footpath within an incomplete footpath network. On a typical street, this would mean footpaths extend in either direction from the bus stop.

The footpaths must be part of a comprehensive and connected network, so footpaths must be provided on both sides of the street on all streets to maximize bus stop accessibility. Continuous footpaths provide further seamlessness. Kerb ramps are an absolute requirement.

Image: Sweltering Cities

> ## Many bus stops in Sydney are not easily accessible by foot or bike and do not comply with the Disability Discrimination Act

27 TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf
28 NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf
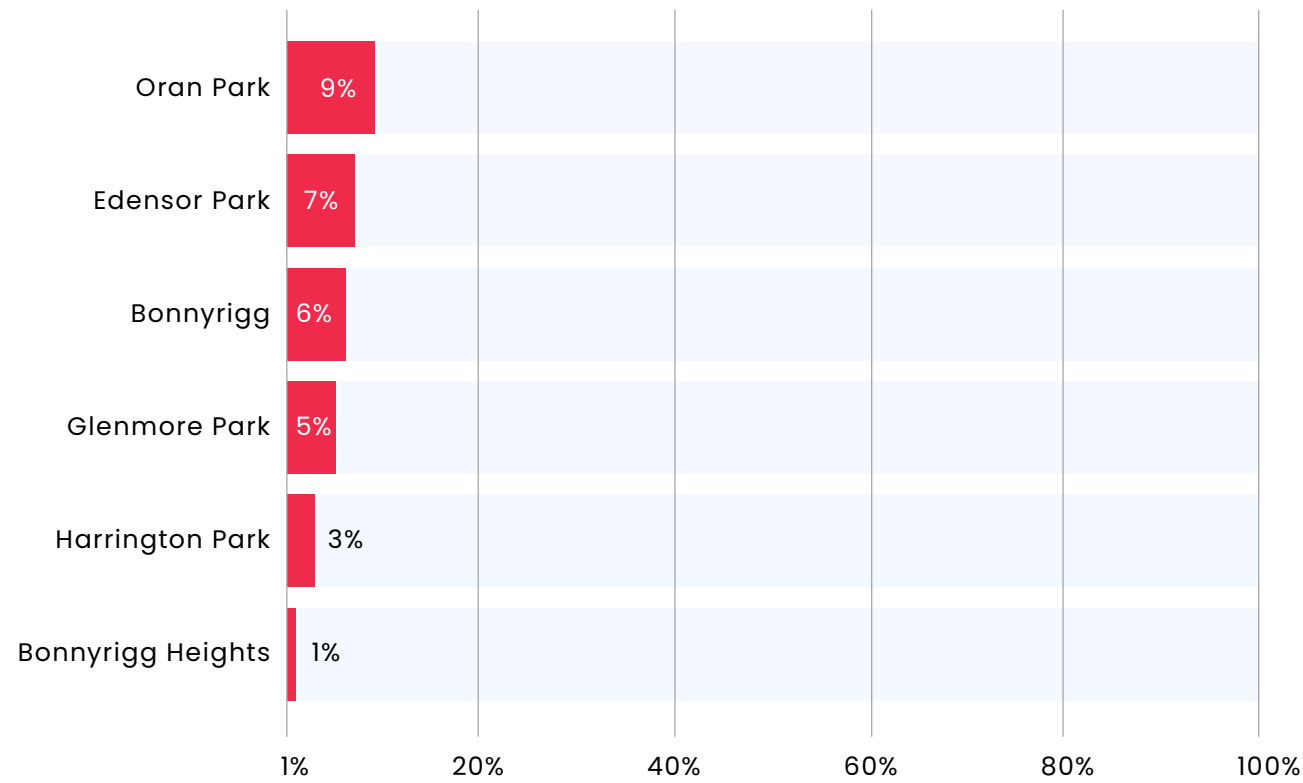
Image source: Copyright State of New South Wales Transport for NSW

Footpaths must also provide a generous clear width. Many footpaths have been designed to follow 1.2 metre minimum width standards (AS 1428.2) for DDA compliance. These are too narrow to allow people with mobility aids or using prams to bypass other footpath users. Footpaths should provide enough width for two users of mobility aids to bypass one another.

In the context of bus stops, these interactions are more likely to occur. A width of 2.0 metres is required to facilitate this movement. This also aligns with Transport for NSW's Walking Space Guide minimum target.[29]

Bus stops also create concentrated footpath user volumes. To allow mobility aid users to comfortably use a footpath among larger concentrations of users, a 2.5 metre width is desired. This width facilitates a typical wheelchair and two ambulatory pedestrians in cross-section. For example, this would allow a wheelchair user and an accompanying ambulatory person to bypass another pedestrian.

For bus stops located in high-activity areas, additional width and design parameters need to be considered to create highly accessible bus stops. Transport for NSW's Walking Space Guide and City of Sydney's Street Design Coordination provide considerations with respect to land use context.

Lead agencies: Transport for NSW, NSW Treasury, local councils

4.6 Exceed Disability Discrimination Act standards for bus stops

Work toward a more ambitious definition of an accessible bus stop. System-wide implementation of high-quality accessible bus stops is possible over the long-term, but it requires immediate and ongoing political leadership in terms of funding and the reallocation of street space.

If Sydney's bus network is to adequately serve the needs of all existing and future passengers, every bus stop must also be designed to be safe, comfortable and free of barriers. This is currently not the case, with many bus stops across Sydney failing to comply with the Disability Discrimination Act (DDA). [30]

The challenge to redress current deficiencies is significant. Bringing all bus stops up to DDA compliant standards as specified in the Disability Standards for Accessible Public Transport 2002 (DSAPT)[31] addresses several bus stop design considerations. However, dignified and barrier-free travel as defined in other jurisdictions means we need to exceed current DDA standards for a truly high-quality and accessible bus transport system.

The good news is that this will also attract more passengers and enhance bus operations. Accessible (or DDA+) stops should provide:

- An adequate waiting area with seating and shelter that facilitates manoeuvring

- Tactile ground surface indicators including along the kerb edge

- B-poles with wayfinding, timetables and braille

- Strong consideration for bus bulb or cap infrastructure and in-lane stopping

- Strong consideration for special raised kerb edges.

Above all, the implementation of accessible (DDA+) bus stops requires dedicated space within the public domain. Given there are already constrained footpaths in many urban precincts, this space is typically available only through a reallocation of parking or vehicle travel lanes.

Until we reckon with basic geometric facts, there is no realistic possibility of providing an attractive, dignified and truly accessible public bus transit system in Greater Sydney. For example, best practice increasingly recognises improved accessibility as a key benefit and primary motivator for the provision of in-lane bus stops. This further affirms the need to legislate the Road User Space Allocation policy, as per recommendation 3.2.

Lead agencies: Transport for NSW, local councils

29 TfNSW. Walking Space Guide, https://www.movementandplace.nsw.gov.au/design-principles/guides-and-tools/walking-space-guide-towards-pedestrian-comfort-and-safety

30 TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf
31 Australian Government. 2011. Disability Standards for Accessible Public Transport 2002, https://www.legislation.gov.au/F2005B01059/latest/text

Image source: Stuva

CASE STUDY

Barrier-free bus stops, Munich

Summary

- The City of Munich adopted a 'Public Transport Offensive' plan in 2011 – a program to ensure all bus stops would be barrier-free.

- Bus stop kerb extensions and in-lane stopping were implemented to minimise horizontal and vertical gaps.

- Ongoing cross-party political leadership was required to push for shelters and seating at all bus stops, regardless of local constraints.

Background

- Given the large amount of bus stops needing to be reviewed and upgraded, the City of Munich devised a point system for prioritisation.

- After the first round of implementation, additional funds were earmarked for capital and operating expenses, reinforcing the need to make all bus stops barrier-free.

- The City of Munich worked with members of disability groups to develop and refine design standards as implementation progressed.

- Decision-makers challenged responsible departments to expand the definition of what constituted a barrier-free stop.

- A unique, narrower shelter design was developed for more constrained locations.

- While progress is ongoing, more than 70% of all 2,420 surface transit stops in Munich now have shelters. Upgrading the vertical and horizontal profiles to provide fully barrier-free conditions is anticipated to take another 15 to 20 years.

Why this

- Political leadership is required and this must recognise the need for both financial and political capital: the allocation of funds and the reallocation of road space.

- A dignified, barrier-free bus stop should provide seating and shelter. These elements are not bonus features.

- Kerb extensions and special kerbs are a core part of an accessible stop.

5. Integrate with land use planning

As is the case across Australia, Sydney is currently in the grip of a housing crisis. It would be remiss for the NSW Government to deliver much-needed housing reform without also delivering the public transport required to support Sydney's new and existing homes.

The NSW Government needs to make sure the low to mid-rise housing reforms are supported by the bus network and service frequencies. There is also an opportunity to expand the Transport Oriented Development program to include higher densities along rapid bus corridors and around bus hubs, as well as rail stations.

We need to rebalance Sydney by doubling down on the integration of transport and land use planning. Aligned transport and planning will enable future generations, yet to be born or to arrive in Sydney, to more easily, affordably and sustainably access homes, education, jobs and leisure.

The golden rule of sustainable urban development is to couple transport and land use planning so that fewer people are dependent on a car to get around.

This is based on three key principles:

1. Aligning transport infrastructure with land uses

2. Co-locating mixed land uses and higher densities in highly accessible locations

3. Prioritising resourcing for public transport over new road construction, except for where new roads are required for buses.

Historically, Sydney hasn't been planned or developed according to these principles. A big, sprawling city designed for the car means many people live in areas with poor public or active transport accessibility.

Delivering new or improved public transport in these areas is expensive because there are more service kilometres required for lower levels of patronage. But if we are to create a fair, productive and sustainable city, we need to make these investments.

Image source: Copyright State of New South Wales Transport for NSW
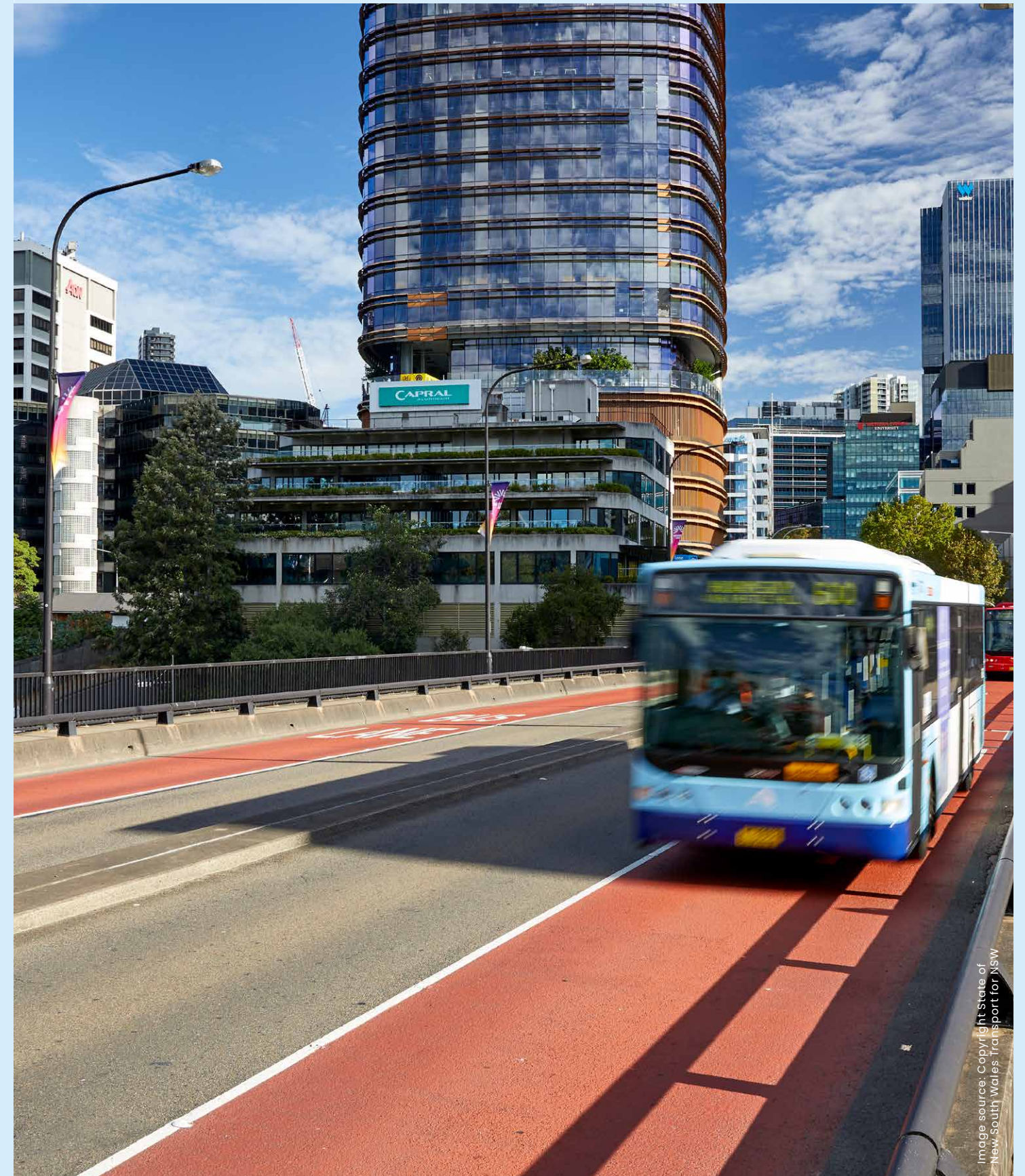
5.1 Align accessibility and density

Transport and land use planning should always take each other into account so that public transport adequately serves the existing population and so the population grows where public transport is able to service more people.

At the simplest level, mapping the public transport accessibility level relative to jobs and housing density can show us where density outpaces the provision of public transport services and vice versa. Mapping accessibility density alignment now and into the future can help prioritise where to improve public transport, and where to increase jobs and homes.

If we let housing and job densities outpace public and active transport provision, we will lock in car dependency as people will have no other choice but to drive. If this occurs, the negative impacts of a car-dependent city will grow with our growing population, including increasing traffic, pollution and street degradation.

Lead agencies: Transport for NSW, NSW Department of Planning, Housing and Infrastructure

Sydney's public transport accessibility is not well aligned with density
Accessibility density alignment 2021

Source: Mecone
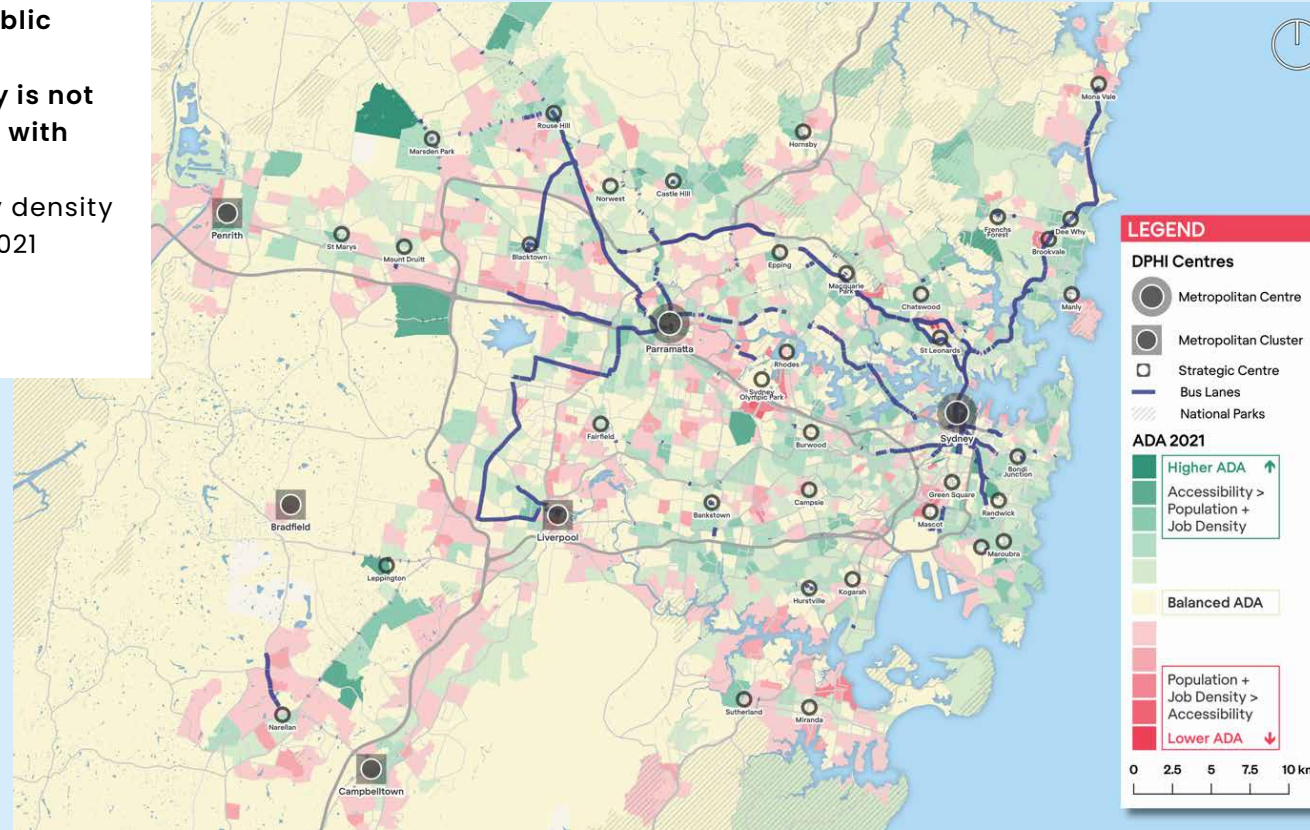
If we don't improve public transport accessibility, Sydney's future population will be severely underserviced
Accessibility density alignment 2046

Source: Mecone
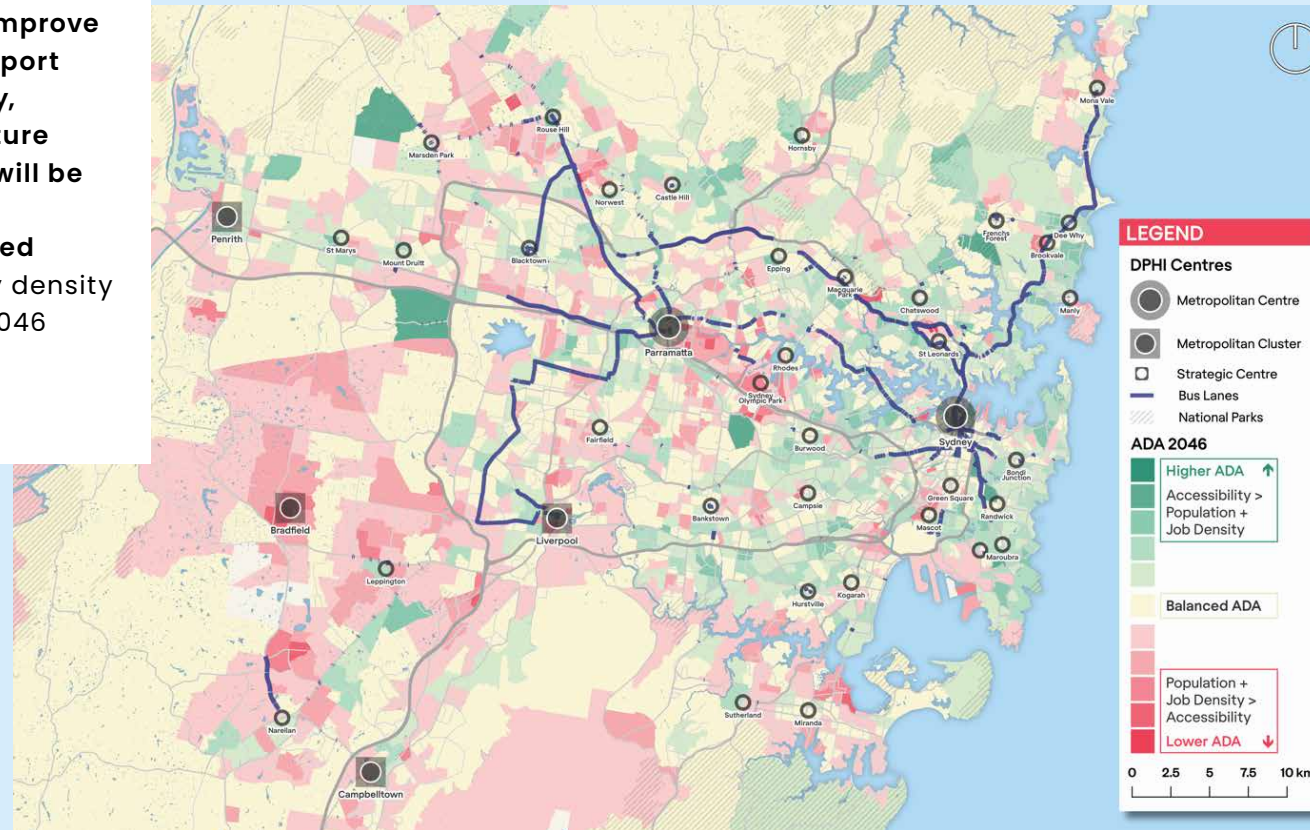
SIDEBAR
What is Accessibility Density Alignment (ADA)?

- Mecone's Accessibility Density Alignment (ADA) model integrates TfNSW's Public Transport Accessibility Level 2021 index (PTAL21) and Travel Zone Projections 2022 (TZP22) data on jobs and population.

- The PTAL21 index is grouped into seven levels, ranging from No Access (0) to Very High (6). Using TZP22 data, Mecone developed a combined population and job density index, also grouped into seven levels that range from No Population/Jobs (0) to Very High (6).

- The ADA is a composite index that examines alignment between these two indices. Areas where the level of public transport accessibility matches the level of combined population and job density are considered well aligned. This may be areas with no public transport and no population/jobs, or areas with very high public transport access and very high population/job density.

- Areas where the level of accessibility is greater than the level of population/job density have a positive ADA value. Areas where the level of accessibility is less than the level of population/job density have a negative ADA value.

CASE STUDY

Risk of public transport deficit, Western Sydney

Summary

- If the provision of public transport is not matched with expected growth in jobs and resident population, by 2046 there will be a severe public transport deficit in many Western Sydney suburbs.

- The Western Sydney Airport Metro alone is not enough to meet demand. It will need to be well integrated with other transport modes, and other modes will need to connect surrounding underserviced areas.

Background

- Over the coming decades, Western Sydney will experience substantial job and resident population growth.

- This area already has high rates of car ownership and use and this will worsen if more public transport services are not planned and provided.

- Given the lack of future rail plans, the design, funding and delivery of a good road network is a pre-requisite to allow for bus services.

- Uncertainty around funding for essential roads due to the withdrawal of federal funding is a risk to the provision of these buses.

- A diverse bus fleet is needed to ensure public transport options are available from day one in newly developed areas, and the fleet needs the capacity and capability to upscale as needed.

Why is this important

- Sydney cannot afford to keep growing without public transport services that accommodate this growth.

- If Bradfield is to develop into a desirable and sustainable city centre, good public transport services are essential to make it easy for people living in the surrounding area to travel around without sitting in traffic on congested, wide roads.

- Land-use planning also needs to ensure easy access to public transport corridors, with short blocks to increase walking permeability.

- Long-term bus plans and strategies need to integrate with other modes and be shaped by growth projections, but should also be used to help determine growth areas.

Without extra bus services and routes, Western Sydney will have a severe public transport deficit

ADA 2021   ADA 2046
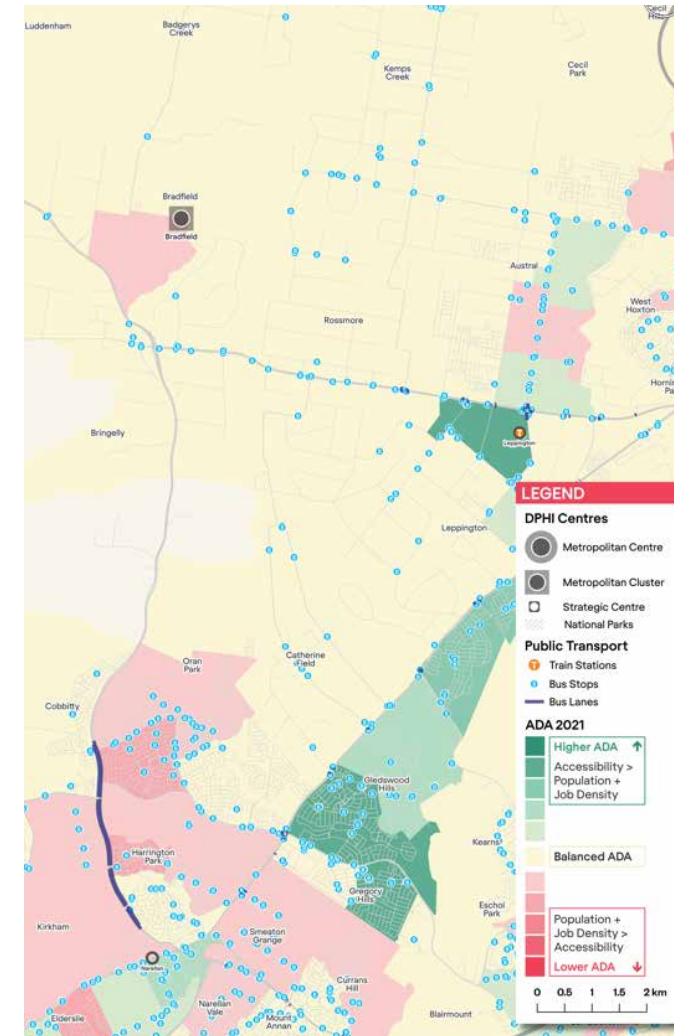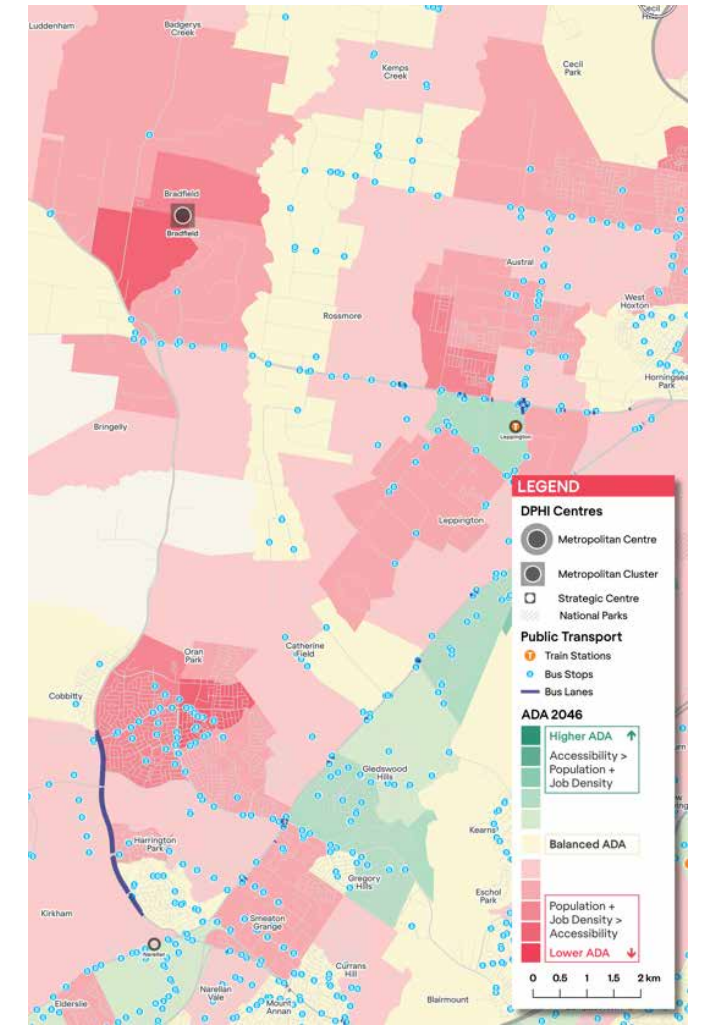
*See sidebar on page 83 for explanation of accessibility density alignment

Source: Mecone

SIDEBAR
Fifteenth Avenue Smart Transit (FAST) Corridor, Liverpool City Council

- Liverpool City Council's plans for Fifteenth Avenue could be a prototype for new forms of transit-oriented development in Sydney.

- Fifteenth Avenue, between Cowpasture Road and Devonshire Road, is being upgraded to deliver a high-quality public transport link between Liverpool CBD and Western Sydney International Airport.

- Council will also encourage compact medium/high-density development in appropriate locations along the corridor to reduce sprawl.

- Council is working with the NSW Government to progress this critical infrastructure project.

CASE STUDY

Potential for greater density, Liverpool to Parramatta T-Way

Summary

- The high level of public transport accessibility afforded by the Liverpool to Parramatta T-Way means surrounding areas can accommodate greater job and resident population density over the coming decades.

Background

- While the T-Way has had the potential to become a transit activated corridor for decades, there has been a relatively muted land market response.

- As well as a lack of mixed-use zoned land along the T-Way, which limits connection to goods and services, other planning controls like Height of Buildings and Floor Space Ratio may contribute to lack of development.

Why this is important

- While it is good practice to have higher densities in areas with good accessibility, this needs to be done in consideration of land values and development feasibility.

- Greater residential density along transit activated corridors is not possible unless more mixed-use and recreational lands are strategically planned to ensure people have access to things they need and want.

Potential for greater density along the Liverpool to Parramatta T-Way will continue with growth projections

ADA 2021
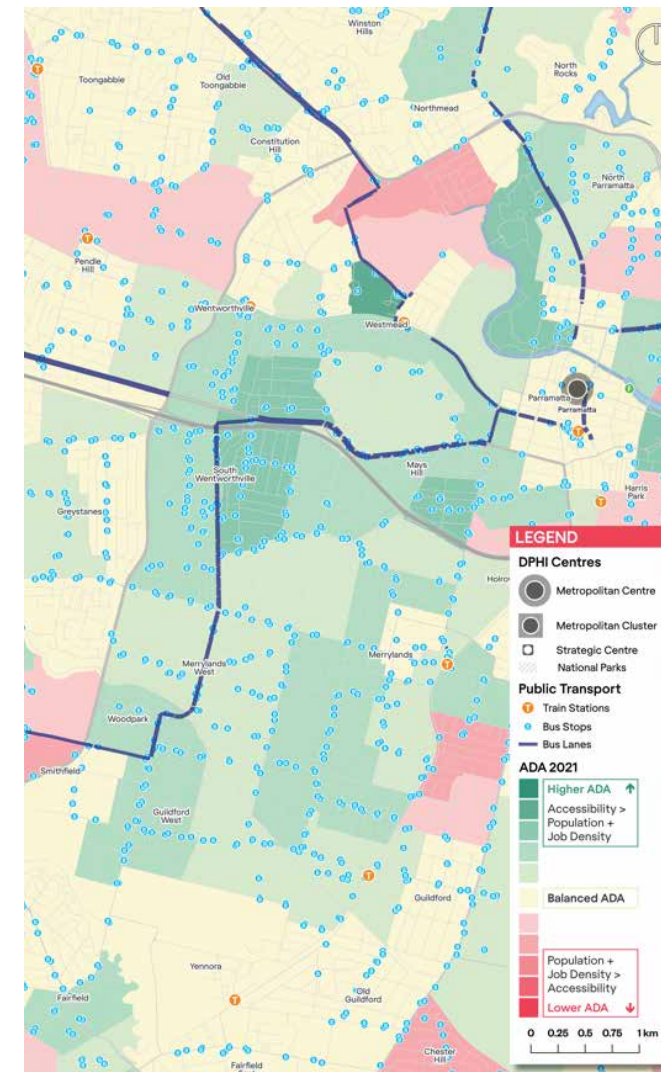
ADA 2046
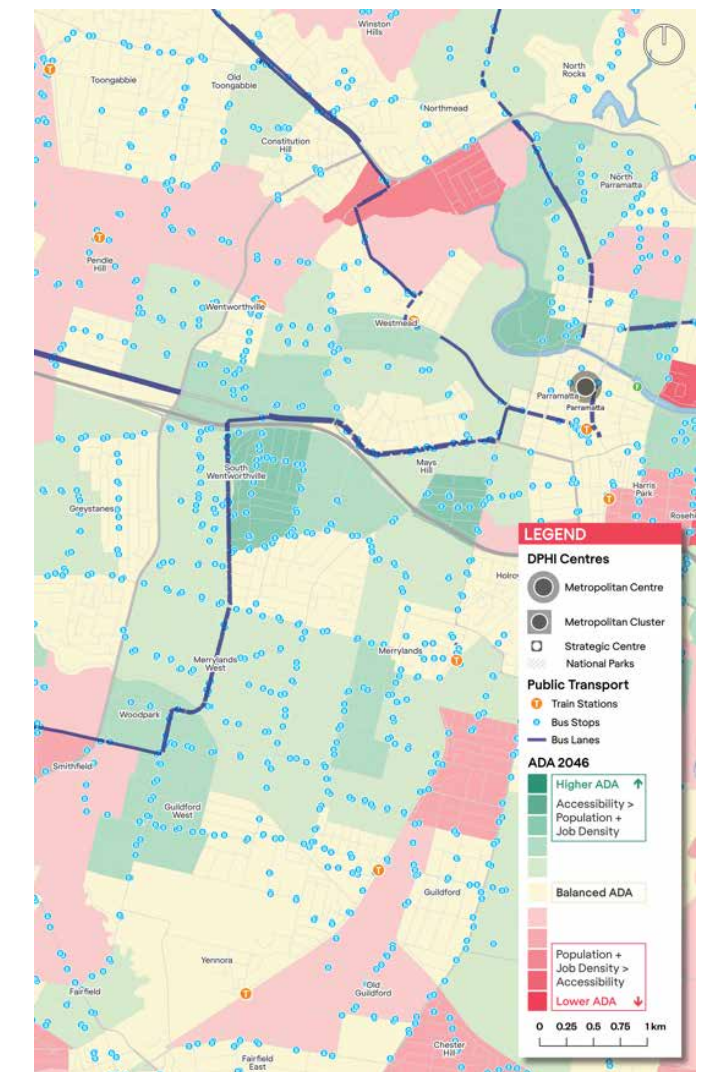
*See sidebar on page 83 for explanation of accessibility density alignment
Source: Mecone

5.2 Create strategic bus hubs as part of the TOD program

A strategic bus hub is an interchange where all tiers of bus services intersect, and where connections to other modes can be made. Hubs should be prioritised in activity centres with limited access to rail services.

With intersecting rapid, frequent and direct bus services, these hubs should be included in the Transport Oriented Development program. Surrounding areas should be up-zoned to increase densities close to activity centres and public transport amenity.

There is an opportunity to ensure strategic bus hubs connect with the strategic cycleway corridors planned for Sydney, as well as to review planned Metro station designs to ensure a strategic bus hub can be integrated.

Lead agencies: Transport for NSW, local councils, NSW Department of Planning

> **While most people in Sydney live within 800m of a bus stop, this is measured 'as the crow flies', meaning people will often have to walk further to reach the bus stop.**

5.3 Increase first and last mile solutions in areas with low walkability

Bike-paths, footpath cut-throughs and on-demand services in areas with low walkability, and where density is greater than public transport accessibility, will improve first and last mile solutions that make public transport more accessible.

Suburbs with greater levels of walkability tend to have grid street patterns that make it easier and quicker to access nearby shops, services or public transport. Those with lower walkability levels are characterised by winding streets or cul-de-sac layouts.

Many suburbs in Sydney have low walkability because they were planned and built in the post-war years when car-based transport planning dominated. This makes getting to locations, like the bus stop, difficult and impacts the likelihood of people catching the bus.

While most people in Sydney live within 800m of a bus stop,[32] this is measured 'as the crow flies', meaning people will often have to walk further to reach the bus stop. In areas with winding street patterns and few intersections, people may need to walk double or triple that 800m distance to reach their nearest bus stop.

Once a street network pattern is developed, it is locked in. However, this doesn't mean it's impossible to improve people's access to the bus, or other public transport services. First and last mile solutions like bike paths and on-demand services make it much easier for people to get around sustainably.

32 TfNSW. 2023. Directions for On-Street Transit, White Paper, https://hdp-au-prod-app-nsw-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/8817/0002/5732/4bde192688c86a06c532fdb5adbb6e01_CST237_On_Street_Transit_Strategy_White_Paper_Single_pages_Nov.pdf

Warringah Mall bus stops is a prime location for a strategic bus hub
Existing bus services – rapid, frequent and local – connect at Warringah Mall
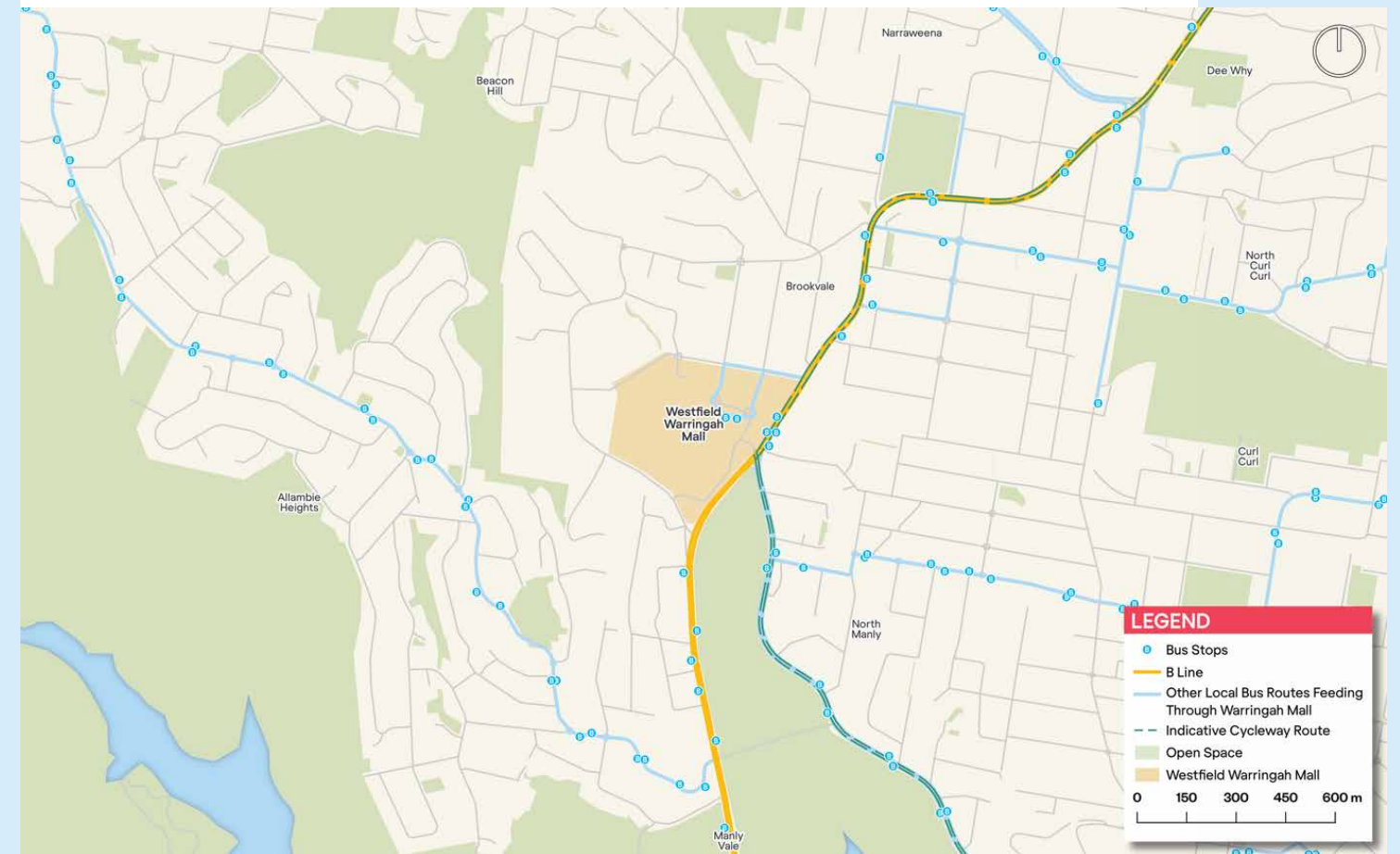
Source: Mecone

Local councils may also look to improve access for people riding a bike. In some cases, this means building bike paths, bike-parking, making some streets bike and walk only, and lowering the speed limit to 30 km per hour so people feel safer and more comfortable riding their bike. In addition, these same improvements could be used to disincentivise private car movements through the model filtration of shared streets and quiet ways.

Lead agencies: Transport for NSW, local councils

CASE STUDY

Poor street permeability affects access, Homebush

Summary

- **First and last mile trips via walking, cycling or bus are more difficult in Homebush due to street design that prioritises access for cars.**

- **High job and population density in the area exacerbates this problem and it will worsen over the coming decades unless the situation is addressed.**

Background

- **Lack of street permeability makes walking or cycling to train stations or bus stops much longer than 'as the crow flies' distances.**

- **Homebush, Flemington and Sydney Olympic Park are heavily reliant on trains for public transport, but access to trains needs to be better supported by more bus services and on-demand services.**

Why this is important

- **Metro and Light Rail will alleviate some of the future public transport accessibility deficit in the future. However, the planned increase in density in the area will require better bus routes and services as well as sustainable first and last mile solutions, such as cycling infrastructure or on-demand services.**

Image source: Transit Systems NSW

5.4 Ensure new development prioritises access to buses

Legislative requirements and the Transport for NSW delegation to councils should be designed to ensure greenfield and brownfield developments are walkable and have clearly defined roads and streets to accommodate buses.

It is crucial that new suburbs and communities don't get left without public transport options. Equally as important is ensuring that new communities can easily access the public transport options available to them.

The number of suburbs with low walkability and poor access to public transport in Sydney highlights the long history of poor integration between land use and transport planning in our city. For better outcomes in newly developed areas, integration must be improved.

The Environmental Planning and Assessment Act 1979 requires certain development applications be referred to Transport for New South Wales for input. This includes State Significant Developments, developments on or linking to classified or state roads, and developments that impact transport demand.

The Transport and Infrastructure SEPP also requires developments of certain sizes to be referred to Transport for New South Wales for design considerations that impact transport. All developments under that size are referred to Local Government Traffic Committees for transport considerations.

Whether design considerations are ultimately determined by Transport for New South Wales or Local Councils, clear, scalable policy and regulatory frameworks which could be applied across the state should be implementedIn cases where development applications do not need to be referred to Transport for New South Wales for input – and only need approval by the local council and local traffic committee – regulation should require that standards set out in Transport for New South Wales guidance documents and policies are met.

One way of doing this could be to update the delegation, that gives authority of local roads to councils, to require that any new local street or road implemented to serve new development of any size must be referred to Transport for New South Wales for input prior to approval – to ensure new streets and roads prioritise walkability and are public transport capable.

Another way could be to update the Roads Act 1993 to include requirements for new local streets or roads, to ensure some are bus-capable – in much the same way as a State Environmental Planning Policy sets requirements for Local Environmental Policies. As well as this, the Roads Act 1993 should be used to legislate the Road User Space Allocation Policy, to further ensure walking, biking and public transport are prioritised on new streets and roads – as per recommendation 3.2.

Lead agencies: Transport for NSW, NSW Department of Planning, Housing and Infrastructure, local councils

INTRODUCTION   1. CREATE A LEGIBLE SERVICE   2. ADHERE TO LONG-TERM STRATEGIES AND PLANS   3. LIFT FREQUENCY AND RELIABILITY WITH BUS PRIORITY   4. INTEGRATE WITH THE WIDER TRANSPORT NETWORK   **5. INTEGRATE WITH LAND USE PLANNING**   6. REFRESH THE BUS   7. RETHINK BUS STOPS   8. REVIVE THE BUS'S SOCIAL LICENSE   REFERENCES

Image source: Billbergia

CASE STUDY

Billbergia Baylink Shuttle, Wentworth Point

Summary

- In 2016, property developer, Billbergia, funded and delivered an active and public transport bridge between Wentworth Point and Rhodes. This cut the travel distance between the locations from eight kilometres to several hundred metres.

- Billbergia introduced a free shuttle bus between the two locations in 2018 and has committed to run the free shuttle services until 2031 when the new Light Rail opens and the final stage of its Bennelong Cove development is completed.

- The shuttle has helped achieve a mode-shift from car to public transport of about 13 per cent.

Background

- Billbergia acquired the Wentworth Point site in Sydney in the early 2000s. At the time it had no social infrastructure or transport.

- The geography of Wentworth Point – a peninsula – and lack of infrastructure brought significant challenges to Billbergia's goal of creating a new suburb.

- Billbergia's Baylink Shuttle has a service that operates every 30 mins, seven days a week from 6:30am to 8:00pm. There is also an express service operating every eight minutes during the AM and PM peaks from Monday to Friday.

- The Baylink Shuttle now has three fully electric buses in its fleet.

Why this is important

- Often, when we think about developers helping to fund infrastructure, we don't consider the possibility that they can fund associated services, such as buses.

- Billbergia has shown that having a bus service available to residents before the final stage of a development is complete can help shape sustainable travel habits and induce mode-shift from cars to buses.

Image source: Transit Systems NSW

We agree with the NSW Bus Industry Taskforce recommendation to allow Developer Contributions and Voluntary Planning Agreements to be used to fund bus infrastructure, [33] but further suggest that these models could be used to temporarily fund bus services from day one until the entirety of any new development is complete. Providing free bus travel for new residents for a period of time would support bus provision and could instil a public transport mindset for users.

It is worth noting that Developer Contributions and Voluntary Planning Agreements are already used towards funding for roads. If we are to build a more sustainable future for Sydney, we should ensure such funds are prioritised for building infrastructure for sustainable modes, such as buses.

Lead agencies: Transport for NSW, NSW Department of Planning, Housing and Infrastructure, local councils

5.6 Diversify the bus fleet

A diverse bus fleet will improve the adaptability of the bus network and services to meet the requirements of different and changing land use patterns that, over time, impact levels of patronage.

While each tier of bus service should have standard frequencies, hours of operation and percentage of route prioritised, the types of buses that are used may differ.

This is because each tier will operate across different geographical areas in Sydney, with different housing and job densities, as well as different levels of access to other forms of public transport.

For example, a tier two frequent service that operates between two low density areas may only need a midi bus, but a tier two frequent service operating between a low density and high-density area is likely to need a standard bus or bigger.

Having a more diverse fleet of buses will make it easier to reconfigure services to meet service standards and service capacity guidelines as required.

Lead agency: Transport for NSW

5.5 Ensure new developments have bus services from day one

Developer Contributions and Voluntary Planning Agreements should be used to fund bus infrastructure, and to temporarily fund bus services so new communities have access to buses from day one.

Bus services with appropriate frequency should be planned in new communities from day one – these would provide direct access to centres or to other modes as part of a rapid integrated network.

The piecemeal nature of constructing greenfield or brownfield housing means new suburbs and communities are often

left without access to public transport until the entirety of the development is complete. This can take years, forcing those who moved in first to buy a car so they can travel around.

This can place serious financial pressure on families and it also forms unsustainable travel habits that are harder to change once public transport does eventually become available, because of the sunken cost of a car and its perceived convenience.

It is therefore essential that people moving into new housing developments in Sydney have access to bus services from day one, so the convenience of the bus can compete with the convenience of a car.

Bus services with appropriate frequency should be planned in new communities from day one

33   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

6. Refresh the bus

The target to electrify all buses in NSW by 2035 presents a great opportunity to refresh the humble bus and bring it into the 21st century. Along with improving service offering through the availability of adequate and accurate real-time information, we have the opportunity to think about the comfort, amenity and identity of buses in Sydney.

Electric buses will improve how buses impact people on the street – they're not smelly or loud and they don't pump out heat when they pass by. But we should also be thinking about improving how buses feel for people who are on board.

Inner-city Sydneysiders probably think the bus is already quite comfortable, relatively new and air-conditioned. Some people in Sydney's inner-west are already travelling around on new electric buses. But for people in West and South West Sydney, it's a different story.

Sydney has a comparatively old bus fleet by world standards, and the older buses tend to operate in West and South West Sydney. While this unequal distribution of high-quality buses should be remedied, the quality and amenity of *all buses should be raised.*

Image source: Transit Systems NSW

6.1 Do everything possible to meet the 2035 electrification target

In line with recommendations made by the NSW Bus Industry Taskforce 2023-2024, we agree that a depot electrification strategy should be developed as a matter of priority, and that NSW Government engages with other states or territories to inform a national bus procurement pipeline.[34]

There is a widespread belief and concern that it will not be possible to meet the target of transitioning Greater Sydney's buses to zero-emission technology by 2035.[35] There are three key factors contributing to this:

- An impasse around risk allocation between Government and contractors

- Difficulties around upgrading depot infrastructure to support electrification

- High demand on local manufacturing and relevant skills, with other Australian states trying to meet similar electrification targets.

To overcome impasses around risk allocation, we recommend referring to section 3.4 of our Better Value Transport report – The right way to think about risk.[36]

Lead agencies: Transport for NSW, NSW Treasury

34 NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf
35 Based on conversations in our consultation process with Committee for Sydney members and stakeholders
36 Committee for Sydney. 2022. Better Value Transport, https://sydney.org.au/wp-content/uploads/2022/11/Committee-for-Sydney-Better-Value-Transport-November-2022.pdf

6.2 Gradually reduce the age of the bus fleet

New or renewed bus contracts should aim to gradually reduce the age of the bus fleet in New South Wales.

Bus contracts allow for a maximum bus age of 25.99 years, with an average fleet age of 12 years.[37] Despite this, some buses operating in Greater Sydney in 2023 were more than 27 years old and, by 2029, it is projected that most of Sydney's bus depots will have a fleet with an average age of 19 years.[38]

This is markedly different from other cities around the world. The average fleet age of buses in London is only 7.8 years[39] and in Singapore it is 8 years.[40]

Newer buses are always going to create a better passenger experience than older buses. So more people find the bus attractive, NSW should aim to match the maximum age of the bus fleet with other global cities.

Lead agency: Transport for NSW

6.3 Create bus capacity guidelines

Establish passenger space allocation guidelines to reduce overcrowding. This should only be used to increase services and never used to decrease service levels below the service standard.

Bus capacity guidelines should never be used to downgrade or reduce service provision. This recommendation should be adopted once all areas of Greater Sydney have access to rapid, frequent and local bus services that meet baseline service standards recommended in 1.1.

This recommendation is about making sure services don't get so overcrowded that people who usually take the bus revert to using a car for certain trips. It should help ensure that frequencies are upgraded when necessary, and that people with children, prams and other mobility devices have enough space on the bus.

Transport for NSW's Integrated Public Transport Service Planning Guidelines[41] currently only provide indicative passenger capacities for these general vehicle types:

- Standard bus: 50 to 60 people.
- High-capacity bus: 100 to 120 people.

The challenge with indicative bus vehicle capacities in service planning and performance reviews is that they do not account for variations in the bus fleets, or the differing experiences of a broad set of customers.

Transport for NSW's guidelines currently do not specify how much space is allocated toward each standing passenger in determining the indicative capacities. Based on typical vehicle sizes, this can be determined and adjusted. Below is an example of how this may be adjusted:

(Image source: Transit Systems NSW)

Bus Type	Indicative Capacity (passengers)	Bus Practical Capacity (passengers)	Existing Space Allocation for Standing Passengers Space (m2 / pax)	Recommended Space Allocation for Standing Passengers Space (m2 / pax)	Updated Practical Capacity (standing and sitting passengers)
Standard Bus	50–60	50	0.35	0.50	46
Articulated Bus	100–120	75	0.35	0.50	67

The practical vehicle capacity of about 46 passengers for a standard bus and 67 for an articulated bus is in line with practical capacities recommended for high-quality service planning in Germany. [42]

While it creates a reduction in vehicle capacity, increasing the space allocated per bus passenger has many benefits required to provide high-quality bus services. This includes enhanced experience, greater accessibility, lower dwell time due to increased manoeuvrability and increased patronage.

Lead agency: Transport for NSW

37   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

38   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

39   TfL 2023. Fleet Annual Audit Report, https://content.tfl.gov.uk/fleet-annual-audit-report-31-march-2023.pdf

40   The Strait Times. 2022. Over 600 public buses to be refurbished by LTA, https://www.straitstimes.com/singapore/transport/more-than-600-public-buses-to-be-refurbished-by-lta-first-such-exercise-since-contracting-model

41   TfNSW. 2013. Integrated Public Transport Service Planning Guidelines; Sydney Metropolitan Area, https://www.transport.nsw.gov.au/sites/default/files/media/documents/2017/integrated-pt-service-planning-guidelines-sydney-metro-dec-2013.pdf

42   VDV. 2001. Verkehrserschließung und Verkehrsangebot im ÖPNV

6.4 Ensure all buses have real time information screens and audio

Procurement policies should be updated to require any new bus purchased to have real-time information screens and audio installed. This should no longer be an optional extra and Transport for New South Wales should ensure any additional costs are covered.

Some buses, like the B-Line, have real-time information screens and audio on-board. The screens use PTIPS to let passengers know how many minutes it is to their destination, which stop they're at and what other public transport services can be accessed from each stop.

Real-time on-board information elevates the bus experience. This is particularly helpful for first-time passengers, visitors or people travelling at night. Anyone who catches the bus in Sydney knows that at night, with the bus's internal lights on, it's almost impossible to see outside and know where your stop is. Even frequent bus users risk missing their stop.

Screens and audio technology required for real-time information on board is an optional extra for bus contractors to choose during procurement. It is easier to install on new buses but can be retrofitted to older buses.

The NSW bus fleet is about to be replaced to transition to zero emission buses and Transport for New South Wales should take this opportunity to ensure all new buses have real-time information screens and audio on board.

Lead agency: Transport for NSW

6.5 Ensure all buses have free wi-fi and USB charge points

To increase the amenity of buses we recommend wi-fi capability and USB charge points should be required on all buses by procurement standards.

Some buses in Sydney already have these extra amenities, but they all should. These are standard requirement for modern living and allow people to work while on the bus or to recharge their phone on their way home, when going out to meet friends, or while on their way to a meeting. This increases people's sense of safety and is particularly important for women and girls when travelling.

Lead agency: Transport for NSW

6.6 Consider updating seat covers to evoke Sydney's identities

To engage the public and media with Sydney's new bus fleet, Transport for New South Wales could consider running a design competition to select new seat covers for Sydney buses that evoke various identities of our city.

Why not have more fun with seat covers on buses? Wouldn't it be beautiful if bus seats in Sydney showcased eucalyptus leaves, gum flowers or waratahs? There could be different designs across the network, so people get excited when they board a bus displaying one of the rarer seat cover designs.

Cities around the world have leveraged their identity, or the identity of their public transport, with seat cover designs. The London Transport Museum showcases seat coverings over the decades and sells mementos and products in the museum shop that celebrate the designs.

In Barcelona, seat covers showcase the distinctive street patterns of Superblocks while in Kyoto, seats are covered with colourful cartoons, and in Dublin city monuments in a sea of stars decorate bus seats.[43] Let's see what our city's citizens and creatives can come up with.

Lead agency: Transport for NSW

Image source: Tom Payne

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43   O'Sullivan, F. The Good, Bad, and Ugly Public Transit Seat Covers of the World, Bloomberg, https://www.bloomberg.com/news/articles/2019-02-25/a-global-review-of-public-transit-seat-cover-designs

7. Rethink bus stops

Bus stops across Sydney vary. They vary from council to council and even vary within council areas. Many bus stops lack any real comfort or amenity. Sometimes they're identified with just a single pole, with no shelter or place to sit. In many cases, there are no footpaths or easy places to cross the road to physically get to the bus stop.

Typically, only bus stops in town centres and CBDs have places to sit and shelter from sun and rain. Bus stops closer to people's homes are likely to have much less to offer because bus stop funding and maintenance is the responsibility of local councils that have limited funds to improve infrastructure.

To make catching the bus a more attractive option, we need to improve bus stop infrastructure. Bus stops should be as comfortable as possible – rain, hail or shine. Crucially, bus stops should also be accessible for everyone.

Typically, only bus stops in town centres and CBDs have places to sit and shelter from sun and rain.

7.1 Pay for, upgrade and standardise bus stops across Sydney

Transport for New South Wales should be responsible for the funding of bus stop infrastructure across the state. This is a reasonable expectation of a public transport authority and would help ensure a standard provision of bus stops across Sydney.

The installation of Train, Metro and Light Rail stops are funded by Transport for New South Wales. The only reason they do not fund bus stop infrastructure is because local councils have authority over footpaths and local roads.

However, it is unreasonable that Transport for New South Wales fund the installation of Light Rail stops – which in many cases are on the footpath – but do not do the same for bus stops.

There may be different bus stop designs for different settings, but Transport for New South Wales should set minimum standards for bus stop infrastructure. Over time, Transport for NSW should ensure that most, if not all, bus stops in Sydney have shade and shelter, a place to sit and network and service information.

This could be a staged program, starting with new bus routes and areas most affected by severe heat, or areas with older populations or higher proportions of families where people are more likely to require seating and shade.

Lead agencies: Transport for NSW, NSW Treasury

CASE STUDY

Busted Bus Stops, Sydney

Summary

- Busted Bus Stops, a campaign led by Sweltering Cities, highlights that waiting at bus stops in Sydney can be a health hazard because of the lack of shade and shelter.

- This is particularly the case in Western Sydney where heatwaves are increasing in severity and duration.

- This is a matter of equity as bus stop infrastructure differs across Sydney.

Background

- More than 2,500 bus stops in Sydney were mapped and analysed by Sweltering Cities

- 66% of stops in the Inner West have seating and shelter or shade.

- Only 30% of stops in Penrith, where temperatures on the ground have measured over 50°C, had shelter, shade and seating.

- Only 37% of stops in the North West Sydney suburb of Schofield, one of the key growth regions of the city, have shelter or shade and a seat.

- 40% of stops in the South West Sydney suburbs of Eagle Vale, Campbelltown, Ingleburn and Raby had shelter or shade and seats.

Why this is important

- Bus shelters are a simple and practical way to increase access to renewably powered transport and make our cities safer in the heat.

Image source: Sweltering Cities

CASE STUDY

Country Passenger Transport Infrastructure Grants, NSW

Summary

- **The Transport for NSW Country Passenger Transport Infrastructure Grant Scheme provides subsidies to support the construction or upgrade of bus stop infrastructure to LGAs outside Sydney's six cities.**

- **In the 2023-2024 funding round, a total of $1.6 million was granted for 29 separate projects.**

Background

- **The grant program aims to maximise bus benefits to regional passengers through supporting more accessible passenger transport, especially better connections between bus stops and surrounding communities.**

- **The program also aims to increase the use of buses in regional areas through improved awareness of bus stop locations, kerbside information and improved security.**

Why this is important

- **This program demonstrates precedence for Transport for NSW funding bus stop infrastructure.**

- **It further demonstrates there is already awareness within Transport for NSW that improving bus infrastructure will increase bus demand, legibility of service and passenger comfort.**

7.2 Install real-time information screens at more bus stops

Transport for New South Wales should establish a staged program to retrofit more bus stops with real-time information screens.

Real-time information screens are standard at Sydney Train, Metro and Light Rail stops, but not at bus stops. Cities around the world, including Christchurch, London and Singapore, install real-time information screens at many bus stops to improve service offering and legibility.

While there are a small number of bus stops in Sydney with this technology, we recommend that Transport for New South Wales should fund a program to roll out screens at more stops across Greater Sydney. This could be a staged program, starting with major stops or any stops where new shelters are being installed.

The value to passengers is immense. It means people can quickly and easily see which buses are arriving and when, without looking at a travel app on their phone. This is particularly helpful if a person's phone has run out of battery or is lost, or if someone is unable to access a phone.

Lead agency: Transport for NSW

7.3 Finish rolling out B Poles as a priority

New South Wales Treasury should make funding available to finish rolling out the program as a matter of priority.

The B Pole program was introduced to install standardised signage at all NSW bus stops to indicate where a bus stop is and to provide a printed timetable. When the program commenced, there were more than 46,000 bus stops in NSW and today there are more than 59,000 bus stops.[44]

Image source: © Daylight State of New South Wales, Transport for NSW
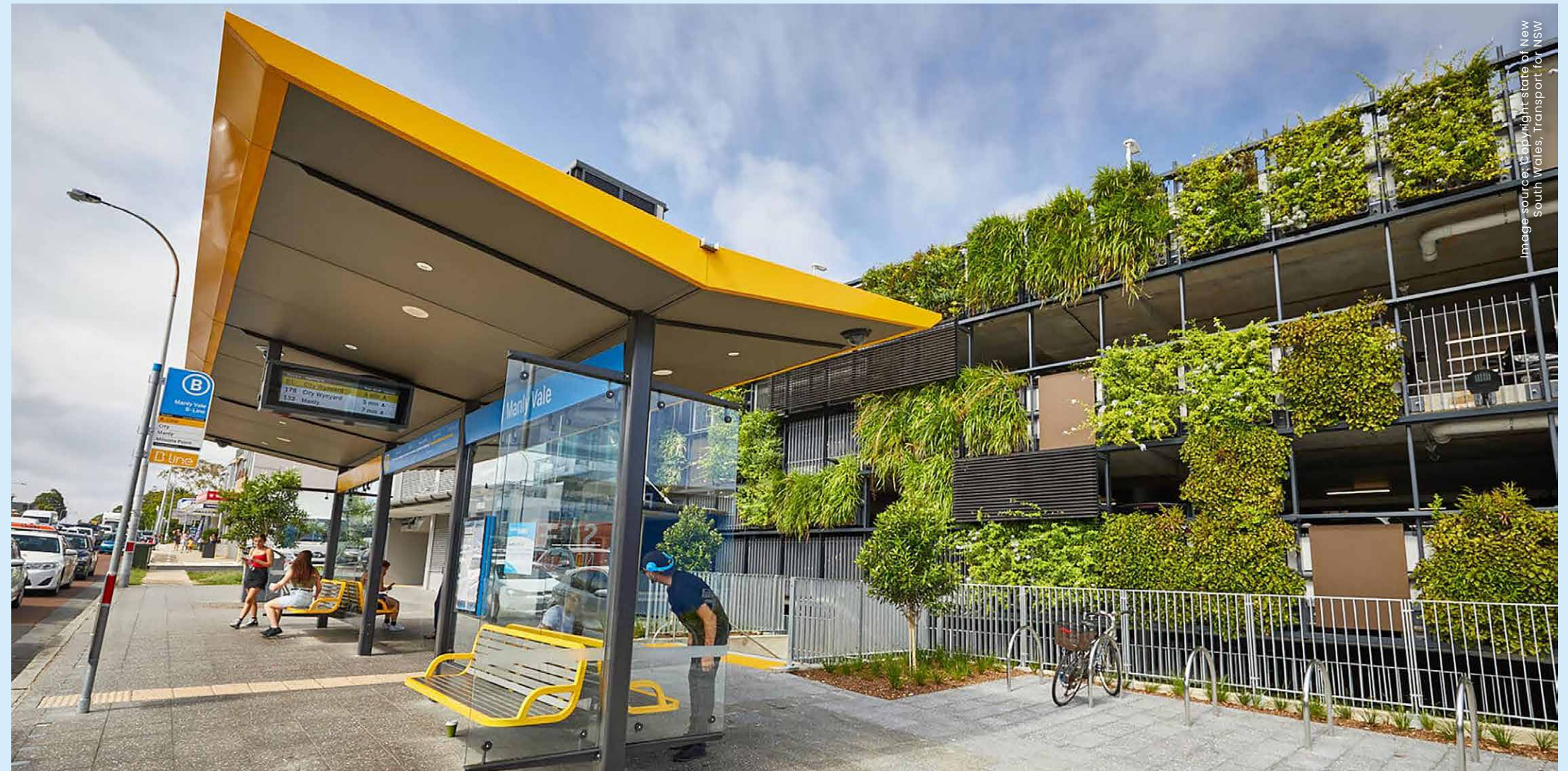
44 NSW Bus Industry Taskforce. 2023. First Report, https://www.transport. nsw.gov.au/system/files/media/documents/2023/Bus-Industry-Task- force_First-Report_July-2023_0.pdf

The rollout has been slow, with limited funding. Only 16,000 B Poles have been installed. While the NSW Bus Industry Taskforce has recommended the program continues as a matter of priority, Transport for New South Wales has advised it does not have dedicated funding and is unable to identify a funding stream to finish the program.[45]

B Poles should be a minimum standard at all bus stops. Without B Poles, some bus stops are incredibly hard to identify and lack any timetable information. This creates an extremely poor experience for passengers and devalues the operation of buses.

Lead agencies: Transport for NSW, NSW Treasury

7.4 Set up a bus stop maintenance program

Transport for New South Wales should also be responsible for the operational cost of bus stop maintenance just as it is for Train, Metro and Light Rail stops. This is an obligation to bus passengers across Sydney.

Transport for New South Wales should set up an ongoing bus stop maintenance program to ensure real-time information screens, seats and shelters remain in good working order.

Advertising contracts are one option to help cover this operational cost. If this avenue is explored, contracts should ensure advertising does not overwhelm the bus stop and inhibit the view of approaching buses or take up more space than real-time service information.

It is also essential that any advertising contracts are carefully worded to ensure that if a bus stop is removed, the infrastructure does not remain due to contractual requirements.

Lead agency: Transport for NSW

7.5 Increase amenity at major bus stops

Strategic bus hubs or major bus stops could have more amenities such as coffee carts, comfy seats, dry-cleaning services, local artworks, street libraries and public toilets.

Transport for New South Wales could investigate how the rental of mini-shop fronts at strategic bus hubs or major stops could help cover operational expenditure for maintenance of the stop.

Lead agency: Transport for NSW

Image: Sempergreen

45 NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https:// www.transport.nsw.gov.au/system/files/media/documents/2024/ NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

7.6 Make some bus stops for birds and bees

Transport for New South Wales should investigate the possibility of green-roofed bus stops.

Bus stops don't have to just be for people, they can be for birds and bees, too. With an alarming loss of biodiversity in cities around the world, a trend of green-roofed bus stops is emerging to create heavens for birds and bees. Not only is this good for a city's wildlife, it also creates a beautiful bus stop that is cooler for people on hot days.

Lead agency: Transport for NSW

7.7 Allow buses to stop anywhere after 11pm

Sometimes a bus should be allowed to stop anywhere, not just at bus stops. Late at night, when it's dark and traffic volume is low, buses should be able to stop wherever a passenger presses the stop button, or as close as possible where it is safe to do so.

This initiative has been introduced in Barcelona as part of the city council's Gender Mainstreaming framework that aims to make the city safe and inclusive for all genders.[46] This is also a common practice for Keolis Downer in many bus networks around the world.

We recommend Transport for New South Wales works with local councils to determine rules and guidelines for when and where buses can drop off passengers away from a bus stop, just as there are guidelines for where rideshare services can pick up and drop off people.

Lead agency: Transport for NSW, local councils

46 Based on research by Estelle Grech, undertaken in 2023 for a Churchill Fellowship

Image: CityGreen

CASE STUDY

Jurong Smart Bus Station, Singapore

Summary

- Jurong Smart Bus Station features built-in WiFi, mobile phone charging points, interactive smart boards that provide bus information, e-books, journey planners, a green roof, solar panels, bicycle parking, a book exchange corner, seating and a swing. It also showcases artwork by local illustrator, Lee Xin Li.

Background

- DP Architects approached Singapore's Urban Redevelopment Authority with designs for the Jurong Smart Bus Station.

- The two parties collaborated to deliver the fun, social bus stop.

Why this is important

- Major bus stops can be upgraded to provide extra amenity and help foster a sense of community connection and identity.

8. Revive the bus's social license

Image: Mardi gras bus, Ash Penin

...another vital aspect of reviving the bus's social license is inclusive promotion and celebration of the bus.

With such a poor public perception of the bus in Sydney, it's time to revive its social license. This will largely be achieved by making the bus more adaptive and effective and by refreshing the bus and building respectable bus stops.

But another vital aspect of reviving the bus's social license is inclusive promotion and celebration of the bus. Sydneysiders should have a sense of pride and ownership of their bus network and services and of their public transport system as a whole.

Imagine if people who visit Sydney return to their home and rave about our public transport system. Sydneysiders do this with a sense of jealousy when they return from travelling in places like Japan, London, Paris and Singapore.

By elevating the bus network and services in Sydney, along with the implementation of a rapid bus network and an increase in the number of frequent routes, we can build a world-leading public transport system that has benefits for current and future generations.
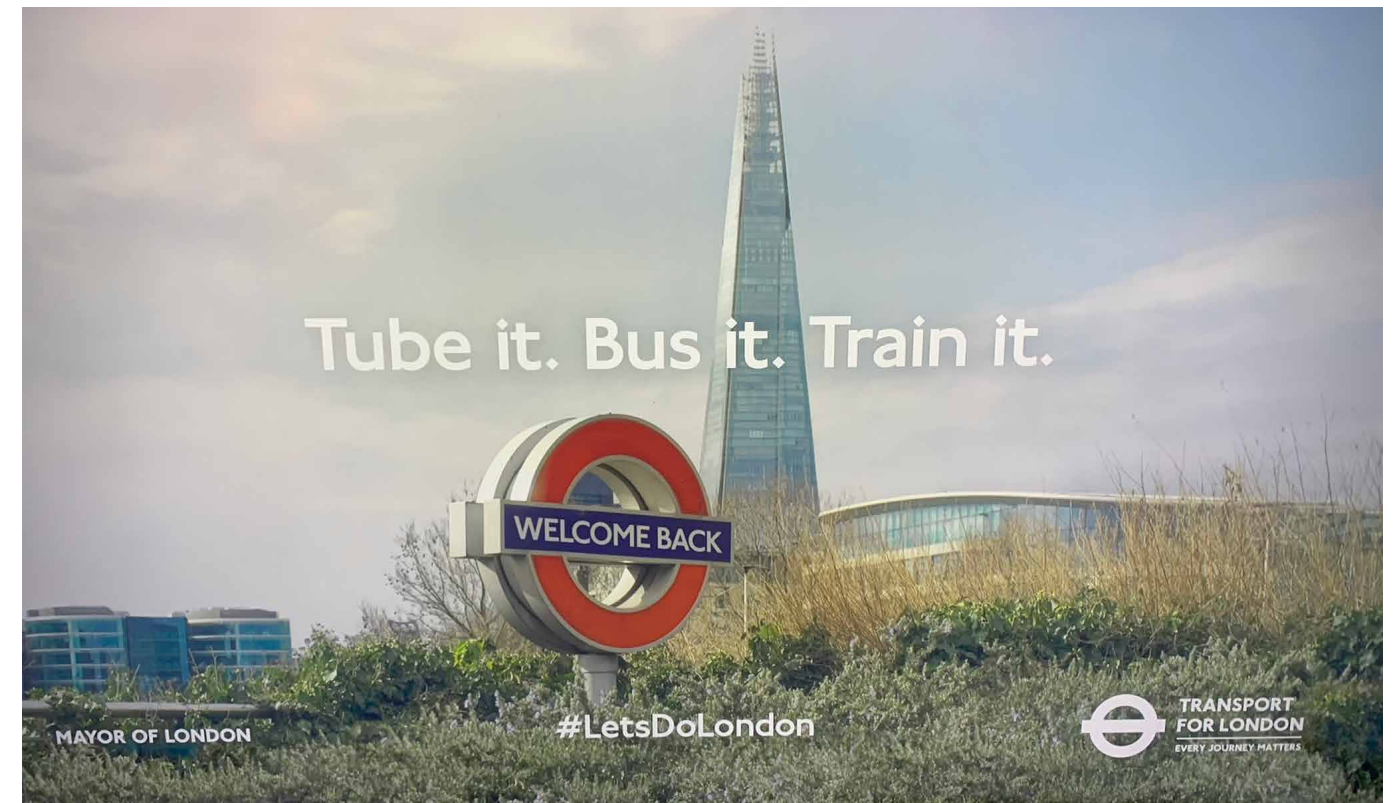
Source: Transport for London.

CASE STUDY

'Welcome back. Tube it. Bus it. Train it.' Transport for London Campaign

Summary

- 'Welcome back. Tube it. Bus it. Train it' is a public campaign by VCCP and Transport for London.

- The video targets younger Londoners aged 18 to 44 years old and reminds Londoners that public transport isn't just about routes and timetables – it's about destinations.

- Watch the advertising campaign here.

Why this is important

- There is an opportunity to link the brand of Sydney buses, or all forms of public and active transport in Sydney, to Sydney's broader identity.

- Great advertising campaigns can be useful to help raise perceptions of public transport and to remind people of all the different types of trips it can support.

8.1 Promote catching the bus

A public campaign that highlights the various benefits of buses has the potential to shift general opinions and perceptions of the bus. A public campaign should be delivered across multiple mediums – radio, television, online and print media and the backs of buses.

The NSW Bus Industry Taskforce also recommends a marketing campaign to address the poor perception of the bus.[47] The campaign could have different key focuses and some ideas include: the environmental benefit of catching the bus, the freedom of not driving that allows people time to read books or catch up on work while travelling, the benefit of not being stuck in traffic, the relative affordability of travelling by bus, and the ease of getting home after a night out.

Lead agency: Transport for NSW

8.2 Celebrate festivities with the bus

We suggest supporting bus drivers to decorate their buses for festivities and holidays such as NAIDOC Week, Diwali, Holi, Lunar New Year, St Patrick's Day, Sydney Festival, Sydney Fringe Festival and more.

Everyone in Sydney knows that, in the lead up to Christmas, you might be lucky enough to spot or even board a bus that is exuberantly decorated with tinsel and candy canes. In November, you might see a bus with a Movember moustache or spot a bus wrapped in pink for Mardi Gras. We have our Sydney bus drivers to thank for this element of fun throughout the city.

To support bus drivers to celebrate more festivities with the bus, Transport for New South Wales could offer decorative funding to depots each year or hold a yearly 'best-dressed bus' competition with prizes for drivers who bring joy and celebration to the city. This type of competition could gain media attention and bolster a public campaign for buses.

Lead agency: Transport for NSW

Image source: Copyright State of New South Wales Transport for NSW

8.3 Develop internal communications about the importance of the bus

Internal Transport for New South Wales communications and messaging about the importance and benefits of bus travel is essential to ensure external communications reflect this.

During the media storm surrounding the opening of the Rozelle Interchange in 2023, there was an absence of messaging from the NSW Government or from Transport for New South Wales about how to avoid the chaos and tolls by using public transport.

Around the time of the Rozelle Interchange opening, Transport for New South Wales ran a social media advertisement that told residents travelling from the inner west to the city, who were hoping to avoid tolls, to

drive down Parramatta Road. The advertisement missed a critical opportunity to mention three viable, sustainable and cheap alternatives: catching the bus or train or cycling.

It is critical that communications from Transport for New South Wales always promote sustainable travel methods first. If Sydney, and Australia, are to meet net-zero goals we have to shift mode-share – and we have to shift it quickly.

One option to raise awareness internally within Transport for NSW would be to run a challenge for staff to give up their car for a period of time. Keolis Downer does this to help staff understand the experience of public transport, but also to help encourage a shift to sustainable modes.

Lead agency: Transport for NSW

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47   NSW Bus Industry Taskforce. 2024. Second Report, October 2023, https://www.transport.nsw.gov.au/system/files/media/documents/2024/NSW-Bus-Industry-Taskforce-Second-Report_31-October-2023.pdf

8.4 Make bus service and network data publicly available

Provide more easily accessible public bus performance information and orient this towards the needs of passengers. Embrace the accountability that naturally results from more open and detailed data, and leverage this toward ongoing public and political support for improvements.

Who knows which bus route in the network has the highest patronage? Which one has the largest delays? Which one is the most reliable?

This data nominally exists in the Transport for NSW Open Data Hub, yet it is almost impossible for the average member of the public to access it. Even for those with highly developed data analytical and programming skills, there are no unified definitions to work with. Currently, available performance dashboards are structured around bus service contract KPIs.

There is an urgent need to provide easily accessible customer-oriented bus performance information. This will allow the public to better understand the need for service improvements and become informed advocates. The lack of this type of information is also a missed opportunity in terms of free media attention and marketing.

There is nothing to lose. Highlighting low performing routes can further galvanise resources towards improvements. Highlighting high performing routes provides everyone an insight into what is working well, whether route design, priority measures or adjacent land use.

This is in the interests of all parties, particularly the public who are the end user of bus services. Current public facing information, such as the on-time running information provided for each operator,[48] may hold operators accountable to their contracts but it does not hold government accountable to service standards and service provision.

Lead agency: Transport for NSW

48   TfNSW. https://www.transport.nsw.gov.au/data-and-research/data-and-insights/buses-on-time-running

CASE STUDY

Transparent TransLink, Vancouver

Summary

- TransLink is the agency responsible for providing public transport services in Metro Vancouver.

- TransLink is a process-driven organisation that focuses on making structured and transparent decisions, from day-to-day service provision to large capital projects.

Background

- TransLink publishes a number of easily accessible documents that include clear information on the processes for short and medium-term service allocation, and the service planning guidelines that underpin these processes.

- TransLink publicises an annual summary of performance metrics that are directly linked to the service planning guideline definitions. These are provided for each bus route through a public facing report and data dashboard and include metrics such as daily and annual boardings, overcrowding, speed and punctuality. They also include performance trends over time.

- More recently, and with increasing in-house data processing capacity, the agency also releases a Bus Speed & Reliability Report. This report provides route profiles and depicts segment level bus delays.

Why this is important

- The approach used by TransLink contributes to a transparent decision-making process. This helps the public better understand where and what the needs are, but also allows TransLink to better prioritise requests for more bus services.

- Local government partners also use this information to prioritise corridor and spot improvements and streetscape projects that aim to reallocate street space more equitably.

- Vancouver residents have a relatively high awareness of their bus network. The open and easy sharing of information contributes to grassroots advocacy movements and fosters a sense of civic pride in the system and the TransLink brand.

Access to public transport can make or break people's future – it can be the biggest enabler or the biggest barrier.

8.5 Make Sydney buses a legacy

There is an opportunity for the current government to double down on bus infrastructure investment and operational funding to drastically improve Sydney's public transport system and people's access to public transport across Sydney.

We recognise that the many recommendations in this report, along with those made by the NSW Bus Industry Taskforce, present a plethora of challenges for Transport for NSW to overcome. But we see these challenges as opportunities to make Sydney's bus network and services among the best in the world.

This is a legacy opportunity. Access to public transport can make or break people's future – it can be the biggest enabler or the biggest barrier. Let's take the opportunity to make sure that public transport in Sydney enables a better future for generations to come.

Leads: NSW Minister for Transport, NSW Treasurer

Image source: Transit Systems NSW

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For more information

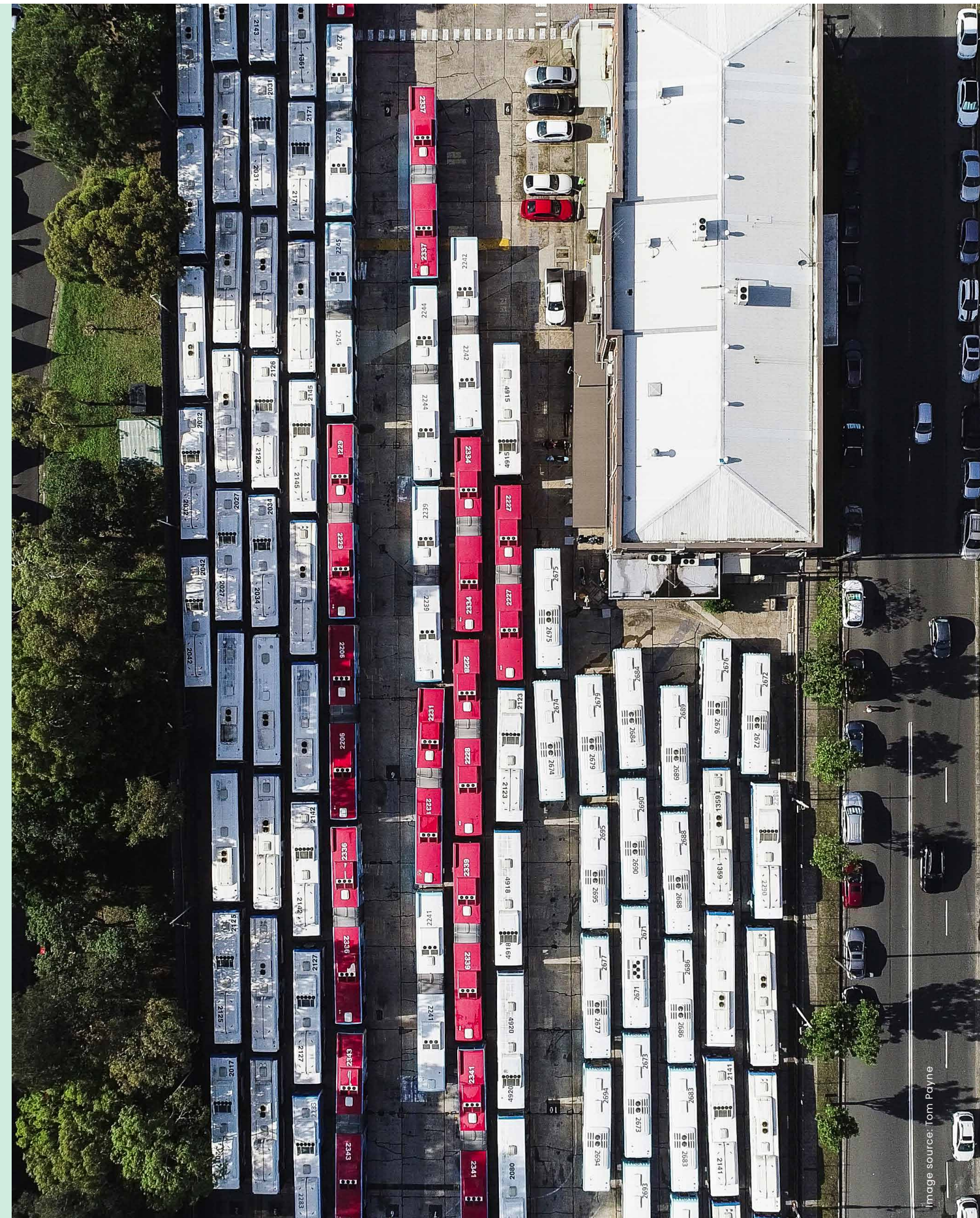|	
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Image source: Tom Payne

Committee
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Sydney