



24 November 2023

Transport for NSW

Online: <https://www.haveyoursay.nsw.gov.au/on-street-transit>

Re: Submission regarding the On-Street Transit White Paper

Thank you for the opportunity to provide a submission regarding the Directions for On-Street Transit White Paper.

The Southern Sydney Regional Organisation of Councils Inc (SSROC) is an association of twelve local councils in the area south of Sydney Harbour, covering central, inner west, eastern and southern Sydney. SSROC acknowledges the traditional custodians of the land on which we work and live, the peoples of the Darug, Dharawal and Eora Nations.

SSROC provides a forum for the exchange of ideas between our member councils, and an interface between governments, other councils and key bodies on issues of common interest. Together, our member councils cover a population of about 1.8 million, one third of the population of Sydney, including Australia's most densely populated suburbs. SSROC seeks to advocate for the needs of our member councils and bring a regional perspective to the issues raised.

SSROC welcomes the opportunity to consider the role on-street transit can play in our communities as they grow. On-street transit, as the paper notes, is our second largest transport mode with over 240 million trips annually across NSW. Everyone deserves quality public transport, no matter where in the Six Cities they live and work. Reliable, efficient public transport is essential for an equitable society and a strong economy.

We hope that this consultation will help to deliver more reliable, and easy-to-use bus and light rail networks across the Eastern Harbour City and the Central River City as well as the other parts of the Six Cities region.

Nearly all (more than 97%) of the population of the Six Cities regions lives within 800 metres of a bus stop. Light rail services are playing an increasingly important role in parts of the SSROC region and across Greater Sydney and Newcastle.

1 Understanding

The White Paper, *Directions for On-Street Transit*, sets out key proposals to improve our bus and light rail network.

On-street transit refers to all forms of public transport using the street network including light rail and buses. It is the second largest mode of transport, accounting for 45% of all public transport trips across NSW.

The paper has two main propositions:

1. With shorter implementation timeframes than other modes, on-street transit is set to play a critical part in an agile and responsive transport network which will grow as our cities grow.
2. It can also stimulate residential development and help address the housing crisis.

The White Paper describes the step-changes that are needed as a series of “Key Moves” that could be made in terms of equity, reliability and livability for passengers and people of the Six Cities. These key moves include:

Key Move 1: *Evolve services and infrastructure over time*

Improve service quality and quantity, so that on-street transit becomes a mode of choice and attracts more passengers. This will include applying the hierarchy of rapid, frequent, local and on-demand products to services to improve legibility.

Key Move 2: *Grow network demand and capacity*

Grow the fleet to provide improved frequencies in the all-day network and sustain services. Increase fleet capacity and resolve network bottlenecks through a combination of improved priority and operations design.

Key Move 3: *Deliver new permanent, high-quality routes*

As more people use on-street transit, it is fundamental to invest in infrastructure so that services are shielded from traffic congestion during peak times. The aims are to improve reliability, reduce travel time, improve passenger outcomes and operating efficiency.

Key Move 4: *Grow the city along permanent, high-quality routes*

In the medium to long term, the growing population will live within reach of high-performing rapid routes.

Key Move 5: *Create enabling funding and partnerships*

The focus here is to maintain sustained investment over time and improve coordination of the workforce, operators and other levels of Government.

SSROC very much appreciates the opportunity to comment on the White Paper’s key ideas and strategies. We welcome the development of a holistic long-term plan focused on these five key moves. These moves are supported in principle, subject to the following comments and recommendations.

2 Issues and Recommendations

Australia, NSW and every part of Sydney is confronted with tackling a long-term housing problem with its availability and affordability dimensions as well as how this growing population will move around our cities, centres and neighbourhoods. Critically a part of the White Paper’s focus is on easing the housing crisis with well-located housing as well as discussing transport solutions.

This joined-up thinking needs also to take into account the equity considerations of transport mode patronage together with distributional net effects of new housing supply that it facilitates, and not simply gross housing targets and commuter numbers.

In Australia [City Futures research](#) estimated that in 2016 there was a shortfall of around 650,000 social and affordable houses. This research was [updated in 2022](#) , and again in January 2023, to reflect the 2021 census data. The updated analysis showed that there were 659,000 households in the bottom two quintiles who were either homeless or in rental stress, of which 144,700 are found in Sydney.

2.1 Some Contextual Gaps in the White Paper

The White Paper seeks to provide a holistic integrated planning approach that captures current and future plans for on-street transit. This is always a huge challenge. Ideally this discussion should be placed within a long-term vision that integrates land use and transport planning for our Six Cities.

The White Paper notes that the proposed Rapid Network is designed to complement and integrate with planned and established rail and metro lines, however the reader is required to take this as an assumption. To provide informed advice and evidence-based stakeholder feedback on the White Paper issues, priorities and their spatial planning implications, some critical current transport information is absent from the White Paper, such as the demographic base assumptions and plans for the other transport modes like the Metro.

It is important to consider the subject of on-street transit networks within a broader context of all the other major transport forms and infrastructure (e.g., fast rail, heavy rail, metro, roads freeways and tollways private vehicles on roads and active transport networks) to identify duplications in routes and catchments, interdependencies, gaps and opportunities and constraints for growth.

Some of the questions raised in the Paper, however, cannot be fully addressed without this comprehensive overview of transport infrastructure and services.

This perspective needs to reflect not just current but also future plans (both funded and yet to be funded) for road, rail, metro improvements and transport interchanges.

SSROC Recommendations

As part of the consultation for the draft Six City Plans, provide integrated transport planning options for the Cities and the Greater Cities Region for consultation with local councils and their communities to enable the assessment and benefits analysis of the proposed rapid routes for rapid bus and light rail, for current and future demand.

If rapid bus routes are planned to trigger Transit Activated Corridors (TAC) these should also be clearly shown and assessed in conjunction with the proposed routes.

2.2 Support for more reliable, frequent and easy-to use bus and other on-street services

SSROC welcomes and endorses the Paper's call for more reliable, frequent and easy-to use bus and other on-street services.

On-street vehicles need dedicated lanes, so they do not get caught in traffic. Transport for NSW needs to increase and diversify our fleet, so that it is appropriately scaled for carrying crowds or for navigating local streets. Smart technology delivering facilities such as live service information will make the experience more intuitive for passengers. Stops need to be made fully accessible and welcoming. These advantages would boost the image of on-street transit and allow it to rival any other mode in efficiency and reliability.

SSROC Recommendations

SSROC supports the White Paper's directions and measures to invest in more reliable, frequent and easy-to-use bus services.

2.3 New forms of On-Street Transit are more diverse

The White Paper notes that on-street transit refers to all forms of mass transit using the street network, including light rail and buses. Guided Electric Vehicles or trackless trams are also captured in this definition. SSROC considers that for a variety of reasons trackless trams need to be further examined.

“Light rail remains the gold standard technology for providing high-quality, rapid, zero emissions public transport along a street corridor.”¹ Light rail has a clear ability to attract quality urban development. However, retrofitting light rail to arterial roads has proved expensive, slow and highly disruptive.

While trackless trams are a new option, they also hold the promise of combining the benefits of rapid bus routes and light rail. Optical guidance delivers very precise ride quality, without the sway of buses. Multiple carriages offer greater capacity – up to 500 passengers – than buses. Traffic engineers advise that good quality road-base is sufficient for them to run. The challenge of noise and pollution are overcome through zero-emission trams.

Trackless trams have been launched in Zhuzhou, Yongxiu and Yibin China.

According to Professor Peter Newman (in 2019) the capital cost of Sydney’s light rail has risen to around A\$210m/km. For a fraction of that cost, as little as A\$4m/km trackless trams can be introduced very quickly on a road of acceptable quality².

Trackless trams may well be very effective in signaling a permanent, high quality service to communities where rapid bus networks might otherwise struggle.

Australia’s first trackless trams are currently being trialed in Perth and will undergo testing before potentially running along Scarborough Beach Road. The 30m tram trial is first testing the technology to determine if it is suitable for a 7km route from Glendalough train station to Scarborough beach. The self-guided vehicle will run along a digital track rather than a steel track and will be able to charge at stations in the few seconds it takes to pick up passengers. It can hold up to 150 passengers³. (See appendix 1 for further details).

The White Paper also highlights by way of a case study the Bi-Articulated Buses, the Brisbane Metro Bi-articulated vehicles are based on light rail design and are able to accommodate up to 150 passengers. The Brisbane Metro will commence operations in late 2024, and aims to see the introduction of 60 vehicles.

When coupled with other investments in high quality stations, passenger information systems, dedicated infrastructure and modal priority, this type of fleet could provide a high quality, high capacity on-street transit solution across the Six Cities.

SSROC Recommendations

As part of further consultations for on-street public transport transit options, we recommend that Transport for NSW:

- further assess the merits and potential application of trackless trams in Greater Sydney along with rapid buses and light rail options.
- analyse and publish advice about the complementary roles of the three high volume on-street transit options providing a comparative table showing key metrics such as spatial demands in street corridors (footprint), passenger carrying capacity, running and establishment costs, catchment size, scalability and versatility of the key forms of on-

¹ Peter Newman, *Trackless trams v light rail? It’s not a contest -both improve our cities*, The Conversation, October 23 2019. <https://theconversation.com/trackless-trams-v-light-rail-its-not-a-contest-both-can-improve-our-cities-125134>

² Ibid

³ Taylor Renouf, *Australia’s first trackless tram arrives in Perth before potential trial along Scarborough Beach Road*, PerthNow September 27, 2023

<https://www.perthnow.com.au/local-news/australias-first-trackless-tram-arrives-in-perth-before-potential-trial-along-scarborough-beach-road-c-12030209>

street transport including rapid buses, trackless trams and light rail

- identify potential routes best suited to the effective operation of trackless trams
- assess the feasibility of Parramatta Road as a suitable route for trackless trams following the completion of WestConnex.

3.4 More rapid bus routes

The White Paper argues that rapid buses can deliver fast, reliable services and quality infrastructure similar to light rail, but can be implemented more quickly and with more flexible route options. It then notes that 39 Rapid Bus routes across Sydney have been identified through strategic planning. A significant number (approximately 15) of these routes crisscross the SSROC region.

The paper proposes the delivery of new permanent, high-quality routes and states that Rapid Buses are a top-tier bus product aimed at increasing regional connectivity. It highlights that they are similar to light rail, with turn-up-and-go services, and quality stops that are distinctive, legible and well-integrated with the urban environment. Importantly, they can enable growth around transit stops.

The paper then canvasses stakeholders' opinions and priorities, and asks which routes should be prioritised for delivery. Arguably there is insufficient information to make a well-considered judgement without access to other up-to-date strategic transport planning advice. (Please also see SSROC recommendations regarding more contextual information and data).

The Paper notes the need to balance services across the Six Cities to support population growth, the need to provide new underserved areas and the potential to transition to rapid transit soon. Intense population growth and better access to public transport can be self-reinforcing. However, the absence of either one of these elements can be self-defeating precluding their own synergies which support viability and feasibility.

SSROC also notes that the paper suggests some potential initial priorities that crisscross the SSROC region, namely:

- Sydney to Parramatta (Parramatta Road and Victoria Road)
- Liverpool to Burwood via Bankstown.

SSROC would support the urgent further investigation of these routes for on-street transit, it is unclear that rapid bus services represent the best on-street public transport solution, nor is the fit clear with current and future plans for Metro extensions. A continued co-design process with councils is recommended here given the implications for housing growth. These plans should explain how these routes will lead to higher public transport patronage overall, how they will integrate and support modal changes for commuters and help solve the problem of the 'last mile'.

A key concern is that opting for a rapid bus solution may neutralize and in effect negate the opportunity to adopt other forms of on-street transit in the future, as a consequence of the previous sunk investment and the comparative priority with other transport priorities that do not have adequate servicing.

As noted elsewhere, the White Paper does not rigorously explore the potential option trackless trams, nor future extensions to the light rail services. Please see SSROC recommendations about trackless trams and their similar benefits to Rapid Buses.

Arguably there is not sufficient information in the paper to give good advice and feedback on which of the 39 Rapid Bus routes should be prioritised.

SSROC Recommendations

Transport for NSW undertake and publish cost benefit studies for the nominated routes comparing light rail, trackless trams and Rapid Bus services to identify the best modal mix for these routes and their urban locations.

Transport for NSW:

- inform local councils of imminent plans to establish new rapid bus routes in their local government area.
- Co-design new rapid bus routes with local government.
- Ensure proposed rapid bus transit studies occur to inform the prioritisation of routes.
- Consult widely with affected local governments on the future priorities for rapid bus routes in their local government areas.

3.5 Growing the city along permanent, high quality routes

The White Paper argues that the investment in on-street transit should take up the opportunity to integrate land use change along new or improved transit corridors. “While mass transit generally supports high density residential development and local bus services support low-density housing, on-street transit along strategic corridors can support medium density housing.”⁴

On-street transit may help ease the housing crisis by stimulating the development of medium density housing – often termed “the missing middle” – along strategic corridors. The paper highlights examples in Australia and overseas that have shown that such development can be stimulated when investment in well-designed stops and smart passenger technology signals a permanent high-quality service.

The Paper proposes that Transit Activated Corridors (TACs) can be considered the medium density alternative to Transit Oriented Development (TOD) centres focused on stations and transport interchanges. TACs could represent a viable integrated planning framework. “Bus and light rail are adequate transport solutions as part of TAC, since their medium (passenger) capacity is well aligned to the demands of medium density housing while having reduced impacts compared to rail.”⁵

However, it is unclear how wide a corridor and expansive in scale TACs are envisioned to be. Nor is it clear what would be considered medium density.

In the SSROC region nearly all transit activated corridor routes will be housing existing communities in both low and medium density areas often in older dwellings. A key challenge related to the adoption of TAC will be displacement of residents, particularly low and moderate-income renters.

Not every transit corridor will be suitable for activation due to inherent constraints. The Paper notes that, “It would be a missed opportunity to invest in high quality routes without redesigning precincts to deliver housing, amenity and economic activity”⁶.

Another consideration will be choosing routes which can best support On-street transit, ideally with dedicated on-street transit options running down the centre of routes (see White Paper, Figure 10⁷) that can be retrofitted through the redesign of streets, stops and footpaths integrated with transit-

⁴ Transport for NSW, *Directions for On-Street Transit*, White paper, October 2023, page 31

⁵ On-Street Transit White Paper, page 31.

⁶ Ibid page 15

⁷ Ibid page 15. Figure 10 A street designed to integrate transit and urban development

oriented land use. Treeless, sunless, congested multi-modal corridors will not make high quality routes nor win over communities and attract new development.

TACs would also need to be carefully integrated with existing plans for housing growth and centre development and would need to be carefully incorporated into Councils' LEPs, Masterplans and Local Housing Strategies. This will be critical to ensuring that the 'well located' housing, the centres on the routes and neighbourhoods along the corridors have enhance livability and offer more amenity as the population grows.

The Paper highlights that good stop placement can contribute to the 15-minute neighbourhood, stimulating activity in existing or new centres, surrounded by essential services that are supported by an active transport network. Early consideration and local knowledge of distance to other transport modes, existing shade trees or structures, existing active transport connections and passive surveillance are all required to deliver easy integration with the surrounding neighbourhood. Stop design and locations will require the close collaboration of Transport, local councils, communities and urban design professionals.

SSROC welcomes the acknowledgement of, and support for, affordable (rental) housing as part of the housing mix along the routes. It is SSROC's position that permanently affordable rental housing (including social housing) remains a key housing challenge and must be considered as a part of the essential social and economic infrastructure. Affordable rental housing is critical to a functioning economy, and ensuring Sydney remains a place of opportunity for all to have a fair go. TACs should not inadvertently widen wealth inequalities.

New affordable housing supply is critical to retaining essential workers attracting investment and therefore to regional and local productivity. The establishment of Affordable Housing Contribution Schemes, at the time of rezoning any corridor, should be considered as a key means of mitigating the potentially rapid displacement of low-income renters and help build inclusive communities through the provision of affordable housing paid for, in part, by developer funded contributions to capture windfall gains.

As the paper notes, road-space needs to be analysed to ensure that space is sufficient and will be able to meet long term demand. The TAC proposal needs to recognize that each corridor will be different, requiring diverse and flexible solutions to density, housing types and urban forms. Growing numbers of new households will need access to childcare and schools.

Clearly, any On-Street Transit Plan linked to land use and place making needs to promote the supply targets for general market housing together with new well located social and affordable housing and provide transit delivery mechanisms that are appropriate to this user group's greater dependency on public transport.

SSROC Recommendations

Transit Activated Corridors need to be better defined, investigated, tested and co-designed with local councils, route by route as each corridor will be different.

The establishment of Affordable Housing Contribution Schemes, before rezoning corridors, should be considered as one means of mitigating the loss of older, lower cost private rental accommodation and with it the rapid displacement of low-income renters through the provision of affordable housing paid for, in part, by developer funded contributions.

Transport for NSW co-design and invest with local government in public transport capable streets and create quality stops and interchanges and precincts.

The new Department of Planning, Housing and Infrastructure, in conjunction with local councils, set targets for social and affordable housing supply for the Transit Activated Corridors.

Define "Well located" housing in terms of three key dimensions: proximity to transport and jobs; access to good amenity and community infrastructure (including childcare, schools and affordable

rental housing); and the housing's location's capacity to promote resilience, safety and security in a changing and warming climate.

2.4 Better enabling funding and collaboration: ensuring local government is a genuine partner

SSROC welcomes the acknowledgement that an enhanced on-street transit network will require greater planning and new infrastructure as well as vehicles. Having clear approved investment plans to deliver these things in a timely and effective way will be critical to getting the strong engagement of councils. SSROC would support the development of a co-operative framework for On-street transit between Transport for NSW, the Department of Planning Housing and Infrastructure, the impacted local councils and the operators.

To ensure consistency and minimise uncertainty, an *On-Street Transit Planning Framework* needs to be developed to ensure that Government policies and governance measures clearly articulate how local councils will be consulted and engaged on key matters affecting them and their communities. Effective governance will be important to coordinate and achieve the proposed outcomes. This Framework should articulate the roles Transport for NSW and the Department of Planning, Housing and Infrastructure in the NSW Government planning, approval processes and service delivery.

Such engagement strategies, governance and reporting will be critical and foundational to developing a shared framework that accommodates both local and state priorities as far as possible, and which ensures that the priorities remain contemporary over time. It will be important for making sure the development of routes, infrastructure plans and works programs are meaningful and relevant to councils.

SSROC Recommendations

Ensure that rapid bus (or trackless tram) transit regional plans, with related investment plans are developed, published and reported transparently to enable councils to plan, integrate and where appropriate participate and or partner in specific placed-based infrastructure projects.

Transport for NSW consult widely with affected local governments and communities on the future priorities for rapid bus routes and proposed incremental route upgrades in their local government areas.

3 Summary of Recommendations:

SSROC recommends that:

1. As part of the consultations for the draft Six City Plans, provide integrated transport planning options for the Cities and the Greater Cities Region for consultation with local councils and their communities to enable the assessment and benefits analysis of the proposed rapid routes for rapid bus and light rail, for current and future demand.
2. If rapid bus routes are planned to trigger Transit Activated Corridors (TAC) these should also be clearly shown and assessed in conjunction with the proposed routes.
3. SSROC supports the White Paper's directions and measures to invest in more reliable, frequent and easy to use bus services.
4. As part of further consultations for on-street public transport transit options Transport for NSW should:
 - further assess the merits and potential application of trackless trams in Greater Sydney along with rapid buses and light rail options.
 - analyse and publish advice about the complementary roles of the three high volume on-street transit options providing a comparative table showing key metrics such as spatial demands in street corridors, passenger carrying capacity, running and establishment costs, catchment size, scalability and versatility of the key forms of on-street transportation including rapid buses and light rail
 - identify potential routes best suited to the effective operation of trackless trams
 - investigate the feasibility of Parramatta Road as a suitable route for trackless trams following the completion of WestConnex.
5. Transport for NSW undertake and publish cost benefit studies for the nominated routes comparing light rail, trackless trams and Rapid Bus services to identify the best modal mix for these routes and their urban locations.
6. Transport for NSW
 - inform local councils of imminent plans to establish new rapid bus routes in their local government area.
 - Co-design new rapid bus routes with local government.
 - Ensure proposed rapid bus transit studies occur to inform the prioritisation of routes.
 - Consult widely with affected local governments on the future priorities for rapid bus routes in their local government areas.
7. Transit Activated Corridors need to be better defined, investigated, tested and co-designed with local councils, route by route as each corridor will be different.
8. The establishment of Affordable Housing Contribution Schemes, before rezoning corridors, should be considered as a key means of mitigating the loss of older, lower cost private rental accommodation and with it the rapid displacement of low-income renters through the provision of affordable housing paid for, in part, by developer funded contributions.
9. Transport for NSW co-design and invest with local government in public transport capable streets and create quality stops and interchanges and precincts.

10. The new Department of Planning, Housing and Infrastructure, in conjunction with local councils, set targets for social and affordable housing supply for the Transit Activated Corridors.
11. Define “Well located” housing in terms of three key dimensions: proximity to transport and jobs; access to good amenity and community infrastructure (including childcare, schools and affordable rental housing); and the housing’s location’s capacity to promote resilience, safety and security in a changing and warming climate.
12. Transport for NSW ensure rapid bus transit regional plans, with related investment plans are developed, published and reported transparently to enable councils to plan, integrate and where appropriate participate and or partner in specific placed-based infrastructure projects.
13. Transport for NSW consult widely with affected local governments and communities on the future priorities for rapid bus routes and proposed incremental route upgrades in their local government areas.

4 Conclusion

Thank you for the opportunity to provide a submission regarding the *Directions for On-Street Transit* White Paper.

SSROC member councils cover a large portion of Greater Sydney and have a direct interest in supporting and advocating for transport changes to improve and sustain place-making, produce connected transport networks, good quality housing and deliver more inclusive communities. Councils play a vital role in delivering transit infrastructure for their local communities as they grow. They have goals to become more environmentally sustainable and reduce traffic congestion, which saps productivity.

In order to make this submission within the prescribed timeframe, it has not been possible for it to be reviewed by councils or to be endorsed by the SSROC. I will contact you further if any issues arise as it is reviewed. If you have any queries, please do not hesitate to contact me or Mark Nutting, SSROC Strategic Planning Manager on 8396 3800, or ssroc@ssroc.nsw.gov.au.

SSROC affirms the imperative to increase capacity of our existing road network, and welcomes steps to improve the quality of our bus network, and other forms of on-street transit and to attract more people to public transport.

SSROC looks forward to further discussions around the directions for *On-Street Transit* and any proposed connections to the growth in housing supply and land use. Close collaboration with local government will be essential for success.

This will be particularly important, as the new draft City Plans will soon set out strategies for how all levels of government, including local councils, with the private and community sectors can work together to better support all people being well housed and well connected to work, education and leisure activities.

Further detailed consultations around on-street transit plans and proposed routes and options will be essential. These should occur as soon as they are available for detailed consideration by councils and at the regional level, by their regional organisations like SSROC.

Yours faithfully



Helen Sloan
Chief Executive Officer
Southern Sydney Regional Organisation of Councils

Proposed Benefits of the trackless trains being introduced in Perth

The City's business case is designed to answer the question of whether Trackless Tram – a hybrid technology of a bus and light rail – is in fact the best of both worlds.

- Trackless Trams are a new sustainable form of public transport.
- They run on rubber tyres instead of steel tracks and the ride is smooth due to stabilising technology in the suspension.
- They are guided by a digital rail with sensors built into the road surface.
- They are powered by electricity or hydrogen fuel cells and are a net zero emission vehicle.
- There is also no need for overhead catenary wires or heavy steel tracks providing far better amenity for communities where they are implemented.
- The Trackless Tram has many advantages over a bus:
 - It is a net zero emission vehicle, with electric charged batteries
 - It can travel at a speed of 70km/h and carry up to 150 passengers
 - It is guided by magnetic nails that are imbedded in the road, enabling a smooth ride similar to that of light rail
 - It has a dedicated lane, with priority at traffic lights making it more efficient than current public transport options
 - It is bi-directional, which means it has a driver at both ends and doesn't need to turn around making access into Scarborough Beach trouble-free.
 - The tram has a flat wide floor, with easy access from station platforms and room to accommodate e-rideables, prams, wheelchairs and most importantly for Scarborough – surfboards.

Source: City of Stirling website

<https://www.stirling.wa.gov.au/your-city/news/2023/november/trackless-tram-trial-underway>