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19 July 2024
City of Parramatta Council
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EcoTransit submission for Parramatta 2050

Dear City of Parramatta Council (City Strategy Team),

EcoTransit Sydney thanks the City of Parramatta Council for the opportunity to make a submission for the Parramatta 2050 strategy.

As one of Sydney's longstanding public and active transport advocacy groups, we bring to the attention of the City of Parramatta Council the following key areas of attention for the consideration of the City Strategy Team regarding transport supporting the Parramatta 2050 Strategy.

Light Rail

- Advocate for an extension of Parramatta Light Rail (Stage 1) from Carlingford to Epping.
- Advocate for an extension of Parramatta Light Rail (Stage 2) from Carter Street (Olympic Park) to Lidcombe Station and Strathfield Station.
- Advocate for completion of City of Parramatta Council's Western Sydney Light Rail Network including a link from Parramatta/Carlingford Line to Bankstown via South Granville.

Sydney Trains

- Advocate for an extension of the Sydney Trains T5 Cumberland Line to Western Sydney Airport International Airport Termina Station via Leppington (South West Rail Link).
- Advocate for retention of the T5 Cumberland Line Y-Link between Harris Park and Merrylands (reject the NSW Future Transport Strategy plan for a New Cumberland Line from Merrylands to Epping).
- Advocate for prioritisation of digital signalling upgrades for the Sydney Trains Network including for the T1 Western and Richmond Line, T2 Inner West and Leppington Line, and T5 Cumberland Line.
- Advocate for the NSW Future Transport Strategy "RiverRail" line to be constructed as Sydney Trains (heavy rail) from Norwest – Baulkham Hills – Parramatta – South Granville – Birrong and Yagoona – Bankstown – Kogarah – Miranda.

- Advocate for re-introduction of regular Sydney Trains passenger services via Lidcombe Junction West between Parramatta and Bankstown (2 trains per hour in AM from Bankstown, 2 trains per hour in PM from Parramatta) until the opening of "RiverRail" in 2056.
- Advocate for 2 additional Sydney Trains tracks on the T1/ T2 Line between Homebush and Granville.
- Support the rebuilding of Pippita Station on the T7 Olympic Park line and the introduction of Pippita CityExpress (reject the closure of the T7 Olympic Park Line after Sydney Metro West opens).

Tram-Trains

- Support the development of Australian-made tram-trains as part of standardisation of Sydney's single-deck rail transport fleet.
- Advocate for the conversion of the T80 Parramatta to Liverpool corridor and the North-West T-Way (Parramatta to Blacktown and Rouse Hill) into light rail.
- T6 Carlingford Line with tram-trains including at Clyde and beyond to Bankstown via South Granville.

Active Transport

- Provide a funding contribution for construction of the Pippita Rail Trail (with Cumberland Council) from Lidcombe to Sydney Olympic Park.

Ferry

- Advocate for increased Parramatta Ferry (RiverCat) services from Parramatta to Circular Quay.

Metro

- Advocate for additional Sydney Metro West Stations at Silverwater and Rosehill.
- Advocate for mortarium on future rail projects as being Metro by default.

EcoTransit would like to request the opportunity to meet with the City Strategy Team to discuss reducing car dependency in City of Parramatta LGA and the benefits of these transport opportunities for the Parramatta 2050 strategy.

Please contact Roydon Ng via email roydon@restoreinnerwestline.org.au or mobile 0426500330 regarding this EcoTransit submission.

Yours Sincerely,

Roydon

Roydon Ng
Member
EcoTransit Sydney

Contents

What is EcoTransit?

EcoTransit is transport that supports a sustainable economy and environment. The less resources used by the transport sector, the more efficient our economy is, and the less damage is done to the environment.

Public transport, walking and cycling fit these criteria. Urban freeway development that entrenches prolific car use does not support **EcoTransit** based economies and cities.

EcoTransit is a public transport advocacy group operating out of Sydney, but with a focus on all regional and rural parts of NSW that need better public transport. EcoTransit is a not-for-profit organisation made up of volunteers dedicated to the promotion of EcoTransit development.

EcoTransit advocates improving the local environment of towns, suburbs, and cities in NSW, by shifting transport from invasive modes like the private motor car that produce high levels of air, noise, and water pollution to the less polluting public transport modes.

EcoTransit is dedicated to the preservation of NSW's natural environment and heritage areas.

EcoTransit members are transport planning consultants, academics, trainspotters, bus drivers, commuters, cyclists, engineers, pedestrians, and combinations of all of the above.

EcoTransit has most recently submitted and has given evidence at the NSW Legislative Council Inquiry into the Current and future public transport needs in Western Sydney (Portfolio Committee 6 – Transport and the Arts) in 2023.

The **EcoTransit** submission for the NSW Parliament Inquiry into Current and future public transport needs in Western Sydney and additional information tendered to the Inquiry is published at:

https://www.parliament.nsw.gov.au/lcdocs/submissions/82000/0048%20EcoTransit%20Sydney.pdf

https://www.parliament.nsw.gov.au/lcdocs/other/18819/Additional%20information%20to%20the%20committee,%20EcoTransit,%20tendered%20by%20Mr%20Colin%20Schroeder.pdf

The City of Parramatta Council is invited to visit the **EcoTransit** website (www.ecotransit.org.au) for further details and information about our public transport and active transport proposals, advocacy, and position papers.

Future of T5 Cumberland Line & Y-Link

Internal Transport for NSW documents reveal preliminary planning has commenced to convert the existing T5 Cumberland Line into Sydney Metro and for a future extension of T5 metro from Glenfield to Merrylands and then beyond to Epping via new rail tunnels under Parramatta.

New T5 Cumberland Line: Western Sydney Airport (Bradfield/Aerotropolis) to Epping via Glenfield and Parramatta. Completed by 2056 or 2061 as part of the NSW Future Transport Strategy.

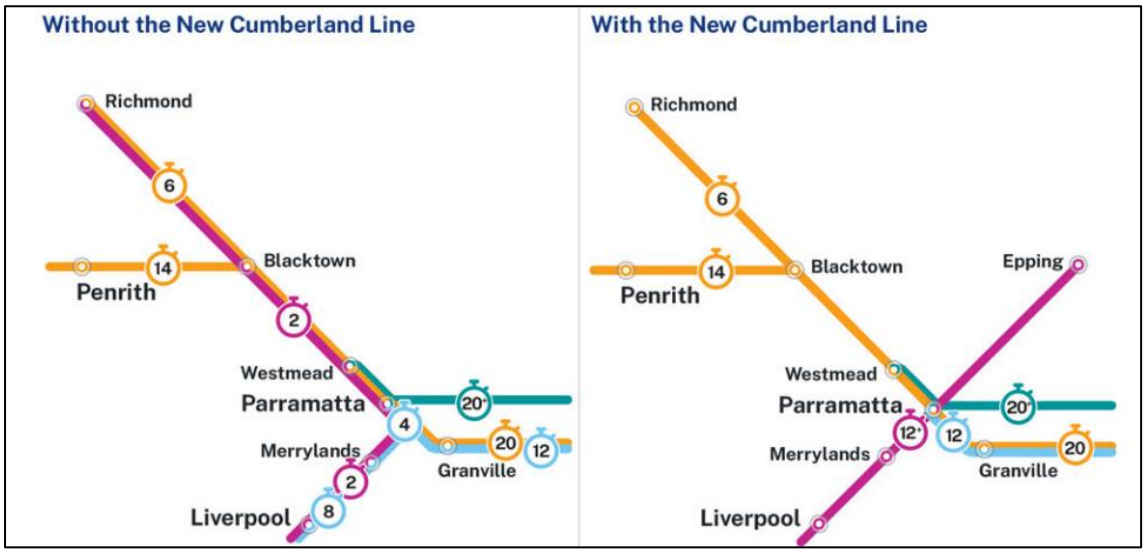
- T5 Metro Stage 1: Conversion of Glenfield to Leppington into Sydney Metro, and extension of South West Rail Link from Leppington to Western Sydney Airport as Sydney Metro WSA Line – Stage 2.

  Timing subject to the current business case (co-funded by NSW and Commonwealth Government) to extend the Sydney Metro – Western Sydney Airport Line from the Western Sydney Aerotropolis to Glenfield via Leppington.

- T5 Metro Stage 2: Conversion of Glenfield to Merrylands into Sydney Metro. Completed by 2036?

- T5 Metro Stage 3: New Sydney Metro Tunnels from Merrylands to Parramatta Metro Station (future Parramatta Transport Hub). Completed by 2041?

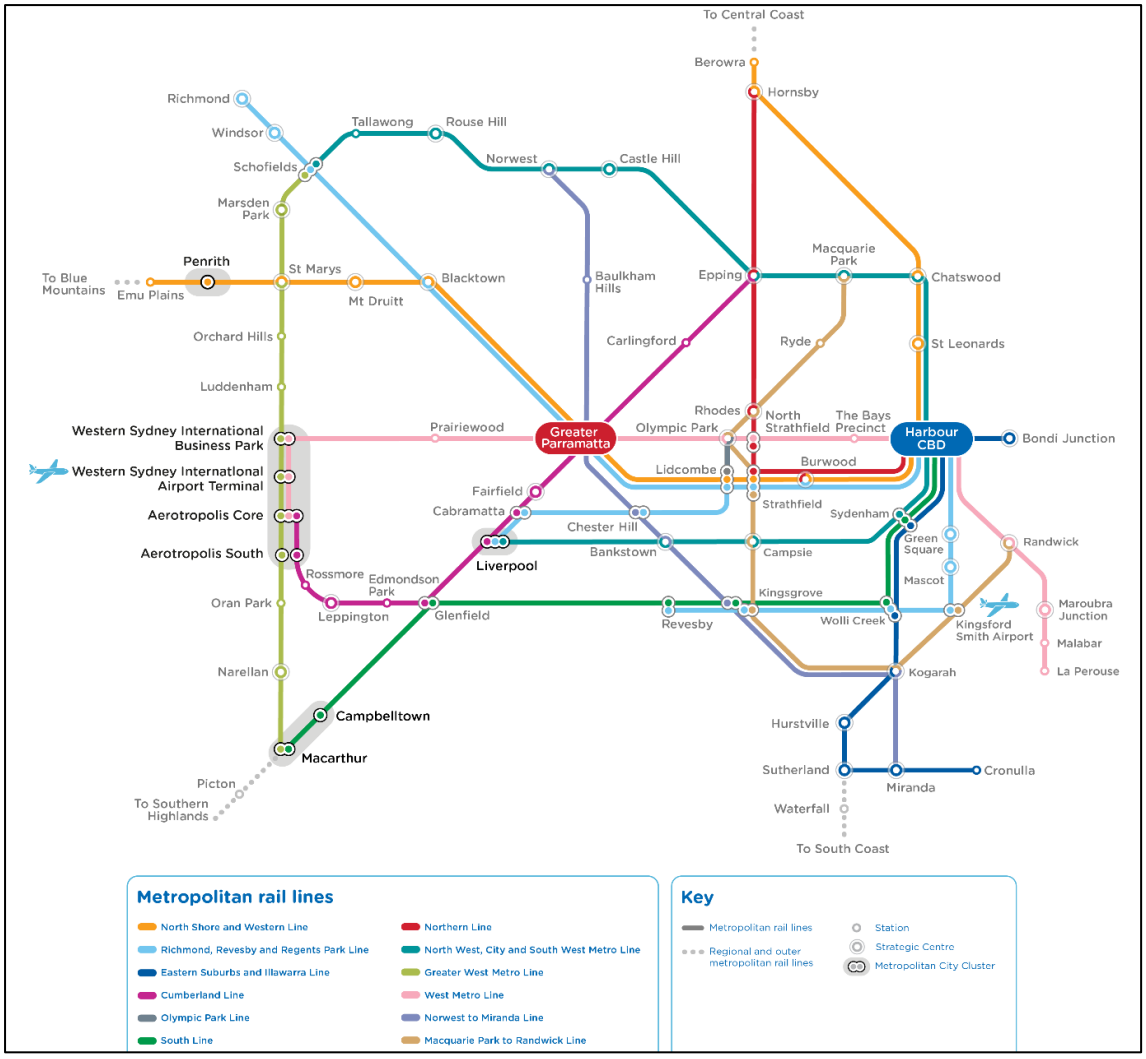
- T5 Metro Stage 4: Parramatta to Epping with a new Sydney Metro station potentially at Rydalmere and/or Carlingford. Completed by 2056.



New Cumberland Line. Transport for NSW Greater Liverpool Area Needs Study (2022)[1]

EcoTransit is disappointed that the T6 Carlingford Line was replaced with Light Rail instead of being duplicated as part of the Parramatta to Epping/Chatswood Rail Link.

[1] https://restoreinnerwestline.org.au/wp-content/uploads/2022/11/Greater-Liverpool-to-Bankstown-Needs-Study.pdf



NSW Future Transport Strategy 2056 – Indicative Sydney Rail Network (released November 2020). Note that the T5 Cumberland Line (metro from Glenfield does NOT service Western Sydney Airport Terminal but terminates at Aerotropolis (which is 1 station south of the Airport Terminal).

EcoTransit has previously made submissions to the NSW Government and expressed disappointment at the decision to convert the Epping to Chatswood Rail Link into Sydney Metro along with the decision to construct the North West Rail Link as Sydney Metro (instead of to Sydney Trains standards).

EcoTransit is a supporter of a Second Harbour Rail Crossing and believes that 2 additional Sydney Trains tracks across Sydney Harbour (Bridge) would have increased capacity by 50% across the entire Sydney Trains Network[2].

[2] https://ecotransit.org.au/wp/policy-priorities/priority-projects/two-more-tracks/

Impacts of new T5 Cumberland Line/Metro Conversion

The South West Rail Link was designed on the Sydney Trains Network to be (and should be) extended beyond Leppington as Sydney Trains heavy rail with baggage capacity (e.g. Oscar carriages) to Western Sydney Airport and is advantageous due to its short distance.

The South West Rail Link has the capacity for direct Sydney Trains Network connections through Glenfield to Liverpool, Parramatta, Blacktown, Richmond, Granville, Strathfield, Redfern, East Hills, Wolli Creek, Sydney Domestic Airport, Sydney International Airport, Central, and City Circle.

The proposed New Cumberland Line will have 12 trains per hour between Western Sydney Airport and Epping which is 2 more than currently provided by a combination of the T2 Leppington Line (City via Granville) and T5 Cumberland Line.

Capacity exists on the current Sydney Trains Network to increase T5 Cumberland Line services by 2 trains per hour to Leppington south of Parramatta or a further point west such as Blacktown or Schofields.

Increasing the level of service on the existing T5 Cumberland Line and maintaining T2 Leppington Line services allows for greater travel options and flexibility on the Sydney Trains Network in contrast to converting the line into Sydney Metro.

Converting the T5 Cumberland Line into Sydney Metro replaces a functional rail link and will have minimal journey time savings (if any) to Glenfield, Liverpool, Parramatta (as the number of intermediary stations remains the same minus Harris Park), Sydney Domestic Airport, Sydney International Airport, Central, and City Circle.

Given the substantial cost and impacts of converting the T5 Cumberland Line into Sydney Metro including the overall loss of direct connections on the Sydney Trains Network, a significant number of commuters will have increased journey times due to the need to interchange at Parramatta to reach the current destinations on the Sydney Trains Network.

The Sydney Trains Network timetable should enable direct trains from Central/Sydney Domestic Airport to Glenfield (currently 39 minutes) and then all stations to Western Sydney Airport via Leppington (approximately 10 minutes). The entire journey to Western Sydney Airport would be achievable in approximately 50 – 55 minutes utilising existing the Kingsgrove to Revesby Quadruplication.

Approximately a third of New Cumberland Line commuters are forecasted to interchange at Parramatta with the majority travelling to Sydney CBD (Hunter Street) using Sydney Metro West.

The current T5 Cumberland Line from Leppington to Parramatta is approximately 45 minutes (or New Cumberland Line potentially 40 minutes with Sydney Metro and minus Harris Park Station). Sydney Metro West from Parramatta to Sydney CBD (Hunter Street) is approximately 20 minutes.

Sydney Metro (New Cumberland Line and Sydney Metro West) will not reduce journey times to Central or City Circle for commuters from Leppington, Edmondson Park, Glenfield, Liverpool, Fairfield, and other stations on the current T5 Cumberland Line.

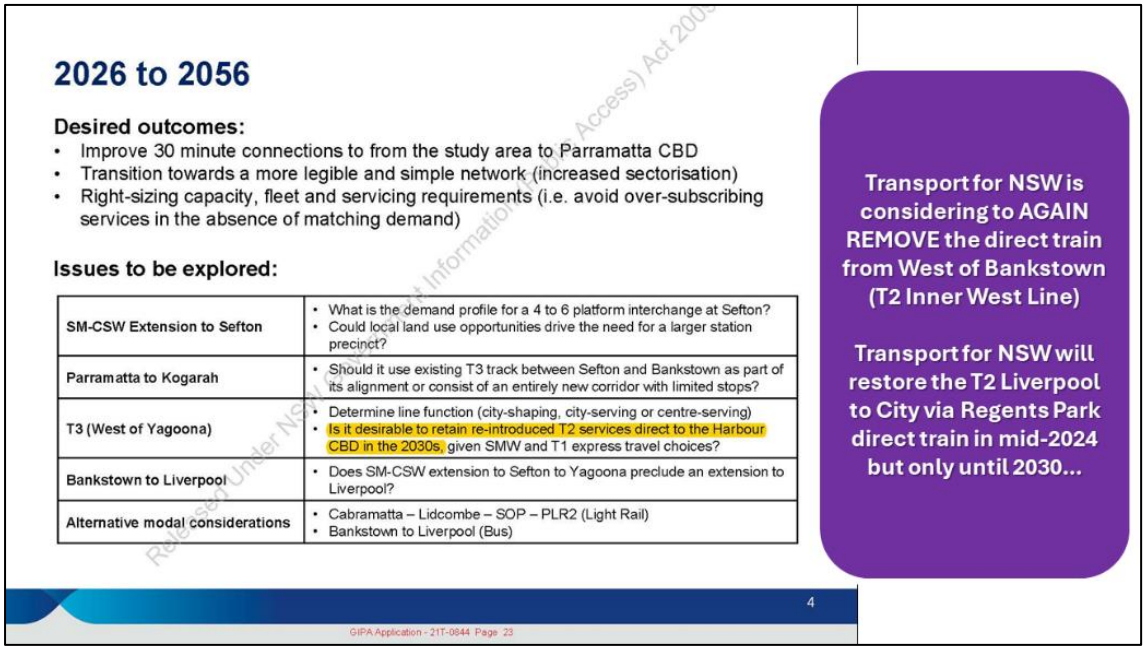
The New Cumberland Line as Sydney Metro to Epping (after the initial conversion of Glenfield to Leppington with Metro extension to Western Sydney Airport) will remove the capacity for Sydney Trains heavy rail running between Merrylands and Glenfield.

Trains relying on the Old Main South Line (via Granville) and New Main South Line (via Regents Park) will be rerouted to operate on the T8 Airport and East Lines to Central, which will severely limit flexibility on the Sydney Trains Network especially during trackwork and special events.

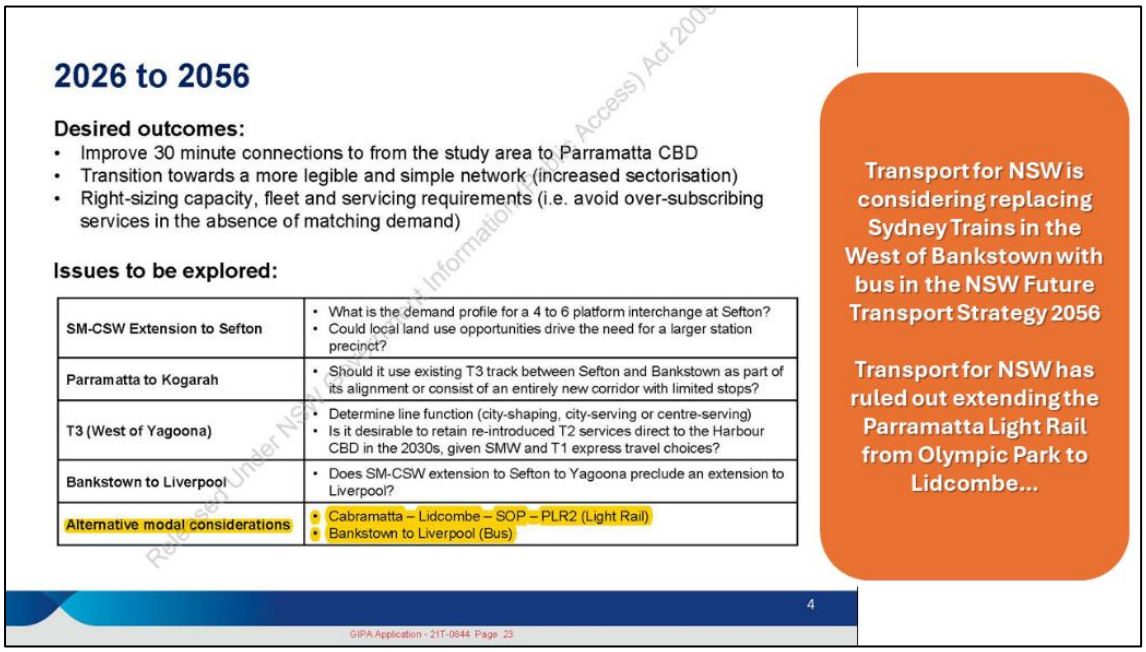
The New Cumberland Line as Sydney Metro to Epping (after the initial conversion of Glenfield to Leppington with Metro extension to Western Sydney Airport) will remove the current T2 Leppington Line from the Sydney Trains Network leaving only the T2 Inner West Line terminating at Parramatta.

The New Cumberland Line as Sydney Metro to Epping (after the initial conversion of Glenfield to Leppington with Metro extension to Western Sydney Airport) will remove the T2 Liverpool via Regents Park line (to be restored in 2024) from the Sydney Trains Network as Cabramatta, Warwick Farm, and Liverpool will only be serviced by Sydney Metro.

Regarding the T2 Line (from City via Granville or Regents Park), a Cabramatta turnback for Sydney Trains was ruled out by Transport for NSW in 2020. Transport for NSW also has current plans to consider the removal of the re-instated T2 Inner West Line: City Circle to Liverpool via Regents Park service in 2030.



2026 to 2056 Issues to be explored: ***"Is it desirable to retain re-introduced T2 services direct to Harbour CBD in the 2030s...?"*** *Source: Transport for NSW (GIPA 21T-0844)*



2026 to 2056 Issues to be explored: ***Alternative modal considerations. Bankstown to Liverpool bus.*** *Source: Transport for NSW (GIPA 21T-0844)*

Additionally, T3 Liverpool to Bankstown line services will be removed in 2024 when Sydney Metro Southwest (Sydenham to Bankstown) opens. Therefore, the no Sydney Trains trains will operate between Cabramatta and Sefton/Bankstown as well as Lidcombe via Regents Park. As Transport for NSW has ruled out (in 2023) extending Parramatta Light Rail from Olympic Park to Lidcombe, the train stations in the West of Bankstown will be replaced by bus stops. Transport for NSW is currently planning for rapid buses as part of the Greater Liverpool Area Needs Study (2022)[3].

With the New Cumberland Line (T5 Metro) stations such as Merrylands, Guildford, Yennora, Fairfield, Canley Vale, Cabramatta, Warwick Farm, Casula, Edmondson Park, and Leppington will lose direct trains to stations such as Harris Park, Blacktown, Richmond, Granville, Lidcombe, Strathfield, Redfern, Central, City Circle and be forced to interchange at Parramatta Metro Station (separate to current Parramatta Station on the Sydney Trains Network).

Current T5 Cumberland Line commuters from Richmond and Blacktown will also have to interchange at Parramatta for the New Cumberland Line towards Leppington. The Cumberland Line Y-Link between Merrylands to Harris Park will be disconnected with Sydney Metro entering into new tunnels north of Merrylands Station to Parramatta Metro Station bypassing Harris Park.

The New Cumberland Line as Sydney Metro to Epping may impede Parramatta from being part of Fast Rail to Newcastle and the Central Coast. The smaller Sydney Metro sized tunnels are not compatible with Sydney Trains or NSW TrainLink heavy rail

[3] https://restoreinnerwestline.org.au/wp-content/uploads/2022/11/Greater-Liverpool-to-Bankstown-Needs-Study.pdf

services which eliminate a connection at Epping with the T9 Northern Line / Newcastle and Central Coast Line (Main North Line).

The current T5 Cumberland Line should remain on its current route to Schofields and Richmond.

The future East West Rail Link (Westmead to Western Sydney Airport / Metro West Extension) should be replaced with heavy rail from Western Sydney Airport to Parramatta, then continuing to Epping with a connection with the T9 Northern Line / Newcastle and Central Coast Line (Main North Line).

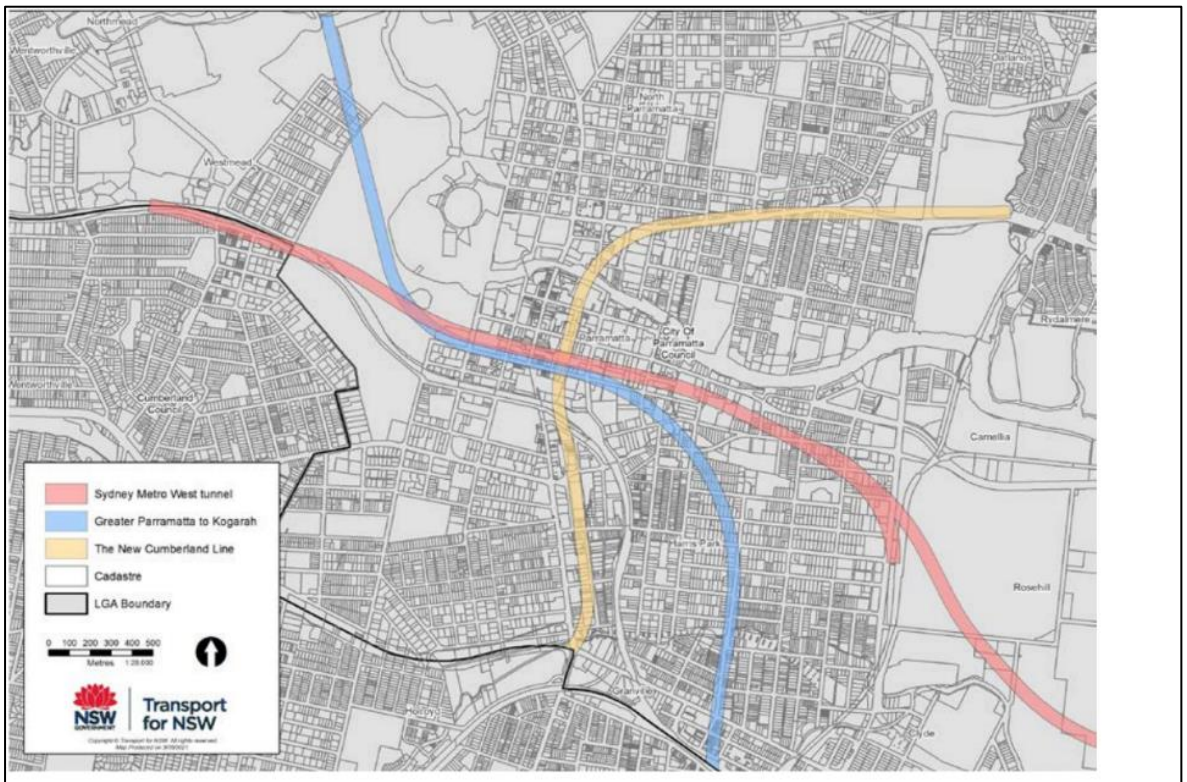


Figure 3 Preferred corridors for Greater Parramatta to Kogarah and The New Cumberland Line within Greater Parramatta

The new T5 Cumberland Line (metro) would leave the existing rail corridor near Crescent Street, Holroyd to proceed in new tunnel (bypassing the Y-Link and Harris Park) to Parramatta then Epping[4]*. Source: Extract of Ministerial Briefing for Minister for Transport and Roads Andrew Constance (2021)*[5]

Recommendation: City of Parramatta Council to request the NSW Government undertake an Independent Review of the NSW Future Transport Strategy to increase and optimise capacity on the Sydney Trains Network.

[4] https://restoreinnerwestline.org.au/wp-content/uploads/2022/11/Attachment-A-Greater-Parramatta-Future-Transport-Hubs-Proposed-Tunnel-Alignments.pdf

[5] https://restoreinnerwestline.org.au/wp-content/uploads/2022/11/Interim-corridor-protection-for-two-new-north-south-lines-through-Greater-Parramatta-Briefing-for-Minister-for-Transport-and-Roads-24-September-2021.pdf

Tram-Trains for Western Sydney

EcoTransit advocates for the conversion of all single-deck rail rolling stock such as Sydney Light Rail and Sydney Metro into an Australian-made standardised tram-train. The new tram-trains will be compatible with the existing Sydney Light Rail, Parramatta Light Rail, Sydney Metro, and the Sydney Trains Network (all running on standard gauge of 1,435 mm (4 ft 8+1⁄2 in)).

EcoTransit has previously advocated for the construction of a new Western Line (similar to the current Sydney Metro West project) using Sydney Trains Network (heavy rail) standards, however, this proposal, to allow Blue Mountains, Richmond, Emu Plains/Penrith services on the T1 Western Line to divert east of Westmead into new tunnels to Parramatta and then as an express to Sydney CBD, has been ignored by successive NSW Governments.

The extension of Sydney Metro from Westmead to Western Sydney Airport (East-West Rail Link) does not provide Greater Western Sydney with fast and convenient environmentally sustainable transport which **EcoTransit** believes should be the criterion for Sydney's future transport system.

EcoTransit does support new rail from Parramatta/Westmead to Western Sydney Airport and proposes such to take place through the standardisation of all single-deck rail fleets (such as light rail and metro) into Australian made Tram-Trains and the extension of Parramatta Light Rail (as Tram-Trains) to Western Sydney International Airport Terminal, and eventually becoming the main form of regionalised public transport throughout the Western Sydney Aerotropolis/Western Sydney Parkland City (Bradfield).

Tram-trains as in use around the world (including in Karlsrue in Germany and more recently Sheffield in the United Kingdom) are often at grade constructions with shared or dedicated on-street running without major tunnelling. Stations are located in semi-close proximity to each other with platforms capable of servicing 8 carriage tram-trains.

EcoTransit notes the extension of rail connections from Parramatta/Westmead to Western Sydney Airport would enhance public transport through the LGAs of Cumberland Council[6] and Fairfield Council[7], and the Local Strategic Planning Statement of both Councils supporting a new link to Western Sydney Airport is noted. Fairfield Council has also recognised the need for increased transport to Prairiewood and Cecil Park.

Cumberland Council has advocated for the extension of Parramatta Light Rail from Westmead Station to Wentworthville via Hawkesbury Road and the Great Western Highway median; as well as for the Western Sydney Freight Line intersecting with the T2 Leppington Line/T5 Cumberland Line near Yennora to include passenger services to Western Sydney Airport.

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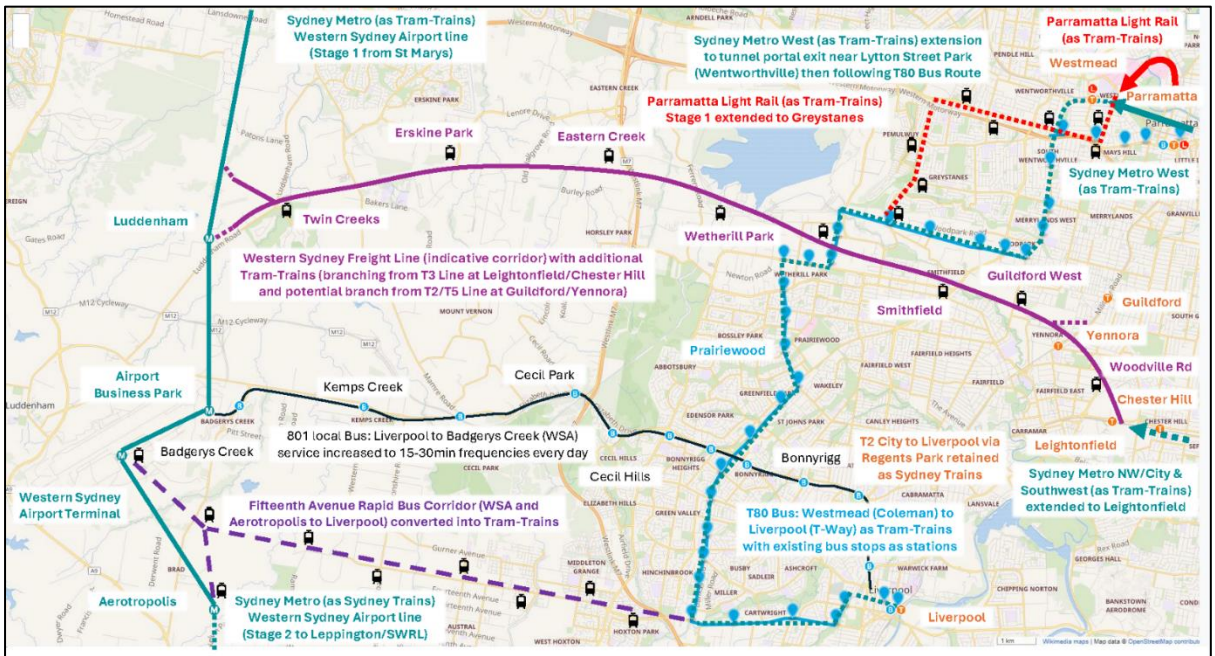
[6] https://www.fairfieldcity.nsw.gov.au/files/assets/public/v/1/documents/business/adopted-fairfield-city-local-strategic-planning-statment-2040-30.03.20.pdf

[7] https://www.fairfieldcity.nsw.gov.au/files/assets/public/v/1/documents/business/adopted-fairfield-city-local-strategic-planning-statment-2040-30.03.20.pdf

EcoTransit also notes the Parramatta to Liverpool T-Way (T80 Bus Route) was originally designed to be part of a Western Sydney Light Rail Network, hence **EcoTransit** would also support the introduction of tram-trains replacing the T80 Bus.



EcoTransit proposed Tram-Train Lines to Western Sydney Airport & Aerotropolis (from Parramatta, Bankstown, Liverpool)

Tram-Train stop locations are indicative. Tram-Train passenger/line and mode interchanges at: South Wentworthville, Greystanes/Woodpark, Wetherhill Park, Bonnyrigg, Miller/Hoxton Park

With all Sydney Metro lines, all Light Rail (e.g. Parramatta Light Rail), rapid bus corridors (e.g. T80 Bus between Parramatta/Westmead and Liverpool; proposed Fifteenth Avenue Smart Transit (FAST) link between Liverpool and Western Sydney Airport), and the proposed Western Sydney Freight Line converted/upgraded to support the operation of Tram-Trains (standard gauge compatible with Sydney Trains), significant new rail connections across Western Sydney can be achieved.

In conclusion, **EcoTransit** believes greater flexibility will come about in future rail planning if all single-deck stock in Sydney trams (light rail) is converted to an Australian tram-train design. These would be able to work in the Metro tunnels as single-deck trains and on tram lines along the surface (replacing and/or complementing buses) as well as on heavy rail tracks (Sydney Trains Network).

This will reduce the need for duplication in the future, as such tram-trains would enable the reversal of the estrangement of Sydney Metro lines/tunnels from the Sydney Trains and wider rail network and allow trams (light rail) to perform more than standalone and street-based operations.

EcoTransit's proposed Tram-Train Routes

- Parramatta to Western Sydney Airport (former Parramatta Light Rail) via Greystanes then T80 route then Western Sydney Freight Line and/or Fifteenth Avenue.

- Parramatta to Western Sydney Airport (former Metro West) via South Wentworthville on T80 route then Western Sydney Freight Line and/or Fifteenth Avenue.
- Bankstown to Western Sydney Airport via Western Sydney Freight Line.
- Liverpool to Western Sydney Airport and Aerotropolis via T80 route then Fifteenth Avenue.
- Parramatta to Blacktown and Rouse Hill (North-West T-Way)
- Parramatta to Epping via Carlingford
- T6 Carlingford Line connecting with Sydney Trains Network at Clyde

Transforming Sydney Rail Network: Australian made Tram-Trains

Parramatta in Western Sydney is the growing vibrant heart of Sydney, is on the cusp of a significant upgrade to its public transportation system. The introduction of new Australian-made Tram-Trains promises to revolutionise the city's rail network, enhancing efficiency, connectivity, and overall commuting experience.

These innovative vehicles, designed to operate seamlessly on both tram and train tracks, represent a leap forward in urban transport. They offer numerous benefits and pave the way for the standardisation of Sydney Metro and Sydney Light Rail into a unified, single-deck Tram-Train fleet.

Bridging the Gap Between Trams and Trains

One of the most significant advantages of Tram-Trains is their versatility. Traditional trams are typically confined to urban streets, while trains run on dedicated rail lines. Tram-Trains, however, are designed to operate on both types of infrastructure.

This dual capability means they can provide continuous, direct journeys from suburban areas into the city centres without requiring passengers to transfer between different modes of transport. This integration reduces travel time and increases convenience, making public transport a more attractive option for commuters.

Enhanced Connectivity & Accessibility with Tram-Trains

The introduction of Tram-Trains will significantly enhance connectivity across Sydney's diverse inner and outer suburban communities. These vehicles can serve areas currently underserved by the existing rail network, effectively extending the reach of public transportation. By linking suburban rail lines with inner-city tram networks, Tram-Trains create new, direct routes that can reduce congestion on major lines and provide faster, more efficient travel options.

Moreover, Tram-Trains can navigate tighter turns and steeper gradients compared to traditional trains, allowing them to serve areas with challenging topography. This flexibility ensures that more communities, including those in hilly or densely built regions, have access to reliable and efficient public transport.

Economic and Environmental Benefits of Tram-Trains

The production of these Tram-Trains in Australia is set to bring substantial economic benefits. Local manufacturing supports Australian jobs and stimulates the economy by investing in domestic industries. By producing these vehicles locally, Sydney can ensure a supply chain that is less dependent on international suppliers, fostering economic resilience and promoting technological innovation within the country.

From an environmental perspective, Tram-Trains offer significant advantages over private vehicles. By providing an efficient and attractive alternative to car travel, they can help reduce traffic congestion and lower greenhouse gas emissions.

Electric Tram-Trains, in particular, produce zero emissions at the point of use, contributing to cleaner air and a reduction in the city's overall carbon footprint. Additionally, their ability to operate on existing tracks means that less new infrastructure is required, minimising the environmental impact of expanding the network.

Improving the Commuter Experience with Tram-Trains

The commuter experience in Sydney is set to improve dramatically with the introduction of Tram-Trains. These modern vehicles are designed with passenger comfort and convenience in mind. Features such as low floors for easy boarding, spacious interiors, and advanced passenger information systems ensure a pleasant and efficient journey. The reduction in the need for transfers also means that commutes will be more straightforward and less stressful, encouraging more people to choose public transport over driving.

Standardising Sydney Metro and Sydney Light Rail

The potential for standardising the Sydney Metro and Sydney Light Rail fleets into a unified, single-deck Tram-Train system is a visionary step towards an integrated transport network. Standardisation can bring about numerous benefits:

1. **Operational Efficiency:** A unified fleet reduces maintenance complexity and operational costs. Maintenance crews can be trained to service a single type of vehicle, and spare parts inventory can be streamlined. This efficiency translates into cost savings and more reliable service.
2. **Passenger Convenience:** A standardised system ensures uniformity in service levels, vehicle design, and passenger experience. This consistency can make the system more user-friendly, as passengers will encounter the same type of vehicle

and facilities across different routes. This predictability can enhance the overall travel experience and encourage more people to use public transport.

3. **Flexibility and Scalability:** A standardised fleet can easily be scaled to meet growing demand. New vehicles can be added without the need for extensive modifications to the existing infrastructure. This flexibility ensures that the transport network can adapt to population growth and changing travel patterns.
4. **Improved Planning and Development:** With a single type of vehicle in use, urban planners and developers can better design and integrate public transport into city layouts, optimising routes and station placements for maximum efficiency. This integration can lead to more cohesive urban development and better land use planning.

The transition to a unified Tram-Train fleet also presents an opportunity for technological upgrades. Features such as real-time tracking, automated controls, and advanced safety systems can be uniformly implemented across the network, enhancing overall service quality and reliability.

Supporting Australian Manufacturing & Innovation with Tram-Trains

Producing Tram-Trains in Australia is not only economically beneficial but also importantly supports local innovation. The development and production of Tram-Train vehicles can spur key advancements in transportation technology, positioning Australia as a new leader in the global industry. Investment in local manufacturing can also lead to the creation of a skilled workforce, boosting employment and fostering expertise in high-tech industries.

Furthermore, a domestically produced fleet ensures that Sydney's transportation infrastructure is tailored to local conditions and requirements. This customization can lead to better performance and longevity of the vehicles, as they are designed to meet the specific needs of the city's climate, geography, and passenger demographics.

Plans for the Tram-Train can include expanding the network to other cities and regions across Australia. There is also potential for exporting the technology to other countries facing similar urban transport challenges.

EcoTransit campaign for Australian made Tram-Trains

NSW has had enough of its Government buying public transport vehicles 'off-the-shelf' from overseas, which aren't fit for purpose! The costs of converting these foreign-built vehicles debunk the economic rationale of buying them 'cheaply' in the first place.

NSW now has THREE types of foreign-sourced passenger rail vehicles, and all have had problems upon arrival or soon after.

EcoTransit wants to uncomplicate this mess and is encouraging the government to switch away from both foreign-sourced automated metro carriages and standard light

rail vehicles. We want an all-in-one, locally built, single-deck 'Tram-Train' vehicle to replace both of these to ensure equal functionality and greater compatibility with our existing rail networks.

Locally made Tram-Trains would not only work in our existing metro tunnels and our current light rail tracks – they are also able to provide long-term sustainable jobs and quality single-deck rail vehicles for passengers which are fit-for-purpose - first time, every time.

Please see EcoTransit's campaign for Locally Made Tram-Trains for more information.

Case Studies: Tram-Trains in Other Global Cities

To understand the potential impact of Tram-Trains in Sydney, it is useful to look at how similar systems have been implemented in other cities of comparable size. Several European cities have successfully integrated Tram-Trains into their public transportation networks, providing valuable insights.

LEFT: Tram-train running on a street-level tram track in Heilbronn, Germany

RIGHT: The same tram-train carriage operating on standard heavy rail tracks, with low-lying platforms.

Karlsruhe, Germany: Karlsruhe is often cited as a pioneering city in the use of Tram-Trains. The Karlsruhe model allows Tram-Trains to run on both city tram lines and regional railway tracks. This system has significantly improved connectivity between suburban and urban areas, reducing travel times and increasing the convenience of public transport. The success of the Karlsruhe model has inspired other cities to adopt similar systems.

Mulhouse, France: Mulhouse has implemented a Tram-Train system that connects the city centres with surrounding suburban areas. This integration has provided a seamless travel experience for commuters, encouraging more people to use public transport instead of private cars. The Tram-Trains in Mulhouse have been praised for their efficiency and reliability, contributing to reduced traffic congestion and lower emissions.

Sheffield, UK: In Sheffield, Tram-Trains connect the city centres with nearby towns, utilising both tram tracks and existing railway lines. This system has improved regional connectivity and provided an efficient alternative to car travel. The introduction of Tram-Trains in Sheffield has been part of a broader strategy to enhance public transport infrastructure and reduce the city's carbon footprint.

Vossloh car for Sheffield-Rotherham Tram-Train in Yorkshire (United Kingdom)

These case studies highlight the potential benefits of Tram-Trains in terms of improved connectivity, reduced travel times, and enhanced passenger convenience. They also demonstrate the environmental advantages of reducing reliance on private cars and lowering greenhouse gas emissions.

The new Australian Tram-Train

EcoTransit suggests consideration for the new Australian Tram-Train for Sydney to be modelled upon the Melbourne E-class tram, built in Victoria from 2013 to 2021 (with some imported components) by Bombardier/Alstom. Other options include Stadler which could be built locally with a large order and an ongoing demand for product.

Melbourne E class, Bombardier's "Flexity Swift" and similar car in Karlsruhe (Germany)

Stadler Citylink car for Szeged Tram-Train operation in Hungary

Two compulsory features for all Tram-Train services would be low floor (for accessibility) and pivoting trucks. Couplers are concealed by the lower-end fairing and bumper for safer street operation. Pending sufficient demand and an enabling tender process, companies such as Stadler could build Tram-Trains in Australia. There are also similar offerings from builders such as Skoda, CRRC, and CAF.

This type of Tram-Train (also available from other builders as well) would also be suitable for all of Sydney City and South East, Newcastle, and also Parramatta Light Rail lines. EcoTransit suggests that all Tram-Train and light rail lines utilise overhead wiring to improve operational reliability. Dependency on APS "feeding via the ground" for power supply is comparatively unreliable and has high maintenance costs.

The Tram-Train rolling stock would have the smallest dynamic envelope being the Standard 2.65m wide Light Rail Vehicle enabling a high degree of interoperability (such as existing Light Rail, Sydney Trains or Sydney Metro). For compatibility with on-street running and operations at-grade right-of-way low floor cars are necessary, Sydney Metro stations would need to be rebuilt with low platforms.

Modifications to heavy rail platforms can include a low-level platform that can be added either opposite the high platform or at the end. Modifications to platforms at existing stations are a small cost to ensure Sydney's rail network is interoperable and futureproofed.

Were platform modifications to existing Sydney Trains and Sydney Metro lines be viewed as an inhibiting factor, EcoTransit proposes that all future single-deck fleets be constructed to the same Tram-Train specifications to ensure an end to the messy and disgraceful segregation of Sydney's rail network.

Australian-made Tram-Trains should be given a fair go!

Eco-Transit Benefits of Tram-Trains

Tram-Trains offer significant environmental benefits, making them a key component of eco-transit strategies. Here are some of the eco-transit benefits of Tram-Trains:

1. **Reduced Greenhouse Gas Emissions:** Tram-Trains, especially electric models, produce zero emissions at the point of use. By shifting commuters from cars to Tram-Trains, cities can significantly reduce their overall greenhouse gas emissions. This reduction is crucial for cities like Sydney, which are committed to meeting climate change targets and improving air quality.
2. **Energy Efficiency:** Tram-Trains are highly energy-efficient compared to other forms of transport. They can carry large numbers of passengers while consuming less energy per kilometre travelled. This efficiency is further enhanced when Tram-Trains use renewable energy sources, such as solar or wind power, to power their operations.
3. **Reduced Traffic Congestion:** By providing an attractive and efficient alternative to car travel, Tram-Trains can help reduce traffic congestion in urban areas. Fewer cars on the road lead to lower emissions, less noise pollution, and improved overall quality of life for city residents.

4. **Sustainable Urban Development:** The integration of Tram-Trains into urban planning encourages sustainable development practices. By promoting higher-density, transit-oriented development, cities can reduce urban sprawl, preserve green spaces, and create more liveable communities.
5. **Lower Infrastructure Costs:** Tram-Trains can operate on existing railway and tram tracks, reducing the need for extensive new infrastructure. This not only minimises environmental disruption but also lowers the financial costs associated with expanding the transport network.

Future-Proofing Sydney's Transport Network

Looking ahead, the flexibility and adaptability of Tram-Trains make them a future-proof solution for Sydney's evolving transportation needs. As the city continues to grow, the demand for efficient, reliable, and sustainable public transport will only increase. Tram-Trains provide a highly flexible and scalable solution that can be expanded and adapted as needed, ensuring that Sydney's rail network can meet the demands of the future.

The introduction of new Australian-made Tram-Trains is poised to bring a multitude of benefits to Sydney's rail network including in Western Sydney Parkland City. By bridging the gap between trams and trains, enhancing connectivity, and offering economic and environmental advantages, these innovative vehicles represent a forward-thinking approach to urban transportation.

As Sydney prepares to welcome this new addition to its transport system, residents can look forward to a more efficient, accessible, and enjoyable commuting experience.

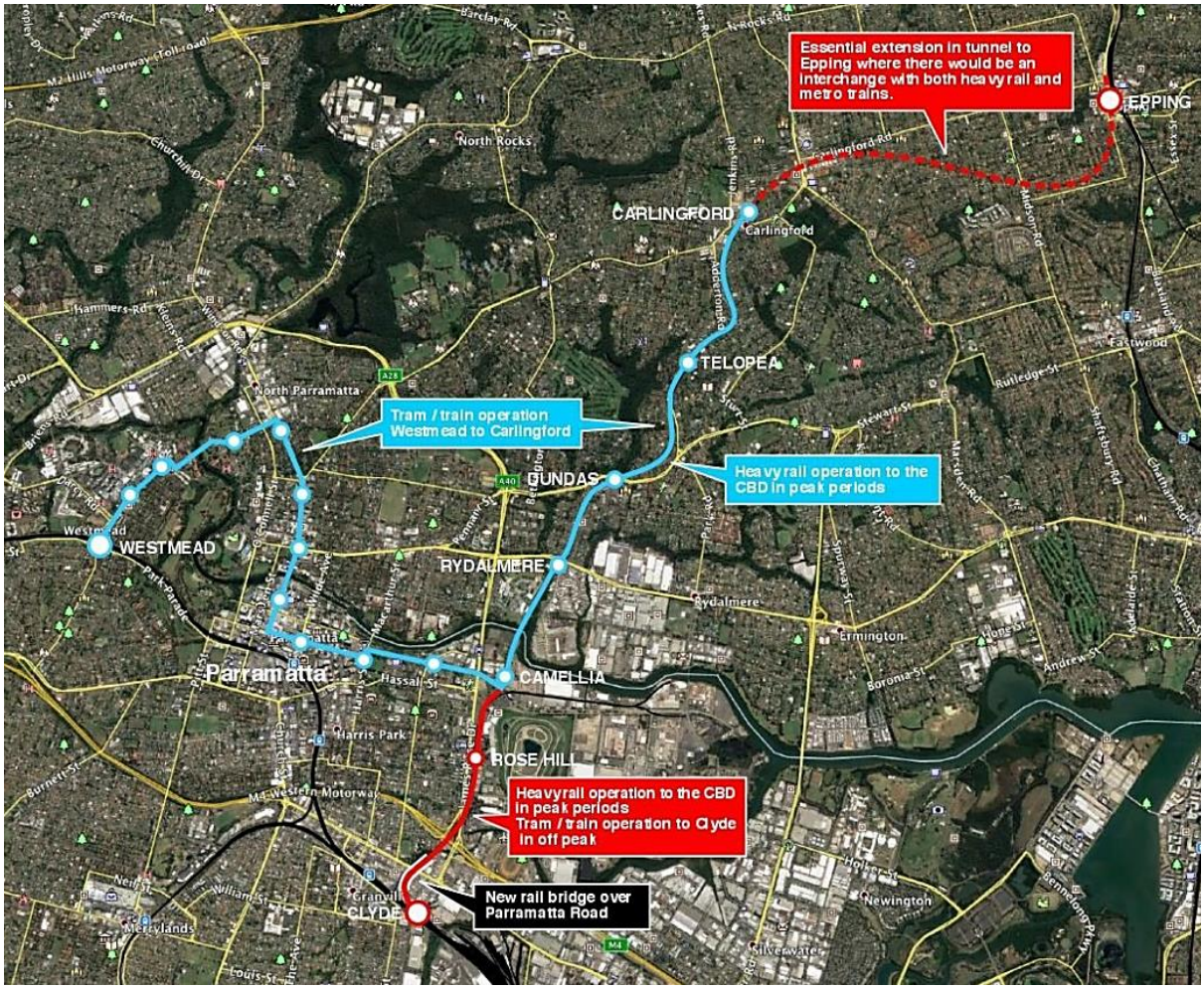
Tram-Train from Parramatta to Epping via Carlingford

Carlingford Line: The former T6 Carlingford Line is being converted into Parramatta Light Rail (Stage 1) and involves removing the connection at Clyde, with services instead running through Parramatta to Westmead. Carlingford Line commuters travelling towards Sydney CBD will have to interchange at Parramatta Station (requiring a 200-300 metre walk from Light Rail stop). Then, after joining a city-bound train, they will travel past Clyde, resulting in a 20-30 minute increase in journey time. Such changes to the Carlingford Line will discourage public transport usage and increase dependency on cars once again increasing congestion and pollution.

EcoTransit proposes Tram-Trains as used in several European cities including Karlsruhe (Germany) and more recently Sheffield (United Kingdom). Tram-Trains can and do share heavy rail lines with passenger, freight and even highspeed passenger trains; they also run on light rail/tram on-street operations through towns and cities. Our plan includes building a rail bridge over Parramatta Road to replace the existing level crossing; this can be achieved with a ruling gradient of 1 in 80 and there is sufficient space on the rail route. Tram-Trains would operate from Carlingford to Clyde, providing existing connections, and in the morning peak, there would be at least three heavy rail double-deck trains operating from Carlingford through to the city. In the afternoon peak, the same number of trains would operate from the city to Carlingford.

Tram-Trains in Karlsruhe (Germany) and Nantes (France)

The Tram-Trains would also operate the new line through Parramatta and to Westmead. EcoTransit also proposes that the line be extended from Carlingford to Epping, providing a connection with the heavy rail line and the North West Metro. This extension of Parramatta Light Rail (as Tram-Trains) would also remove the need for the New Cumberland Line (T5 bypassing the Y-Link and diverting into new tunnel from Merrylands to Parramatta to Carlingford to Epping).



Tram-trains could provide a direct service from Epping/Carlingford to Clyde then continue on the existing Sydney Trains Network to Central. Tram-trains if extended with a bridge across the Sydney Trains lines could also be part of a new link to Bankstown via South Granville.

Tram-Trains in a Nutshell

The introduction of new Australian-made Tram-Trains will revolutionise Sydney's public transportation system. By bridging the gap between trams and trains, enhancing connectivity, and offering substantial economic and environmental benefits, these innovative vehicles represent a significant advancement in urban transport.

The potential standardisation of Sydney Metro and Sydney Light Rail into a single-deck Tram-Train fleet promises to further streamline operations, improve passenger experience, and future-proof the city's transport network.

By examining successful implementations of Tram-Trains in cities like Karlsruhe, Mulhouse, and Sheffield, Sydney can learn valuable lessons and anticipate the positive impacts of this transformation.

The eco-transit benefits of Tram-Trains, including reduced greenhouse gas emissions, energy efficiency, and sustainable urban development, align with Sydney's goals of creating a more sustainable and liveable city.

As Sydney embraces this transformative change, residents and visitors alike can anticipate a more efficient, accessible, and sustainable commuting experience. The integration of Tram-Trains into Sydney's transport network is not just an upgrade; it is a visionary step towards a modern, cohesive, and environmentally friendly urban mobility solution.

Recommendations for Tram-Trains

- A feasibility study be undertaken into the conversion of all Sydney single-deck rail fleets and operations into Australian-made Tram-Trains in lieu of new rail extensions especially in Western Sydney from Parramatta LGA, Cumberland LGA, Canterbury-Bankstown LGA, Liverpool LGA, and Western Parkland City (including Western Sydney Airport and Aerotropolis).
- All Sydney Metro – Western Sydney Airport line stations (Stage 1 & 2) be constructed to full eight carriage lengths for futureproofing (e.g. conversion into Sydney Trains and/or potential Tram-Trains).
- An independent review of the NSW Future Transport Strategy (with public consultation) to increase capacity on the Sydney Trains Network, especially for the T1 Western and Richmond Line, T2 Inner West Line (Parramatta to City, and Liverpool to City via Regents Park) and Leppington/WSA Line, T3 Bankstown Line (Bankstown to Parramatta, Lidcombe to Bankstown, and Liverpool to Bankstown), T5 Cumberland Line, and T8 Sydney Airport/WSA and South Line.

Sydney Metro West

We support additional rail connections and services from Sydney CBD to Greater Western Sydney including the Central River City (Parramatta CBD and the Greater Parramatta Olympic Peninsula area). However, we are disappointed at the lack of business case justification demonstrating proper consideration of a new Sydney Trains heavy rail line versus a new Sydney Metro line.

The claim introduced by the NSW Government in 2014 that single deck Metro could carry more passengers and travel quicker than double-deck Sydney Trains was proven to be doubtful[8].

Any benefits arising from new railway technologies (which are not exclusive to Sydney Metro) such as signalling upgrades could be applied equally to Sydney Trains. This is seen through the Sydney Trains signalling upgrade for the T8 Airport Line and T4 Illawarra Line announced by the NSW Government in 2020 enabling a future capacity of a train every 2 minutes[9].

Transit oriented development could also be achieved for the catchment areas of Sydney Trains and Sydney Metro lines, hence there appears to be little justification for the introduction of a Metro noted to have less seating and baggage capacity (compared to double-deck Sydney Trains) between Sydney CBD and Westmead (and possibly Western Sydney Airport).

The full business case (which also ought to be made public) of Sydney Metro West similar to the business cases for other Metro projects in Greater Sydney have failed to examine to impact of investment in comparable Sydney Trains projects and upgrades to deliver the intended benefits to address the need for a new Metro line.

Sydney Metro West route and station locations

Metros are designed to serve higher density areas with frequent stops at stations that are located generally within a kilometre of each other. This has been the design of efficient Metro networks around the world such as in Hong Kong, Singapore, and Europe.

It is unfortunate that the NSW Government appears confused with its understandings of suburban rail, Metro rail, and high speed rail. Metro is not designed to operate as high-speed rail and hence the proposed design of Parramatta to Sydney CBD in 20 minutes on Metro West is a much wasted opportunity to provide new rail access to communities along the corridor.

Notably there are significant gaps along the current Metro West line between Parramatta and Olympic Park, and also Five Dock and The Bays. We support additional Metro West stations at: Rosehill, Silverwater and Lilyfield.

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[8] ABC News "Single-decker v double-decker trains: Barry O'Farrell's claim doubtful" (11 April 2014) https://www.abc.net.au/news/2014-04-11/barry-ofarrell-sydney-trains-claim-doubtful/5371446

[9] St George & Sutherland Shire Leader "First contracts awarded to greatly increase capacity on T4 Illawarra and T8 Airport lines" (25 May 2020) https://www.theleader.com.au/story/6764995/a-train-every-two-minutes/

The inclusion of only Olympic Park without a Silverwater Metro West Station will do little relieve overcrowding on the Sydney Trains Network between Parramatta and Strathfield. It is unrealistic to expect commuters from Lidcombe and surrounding areas to interchange for the T7 Olympic Park sprint train to connect Metro West to Sydney CBD.

Sydney Metro West project costs

The NSW Government has a responsibility to the public and taxpayers to ensure value for money is achieved across all government spending including major infrastructure projects. We support the finding in the Sydney Metro Review that "acceleration at all costs" should not be pursued[10].

It is important that Metro West be delivered even if the inclusion of additional stations results in a delayed opening date beyond 2030. The additional construction time and cost required for the Rosehill, Silverwater and Lilyfield stations will be worthwhile looking into the long-term future transport usage and opportunities in the community arising from the project.

We are of the view that a major reason behind the cost blowout of Sydney Metro projects is the lack of adequate planning from the NSW Government in pursuing too many projects concurrently simply for political positioning at the expense of the NSW Budget.

Much of the shortfall in funding for Metro West could be attributed to budget blowout on the Sydney Metro City & Southwest project, in particularly noting that the conversion of Sydenham to Bankstown has increased from around $816 million (in 2013[11]) to under $1 billion (in 2018[12]) to approximately $10 billion (in 2023[13]).

T7 Olympic Park Line at risk of closure after Metro West

Internal NSW Government documents have indicated that the Transport for NSW "Sydney to Parramatta Project Control Group" has made considerations to remove Sydney Trains from the T7 Olympic Park Line and for the repurposing of the corridor[14]. While this is not currently government policy, it is concerning that access to such an important sporting precinct, commercial, and growing residential peninsula would be limited to one rail line were Sydney Trains to be removed from Olympic Park.

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[10] Sydney Metro Independent Review Interim Report Summary (23 June 2023) https://www.sydneymetro.info/media/document/35771

[11] Transport for NSW (GIPA 20T-0909) "Sydney's Rail Future Rollout Plan Draft 2 Line-by-line Infrastructure requirements to 2036"

[12] Internal Transport for NSW estimate provided by Sydney Metro to property developer lobby group "Locals for Metro Southwest"

[13] Daily Telegraph "Sydney Metro proposed plan to shut nine train stations permanently after Bankstown-Sydenham Metro lines opens" (6 September 2023) https://www.dailytelegraph.com.au/newslocal/parramatta/sydney-metro-proposed-plan-to-shut-nine-train-stations-permanently-after-bankstownsydenham-metro-lines-opens/news-story/3db941e7227c45e3e05a2f0efe5b4699

[14] Transport for NSW (GIPA 23T-0587) "Future of T7 Olympic Park Train Line Investigation Draft report February 2018" and "T7 Olympic Park Line Sydney to Parramatta Project Control Group 1 June 2018"

We oppose any plans to remove Sydney Trains from the T7 Olympic Park Line and from the West of Bankstown area. Transport for NSW should urgently restore express Sydney Trains for Lidcombe, Auburn, Granville as well as restore the direct train to City Circle via Inner West Line from all stations in the West of Bankstown area.

We also call on the NSW Government to conduct a feasibility study for implementation of the EcoTransit proposal of Pippita CityExpress[15] including reconstruction of Pippita Station (which has also received the support of Cumberland Council[16] for the project to be investigated further).

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2 Additional Sydney Trains tracks from Homebush to Granville

The Transport for NSW "Sydney's Rail Future Implementation Plan" (2013) that without an upgrade of the Sydney Trains corridor between Croydon/Homebush and Granville to support the opening of Sydney Metro City & Southwest, it is likely that commuters of southwest Sydney (e.g. Cabramatta, Warwick Farm, Liverpool, and Casula) will see an increase in travel times of 17 minutes to City Circle[17].

The NSW Government also abandoned an internal Transport for NSW proposal for additional tracks on the Sydney Trains Network corridor between Homebush and Granville[18] in 2014 due to WestConnex M4 Stage 1 receiving priority in infrastructure investment. Subsequent attempts to continue the project as part of an upgrade to the T1 Western Line/T2 Inner West Line corridor have also been sidelined by the announcement of Sydney Metro West in 2016.

Reduced overcrowding at Strathfield, Lidcombe, Auburn, Clyde, Granville, and Harris Park through the opening of Metro West will only be short-lived (given the fast growing population and property development in the Cumberland Council area as well as in Parramatta Council area) if genuine investment to upgrade the existing Sydney Trains Network is not undertaken. Given the geographic location of the Metro West being between the existing T1 Western Line and the Parramatta River, the majority of commuters will still be in the catchments of the Sydney Trains Network over Sydney Metro.

The failure to provide additional tracks for Sydney Trains from Croydon/Homebush to Granville is a missed critical opportunity to improve services from Leppington to City Circle via Granville and allow for further additional services from the West of Bankstown area to City Circle via Inner West.

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[15] EcoTransit "Pippita Centre" https://ecotransit.org.au/wp/policy-priorities/priority-projects/pippita-centre/
[16] Cumberland Council Meeting Resolution "Pippita Rail Trail" (21 March 2021) http://cumberland.infocouncil.biz/Open/2021/03/C_03032021_MIN_2829.htm#PDF2_ReportName_8277
[17] Transport for NSW (GIPA 19T-0072) "Sydney's Rail Future Implementation Plan – Opportunities to delay construction of 6 track Croydon to Granville tunnel to 2030's / 2040's"
[18] Transport for NSW (GIPA TRA-000628) "T1-15 Homebush to Granville 6 Track"

Last Mile Transit/Interchange for Metro commuters

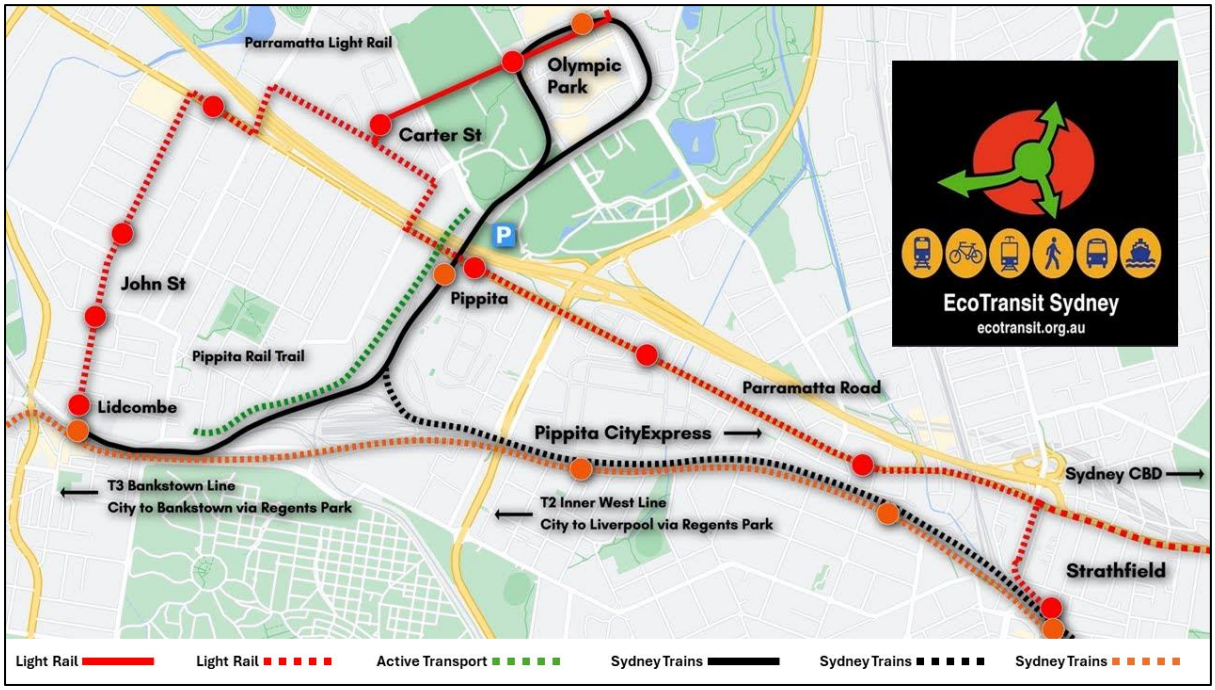
The current lack of Metro West stations will do little to reduce car dependency and ultimately encourage commuters to drive to Metro stations as their proximity to each other serve as centres rather than nodes on the line. It is important that bus services are increased in areas where Metro stations are built not removed as seen with the opening of the Sydney Metro Northwest in 2019.

Active transport must also be a key feature of Sydney Metro projects to connect communities and encourage use of public transport. It is yet to be seen how cyclists and bicycles will interact with other commuters on a mass scale, as such has not been thoroughly tested with Metro Northwest to date given the general direction of travel.

All train and Metro stations where geographically feasible should have at least two entrances to significantly increase the walking and accessibility catchment area. The interchange penalty (both perceived and real time) needs to be reduced to a minimum. The design of an integrated public transport system should encourage an overall reduction in car dependency and improve the attractiveness of every mode of transport.

Metro West should not be encouraging (even unintentionally) current train commuters beyond Westmead to be driving to Westmead Metro station. Bus services and train services to Westmead should be increased to ensure that Westmead does not become a carpark for Metro commuters.

The Lidcombe – Pippita – Olympic Park – Strathfield area



EcoTransit has started a campaign to extend Parramatta Light Rail from Carter Street (Olympic Park) to Lidcombe and Strathfield at https://actionnetwork.org/letters/extend-parramatta-light-rail-stage-2-to-lidcombe-and-strathfield/

Map of NSW Government Future Transport Planning

Map Legend

Parramatta Light Rail Stage 1: Westmead to Carlingford

Parramatta Light Rail Stage 2: Parramatta to Olympic Park

Sydney Metro West: Sydney CBD to Westmead with consideration for Rosehill Station and potential Silverwater Station

Sydney Metro conversion of T5 (New Cumberland Line from Merrylands to Epping)

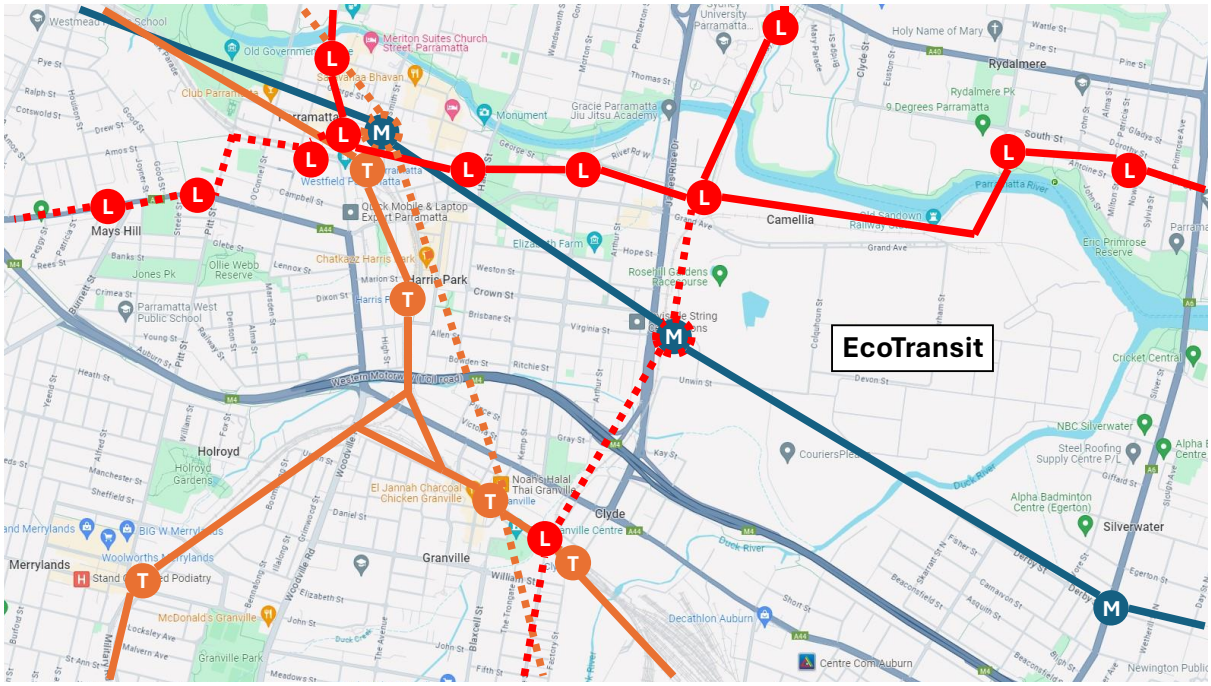
New Sydney Metro "RiverRail": Norwest – Parramatta – Granville – Bankstown – Kogarah – Miranda

Sydney Metro Parramatta Interchange (Smith Street): Metro West, "RiverRail", New T5 Cumberland Line

Sydney Trains Network: Clyde, Granville, Harris Park, Parramatta, Westmead (interchange with Sydney Metro West)

Bus: T80 Parramatta to Liverpool

Map of EcoTransit proposed Future Transport Links



Map Legend

Parramatta Light Rail Stage 1: Westmead to EPPING

Parramatta Light Rail Stage 2: Parramatta to LIDCOMBE and STRATHFIELD

Sydney Metro West: Sydney CBD to Westmead with Rosehill Station and Silverwater Station

Sydney Metro Parramatta Interchange (Smith Street): Metro West, and "RiverRail"

New Sydney Trains "RiverRail": Norwest – Parramatta – Granville – Bankstown – Kogarah – Miranda

Sydney Trains Network: Clyde, Granville, Harris Park, Parramatta, Westmead (interchange with Sydney Metro West), Merrylands with existing T5 Cumberland Line retained

Tram-Trains: T80 Parramatta to Liverpool, North-West T-Way (to Blacktown and Rouse Hill), T6 Carlingford Line (to Bankstown via South Granville, and Central)