

**Submission  
No 4**

## **INQUIRY INTO NEW SOUTH WALES LIGHT RAIL SERVICES**

**Organisation:** Inner West Council (Sydney Australia)

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**SUBMISSION BY INNER WEST COUNCIL  
TO THE  
NSW PARLIAMENTARY INQUIRY INTO  
LIGHT RAIL SERVICES**

**22 March 2022**

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## 1. INTRODUCTION

Historically, Sydney was a city of trams; from the mid-1800s until the early 1960s, Sydney had a comprehensive tram network rivalling any in the world, however the 25th of February 1961 saw the last tram run in Sydney (until 1997).

In August 1997 Stage One of Sydney's Inner West Light Rail opened, providing a service between Central Station and Wentworth Park. This line was subsequently extended to Dulwich Hill in March 2014.

In its current configuration the New South Wales Light Rail Network caters for approximately 10 million light rail trips each year (*Future Transport 2056*).

The Inner West Light Rail Line was a relatively "easy build" as its corridor primarily used a former freight rail line.

Simultaneously with planning for the Dulwich Hill extension, planning commenced for the CBD & Southeast Light Rail Service. Initially both services were being planned through the same teams, however a decision was made to separate the two projects. It is considered that this separation of planning and design for the two services was a catalyst for the current lack of connectivity and interoperability between them.

Newcastle also has an operational light rail line, which opened in 2019 and runs from Wickham to Newcastle Beach. Additionally, several other light rail services have been proposed, with the first stage of the Parramatta Light Rail due to open in 2023 and investigations proposed into the following lines:

- CBD- SE extension to Maroubra;
- Bays Precinct Link;
- Extensions to the Parramatta Light Rail Network;
- Extensions to the Newcastle Light Rail Network;
- Tweed Light Rail Link (from the Gold Coast)
- Queanbeyan Link (from Canberra).

Just as the tram network of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries shaped much of eastern and inner western Sydney, its 21<sup>st</sup> Century counterpart has the potential to reshape many key urban areas in NSW.

The current high level of activity associated with light rail services, combined with the recent mechanical failure of the Inner West Light Rail Fleet, indicates that now is an opportune time to examine issues associated with the planning, design, procurement and operation of light rail services in NSW. Council commends the New South Wales Parliament for its timely initiation of this Inquiry.

Council considers that light rail has a critical role to play in a comprehensively integrated public transport network. Through this submission Council encourages the State Government to extend its thinking to include consideration of light rail's unique contribution to an integrated transport network amongst the numerous other existing, and emerging technologies, but not to focus solely on rail-based transit solutions

## 2. INQUIRY TERMS OF REFERENCE

In preparing this submission every effort has been made to remain within the Inquiry's *Terms of Reference*, with its three categories used as subheadings for this submission.

In summary, the Terms of Reference for the Inquiry are as follows:

*That the Public Works Committee inquire into and report on New South Wales light rail services, and in particular:*

- (a) their establishment and procurement, operation and maintenance,*
- (b) the provision of alternative transport services, and*
- (c) any other related matter.*

## 3. SUBMISSION POINTS

While it is recognised that this Inquiry has broad jurisdiction, the majority of points highlighted in this submission will focus on Council's specific experience and impacts on its local community.

### 3.1 Establishment and procurement, operation and maintenance

- **Transparency and public accountability of design and procurement processes** - It is generally considered that the overall planning process for light rail in NSW has been carried out with only limited scope for Community Input. Much of the planning for light rail projects has involved only the following four stages of Community Engagement:
  1. Publicly announce the project in a long-term strategy (eg *Future Transport 2056*) and subsequently carry out all of the planning and analysis using technical working groups and similar mechanisms;
  2. Publicly release an Environmental Impact Statement (EIS), in which the vast majority of assessment has already been carried out and the alternatives narrowed to only one option. Community feedback on the EIS is then responded to by the Proponent, who has already assessed all options and considerations. Consequently, many of the Proponent's responses to EIS submission points are generally to be based on the assumption that the Proponent has already carried out the critical assessment and that the preferred option is the option that must proceed;
  3. The third stage of consultation is generally a series of progressive information sessions/newsletters in which progress reports are provided;
  4. Finally, as the project is going through its final stages of design prior to construction various agencies are consulted (including Council), however as the tenderer has already been chosen and costs quoted, there is often a reluctance to vary any key elements during this stage of consultation.

**Council suggests** that, in order to rectify this deficiency in Community Engagement, the following initiatives should be considered:

- Community Engagement should start earlier in the process by providing consultation opportunities after the release of the Long-Term Strategy and before preparation of the EIS;

- The review of EIS Submissions should be carried out by a third party, possibly a consultant team appointed by the Department of Planning & Environment, rather than the Proponent;
  - Elements of genuine ongoing *consultation* should be introduced in place of the generally used approach to the provision of *information* through newsletters and progress reports;
  - Final design consultation should include genuine opportunities for variation to the project and sufficed budget should be allocated for such purposes
- **Response to fleet-wide mechanical failure of Inner West Light Rail Vehicles** - in early November 2021 structural faults were found across the entire fleet of Inner West Light Rail Vehicles. In response to this Transport for NSW (TfNSW) closed the Inner West Light Rail Line and initiated a bus replacement program.

Inner West Council promptly initiated discussions with TfNSW, offering assistance with factors including communication with the local Community, assessment of demand and suitability of bus replacement system, examining proposed replacement bus stop locations and speeding up the process for changes to kerbside parking controls and signage.

TfNSW and the light rail operator openly liaised with Council and a strong cooperative approach was employed in an effort to minimise impact on the travelling public. While Council's request for free travel on the replacement buses was not agreed to, an ongoing process of bus service refinement was initiated and Council considers that, together, the key agencies achieved an acceptable standard of operation given the extenuating circumstances at the time.

**Council's suggestion** for improved action, should a similar shut down be required in future, is that communication with key agencies including local government should immediately be initiated, rather than such stakeholders only hearing about the action through the media.

**Additionally**, it is considered that the approach to this system-wide shut down should have included a more detailed consideration of the impact on local schools, including engagement with all schools to ensure that the specific needs of students we're catered for. This is considered particularly important as students represent a critical component of potentially vulnerable users of the Inner West Light Rail.

*It should be noted that interoperability between the various light rail lines would have negated the need for a line-wide shutdown, and that TfNSW have subsequently developed limited response using rolling stock from the CBD & Southeast Light Rail Line.*

- **Interoperability between light rail services** - during the initial planning stages for the Inner West Light Rail Extension and the CBD-Southeast Light Rail Line, stakeholders associated with both services were jointly involved. Several months into this process it was decided that the Inner West Light Rail Extension would have a significantly shorter timeline than the CBD-Southeast Service and, subsequently, the composite working group was divided into two

separate working groups. It should be noted that, at this time the previous stages of the Inner West Light Rail were already operational and consequently already had rollingstock.

In the latter stages of the composite working group several stakeholders expressed the need for both (and all future) light rail services to be interoperable with rollingstock being interchangeable between services. It was also considered that connectivity between the lines would be desirable providing opportunities for some Inner West Services to operate, at the very least, through the CDB to Circular Quay.

***As Council was not included*** in further work on the CBD- Southeast Service , it is not aware of the reasoning that ultimately led to an absence of interoperability and connectivity between the two services, however it continues to express concern that this is a fundamental deficiency in Sydney's Light Rail Network.

- **Connectivity between light rail lines** - as mentioned, above, Council Officers expressed the desire for the Inner West and CBD-Southeast light rail services to have opportunities for improved connectivity (as well as interoperability) on numerous occasions. This would have provided a much higher level of network integration and simpler journey choices for light rail patrons, potentially, being able to travel on direct services linking:
  - Dulwich Hill, Habberfield, Leichhardt, The Bays Precinct, Pyrmont;
  - Circular Quay;
  - Central Station;
  - Surry Hills;
  - UNSW;
  - Kingsford;
  - Randwick, and ultimately Maroubra.

***Council suggests*** that options for greater connectivity between the Inner West and CBD-Southeast services should be explored.

- **Connectivity between light rail and other transport modes** - Council expresses concern that only minimal adjustments have been made to provide improved connectivity of the existing light rail services with Sydney's bus, ferry, heavy rail services and active transport. Specific instances of this lack of connectivity include absence of :
  - direct connection between Lewisham West Light Rail Stop and Lewisham Train Station;
  - all-weather active transport link between Dulwich Hill Light Rail Stop and Dulwich Hill Train Station;
  - any connection with Sydney's ferry services other than at Circular Quay and Pyrmont Bay;
  - any potential link between Lilyfield Light Rail Stop and the proposed Rozelle Railyards Linear Park.

Council also considers that enhancement of active transport links to the light rail stops is essential, particularly provision of separated cycleways to key light rail stops. Additionally, while bicycles can be taken on the light rail the ability of staff to refuse bicycles in crowded

carriages discourages many cyclists from using light rail, as this creates uncertainty and a lack of predictability for the journey.

Consequently, **Council suggests** that a significant revision of the multi-modal transport network around and to Sydney's light rail services should be undertaken. Noting that the lack of connectivity between modes is further illustrated by the absence of readily available comprehensive public transport maps for Sydney.

Additionally, it is considered that the following initiatives should be introduced to better cater for bicycles on light rail:

- Specific provision in light rail vehicles for bicycles;
  - Improved bicycle awareness for light rail conductors;
  - Improved real-time information on travel planning apps to indicate whether bikes would be permitted (eg patronage crowding information);
  - The State Government should work with the light rail providers and Council to provide active transport links which run parallel to light rails lines and link directly to light rail stops.
- **Fully accessible infrastructure** – in developing interoperability between light rail services an essential measure is the provision of fully DDA compliant access to all stations and platforms, regardless of the rollingstock being used. (eg Citadis trams are not fully DDA compliant when used on the Inner West Right Light Rail Line, because of gaps between the vehicles and platforms).

**Council requests** that a comprehensive DDA compliance audit be carried out across Sydney's light rail network particularly considering the use of various rolling stock options.

- **Issues associated with procurement of overseas vehicles** – often the initial purchase price is the primary driver in the decision-making process on *local versus overseas* manufactured transport products, however it is generally accepted that in a modern comprehensive business case the following aspects should also be taken into account:
  - Long term stock availability of parts and accessories, including delivery times;
  - Supply chain reliability;
  - Employment benefits achieved through local manufacture, including increased skill sets;
  - Social implications including social pride and community “ownership” of the project;
  - Ability to deal with long term deep maintenance and unexpected materials/mechanisms failure.

**Council requests** that all future business cases examining the procurement of light rail rolling stock should include a comprehensive analysis of the long term economic and social implications.

- **Regularity of deep maintenance and monitoring** - concern is expressed that every vehicle on the Inner West Light Rail Fleet simultaneously suffered the same mechanical failure.

**Council considers** that there should be a detailed investigation into how and why the light rail operator did not pick up early signs of mechanical failure in individual vehicles. In



response to this Council requests that the State Government also commit to additional deep maintenance and monitoring of all light vehicle rolling stock.

### 3.2 Provision of alternative transport services

- Resilience and adaptability of light rail services – we live in an ever-changing world and it is essential that our transport network be resilient and able to adapt to these changes. Transport systems that require their own independent corridors, while having operational independence, may be compromised by issues that occur within the corridor/right of way. This is particularly the case with rail-based systems.

Rail-based transit, generally, has a centralised power source providing power to the total network rather than having individual vehicles with independent power sources. This means that a power source failure will usually shut down the complete line. Even if the line is divided into independently powered sections, should one section lose power vehicles from the other sections are unable to continue once they get to the unpowered section.

Additionally, as the majority of Sydney's light rail lines have only limited opportunities for vehicles to overtake each other, if the vehicles were to be powered independently one vehicle breaking down would be highly likely to completely stop service on that line, as no vehicle running in the same direction could get past it.

Similarly, when light rail operates in mixed traffic conditions, rather than its own independent corridor, line closures may occur as a result of incidents like motor vehicle crashes, utility works and burst watermains.

The adaptability of light rail services may also depend on interoperability (discussed earlier), where vehicles from different lines may be used to supplement capacity on other lines when needed. Examples of such a peak loading include special events such as sporting fixtures, concerts and even public rallies, all of which are focused on single destinations.

**Council proposes** that alternative technologies for medium capacity transit should be explored in the future, particularly where the transit routes operate in mixed traffic conditions. Consequently, it is suggested that opportunities to use Trackless Tram or Guided Bus technology should be explored in detail.

Additionally, for all future light rail systems, consideration should be given to the use of independently powered vehicles, sectional powering of lines and provision of increased provision of opportunities for light rail vehicles to overtake one another. Such measures could also be explored to improve the adaptability and resilience of existing light rail lines.

As previously mentioned, in this submission, it is also essential to ensure interoperability of rolling stock with all light rail lines

- **Consideration of alternative transport technologies** - Council considers that much of the planning, including the EIS process, associated with the various light rail projects in NSW, has not adequately consider emerging and alternative transport technologies.

In saying this, it is recognised that in the case of the Inner West Light Rail, the service was generally using an existing freight rail corridor and there were few alternative transport technologies available when planning commenced for this service in the 1990s. Since that time, however, several new transport technologies have emerged that do not appear to have been considered as realistic contenders for medium capacity transit. The State Government appears to have focussed its medium capacity transit assessments on the extension of the existing light rail network rather than exploring opportunities for new technologies (such as Trackless Trams) to enhance a comprehensively integrated, multi-modal, customer focussed transport network.

The various EISs prepared have focused solely on light rail and ignored emerging technologies as alternatives. Similarly, much of the State Government's long term transport planning, as illustrated by *Future Transport 2056*, appears to have been driven by the desire to expand the existing light rail network.

**Council requests** that the State Government include serious detailed assessment of emerging transport technologies when reviewing any major transport network amendments including consideration of alternatives in associated EISs.

- **Comparative costs & convenience** – while light rail is capable of serving a unique niche within a comprehensive, fully integrated transport network, it is essential that it be considered within that specific niche. It is well recognised that light rail is extremely efficient when operating within its own corridor or right of way, readily achieving high speeds, high frequency and medium-high carrying capacity.

When light rail is placed in a mixed traffic environment, with limited priority, it's:

- efficiency and capacity is significantly constrained - as it must operate within a mixed traffic environment competing for road space and at the mercy of the behaviour of other road users;
- construction costs are relatively high, and often above initial estimates - the nature of requiring excavation for the laying of tracks and utilities means that it's construction costs can be significantly increased by unforeseeable circumstances such as the discovery of previously unknown utilities or archaeological finds;
- construction time can be unpredictable - similarly to construction costs (referred to above) associated excavation can discover previously unknown utilities and archaeological finds which subsequently result in delays;
- construction activity often results in significant inconvenience and disruption to both the travelling public and adjacent neighbourhoods/centres - construction activity associated with light rail is likely to result in significant impacts on local amenity including noise, dust and vibration. Additionally, particularly in a mixed traffic environment, construction is likely to result in increased traffic congestion which may impact public transport, freight, riders, pedestrians and private vehicles.

**Council requests** that any analysis carried out for future light rail services should include consideration of all of the above items, including them as potential costs in the business case, and comparing such costs with other transport technologies including Trackless Trams, guided buses, bus rapid transit and higher frequency conventional bus services. All of which should include enhancements to the adjacent active transport network.

### 3.3 Other related matters

- **Limitations on the existing Inner West Light Rail Service** – a key limitation on the overall capacity of the existing Inner West Light Rail Service is the absence of a dual track between Dulwich Hill and Dulwich Grove Light Rail Stops. The provision of only a single track for this link means that; if a city-bound tram is at Dulwich Hill Light Rail Stop any Dulwich Hill-bound tram at Dulwich Grove must wait until the city-bound tram has cleared that single section of track.

**Council suggests** that several solutions should be examined to overcome this limitation and improve the overall capacity of the Inner West Light Rail Line including, but not limited to:

- Duplication of the line between Dulwich Hill and Dulwich Grove (possibly requiring relocation of an electricity substation);
  - Provision of a *turn-up-and-go* light rail shuttle system between the two stations. Consideration could be given to use of driverless/autonomous technology for such a service;
  - Provision of a one-way light rail loop around Jack Shanahan Reserve (possibly requiring modification of the proposed Metro alignment).
- **Environmental benefits gained through use of renewable power sources –**

It is universally recognised that the world is facing a climate change emergency and that transport is a significant contributor to the Australia's carbon footprint. Consequently, it is considered essential that all public transport be transitioned to systems which use renewable energy sources.

The benefits of using renewable energy sources include:

- Improved air quality;
- Reduced water usage (renewable energy does not use evaporative/displaced water);
- Absence of greenhouse gas emissions from fossil fuels.

Inner West Council is committed to reducing greenhouse gas emissions and has a 2025 target for carbon neutrality, consequently Council commends the NSW State Government on its October 2021 announcement that its train network would be transitioning towards net zero emissions and its introduction of electric buses.

**Council requests** that Sydney's light rail network be transitioned to the use of renewable energy sources.

- **Improved coordination between light rail providers and adjacent infrastructure projects –** concern is expressed that there is a lack of coordination between light rail operators and many of the major infrastructure projects adjacent to the light rail. This lack of coordination can result in unplanned light rail shutdowns to permit works associated with adjacent infrastructure projects.

**Council considers** that improved coordination could better align these shutdowns so that multiple projects could achieve their goals in single combined light rail shutdown periods.

Additionally, improved communication/information should be provided to the local Community informing them, in advance, of proposed light rail shutdowns.

## 4. CONCLUSION

Council recognises that light rail has a specific niche within a genuinely integrated transport network and commends the NSW State Government on pursuing enhanced public transport through the provision of increased light rail services. It also considers that there is much to be gained through the growth of an integrated, interoperable and well-connected light rail network.

However, until a comprehensively integrated, reliable, legible and adaptable multi-modal public transport network, using vehicles manufactured within Australia, is created it will not be possible to achieve significant gains in mode-shift from private vehicles to public transport. Nor will it be possible to fully achieve the Six Outcomes guiding the State Government's Long-Term Transport Strategy (*Future Transport 2056*):

- Customer focused - Customer experiences are seamless, interactive and personalised, supported by technology and data.
- Successful places - The liveability, amenity and economic success of communities and places are enhanced by transport.
- A Strong economy - The transport system powers NSW's future \$1.3 trillion economy and enables economic activity across the state.
- Safety & Performance - Every customer enjoys safe travel across a high performing, efficient network.
- Accessible Services - Transport enables everyone to get the most out of life, wherever they live and whatever their age, ability or personal circumstances.
- Sustainability - The transport system is economically and environmentally sustainable, affordable for customers and supports emissions reductions.

As outlined in this submission Council considers that:

- The design, planning and procurement process for light rail should be more transparent, than has previously been the case, particularly noting the need to seriously consider alternative transport technologies;
- The current EIS process should be reviewed, with a view to an impartial third-party assessing submissions;
- Light rail lines within the one region should have a high level of connectivity with each other, as well as full integration with other modes, including active transport;
- There should be a high level of interoperability between the various light rail lines, permitting rolling stock to be used on multiple lines, thus increasing the overall network's adaptability and resilience;
- All light rail infrastructure should be fully accessible, at the very least DDA compliant;
- In assessing the costs associated with light rail consideration should be given to
  - long term benefits of local manufacture;

- Comparative disruption of light rail construction against other transport technologies;
  - Long term social, as well as economic, benefits;
  - Impacts of light rail construction on adjacent communities.
- There should be a review of maintenance procedures to ensure that system-wide failures, such as that recently experienced with the Inner West Light Rail Fleet, do not occur;
- All light rail lines should use renewable energy sources;
- Coordination between light rail providers and adjacent infrastructure projects should be improved;
- Consideration should be given to measures to remove the current limitations on the inner West Light Rail Line's capacity/frequency (the single track between Dulwich Grove and Dulwich Hill).