

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

**Organisation:** Transport for NSW

**Date Received:** 18 April 2022

---

# **Transport for NSW submission**

Public Works Committee

*Inquiry into New South Wales light rail services*

# Contents

Introduction.....	3
NSW light rail network.....	3
Response to Terms of Reference .....	9
(a) Their establishment and procurement, operation and maintenance .....	9
Establishment and procurement .....	9
Operation and maintenance.....	12
(b) The provision of alternative transport services.....	15
(c) Any other related matter.....	17

# Introduction

## NSW light rail network

The NSW light rail network comprises four light rail lines, three located within Greater Sydney and a fourth in the Hunter region.

### Sydney Light Rail

The Sydney Light Rail<sup>1</sup> incorporates the Inner West Light Rail (L1 Dulwich Hill Line), and CBD and South East Light Rail (L2 Randwick Line and L3 Kingsford Line).

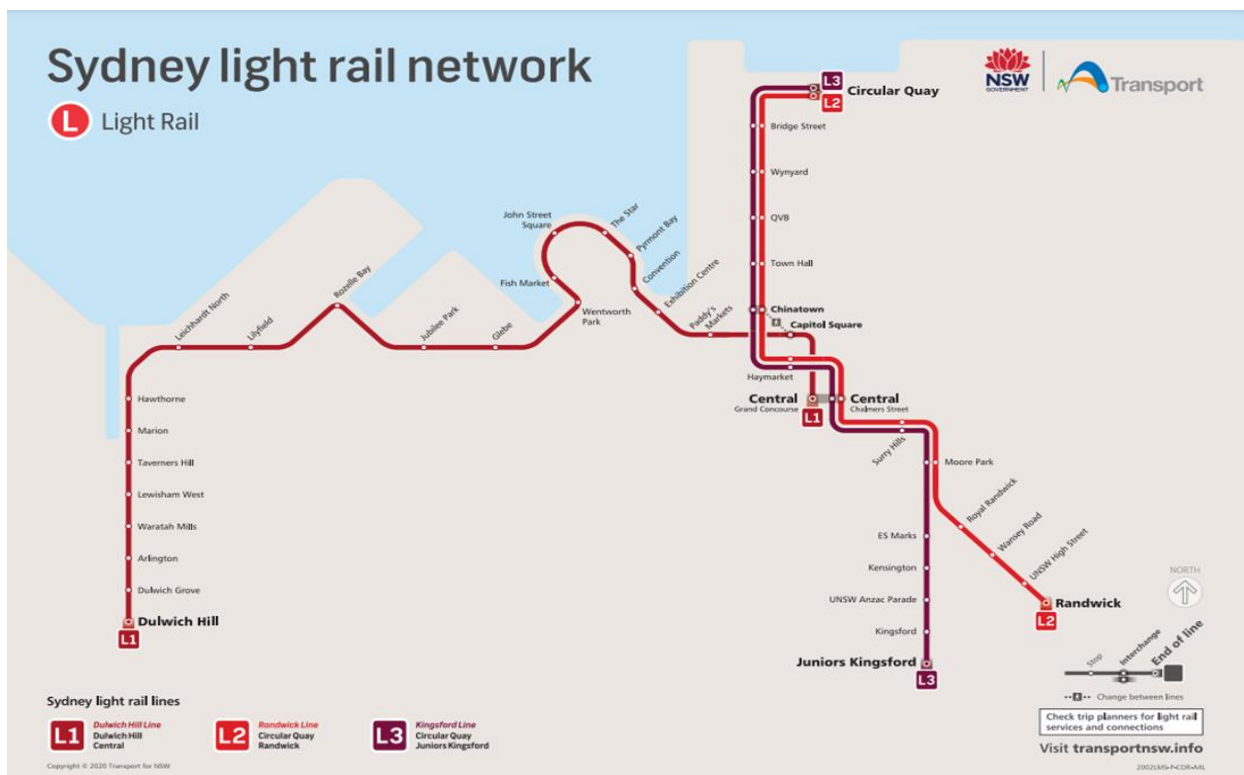


Figure 1: Sydney Light Rail network map

<sup>1</sup> Sydney Light Rail <https://transportnsw.info/travel-info/ways-to-get-around/light-rail>

### **Inner West Light Rail (L1 Dulwich Hill Line)**

The Inner West Light Rail<sup>2</sup> is a 12.8 kilometre network, with 23 stops between Central and Dulwich Hill.

Commencing service in 1997, the Inner West Light Rail initially provided services from Central Station to Lilyfield. The network was extended in 2000 and again in 2014, reaching Dulwich Hill along the former Rozelle freight corridor. Inner West Light Rail links the hub of Central Station with the suburbs of Sydney's inner west, via Pyrmont, Glebe and Leichhardt North through to Dulwich Hill, serving more than 10 million passenger journeys per year (pre COVID-19).



*Figure 2: Inner West Light Rail*

Each light rail service can carry just over 200 passengers, which is the equivalent of four standard buses. The Inner West Light Rail fleet consists of 12 Construcciones y Auxiliar de Ferrocarriles (CAF) Urbos 3 light rail vehicles.

Transport for NSW is in the process of procuring four additional light rail vehicles which are due for delivery in early to mid-2023. These additional vehicles will increase capacity by more than 30 per cent and provide five additional services per peak hour.

### **CBD and South East Light Rail (L2 Randwick Line and L3 Kingsford Line)**

CBD and South East Light Rail<sup>3</sup> is a 12 kilometre network, with 19 stops extending from Circular Quay along George Street to Central, then via Devonshire Street and Anzac Parade to the stadiums at Moore Park, before branching and terminating at Kingsford and Randwick.



*Figure 3: CBD and South East Light Rail*

---

<sup>2</sup> Inner West Light Rail <https://transportnsw.info/travel-info/ways-to-get-around/light-rail>

<sup>3</sup> CBD and South East Light Rail <https://transportnsw.info/travel-info/ways-to-get-around/light-rail>

The CBD and South East Light Rail plays a key role in transporting customers between the CBD and Randwick and Kingsford in the south-eastern suburbs of Sydney.

The L2 Randwick Line opened on 14 December 2019, followed by the L3 Kingsford Line on 3 April 2020.

Each light rail service can carry around 450 passengers, which is the equivalent of up to nine standard buses. Regular services run approximately every four minutes between Circular Quay and Moore Park, and approximately every eight minutes between Moore Park and Randwick and Kingsford in the 7am to 7pm peak on weekdays.

The CBD and South East Light Rail light rail fleet consists of Alstom Citadis X05 LRVs with 60 vehicles, operating as 30 double-units.

## **Parramatta Light Rail**

Parramatta Light Rail is being delivered to serve a growing Sydney. It will create new communities, connect great places and help locals and visitors move around.

Stage 1 of the Parramatta Light Rail<sup>4</sup> will connect Westmead to Carlingford via the Parramatta CBD and Camellia across 12 kilometres, servicing 16 stops. Passenger services are expected to commence in 2023. The light rail fleet will consist of 13 Urbos 3 100 light rail vehicles.



*Figure 4: Parramatta Light Rail*

The route will link Parramatta's CBD and train station to the Westmead and Cumberland Health Precincts, Parramatta Stadium, Camellia Town Centre, Telopea, Rosehill Gardens racecourse, and three Western Sydney University campuses.

By 2026, around 28,000 people are expected to use the Parramatta Light Rail every day, with an estimated 130,000 people living within walking distance of the 16 light rail stops.

During the life of the project, Stage 1 will support approximately 5,000 local jobs with Transport for NSW currently seeing more than 700 people working on the project each day.

The NSW Government has committed \$50 million for the development of a final business case for Stage 2 of the Parramatta Light Rail<sup>5</sup> which will connect Stage 1 and the Parramatta CBD to Ermington, Melrose Park, Wentworth Point and Sydney Olympic Park. An option to extend east through Camellia before crossing the Parramatta River to Rydalmere is being considered.

Stage 2 is envisaged to provide a 10-kilometre two-way track and approximately 10 to 12 stops, with travel times of around 25 minutes from Sydney Olympic Park to Camellia, and a further eight minutes to Parramatta CBD.

---

<sup>4</sup> Parramatta Light Rail <https://www.parramattalightrail.nsw.gov.au/>

<sup>5</sup> Parramatta Light Rail Stage 2 <https://www.parramattalightrail.nsw.gov.au/parramatta-olympic-park>

An investment decision on Stage 2 will be considered by the Government once the final business case has been completed.

Planning and development work is underway with a focus on planning, utilities and geotechnical investigations, and progressing the development of the Environmental Impact Statement.

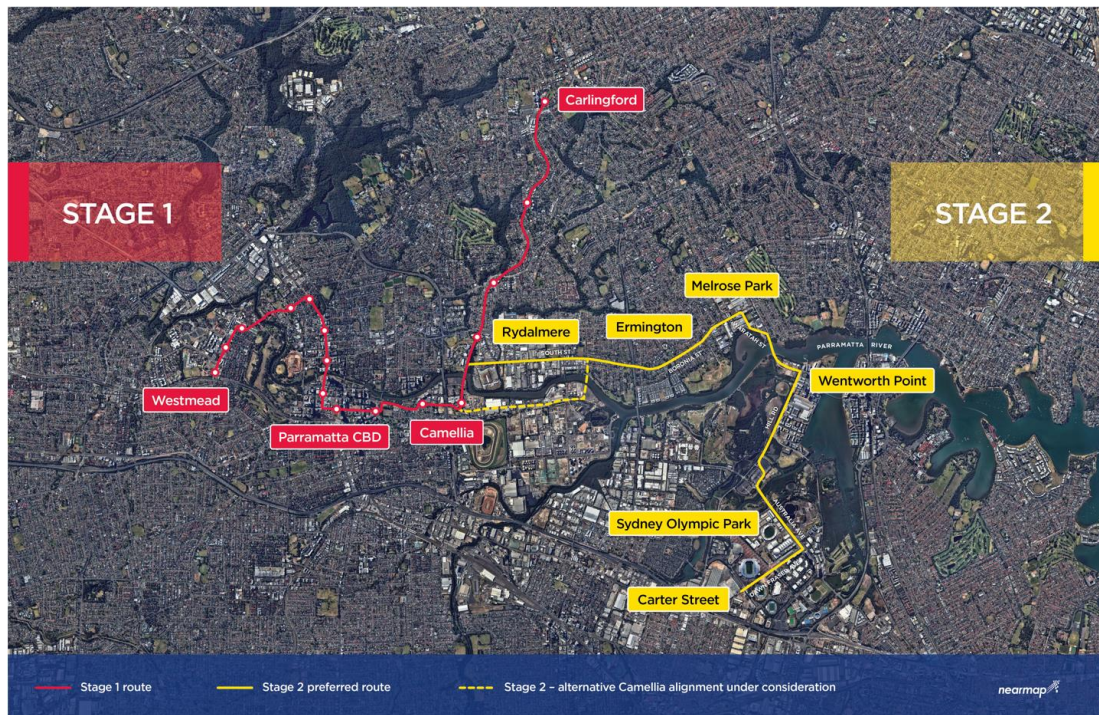


Figure 5: Parramatta Light Rail stages 1 and 2 network map

## **Newcastle Light Rail**

Newcastle Light Rail<sup>6</sup> began operation in February 2019. It was delivered as part of the \$650 million program<sup>7</sup> to revitalise Newcastle's city centre and services from Newcastle Interchange in Wickham to Newcastle Beach in the east end of Newcastle.

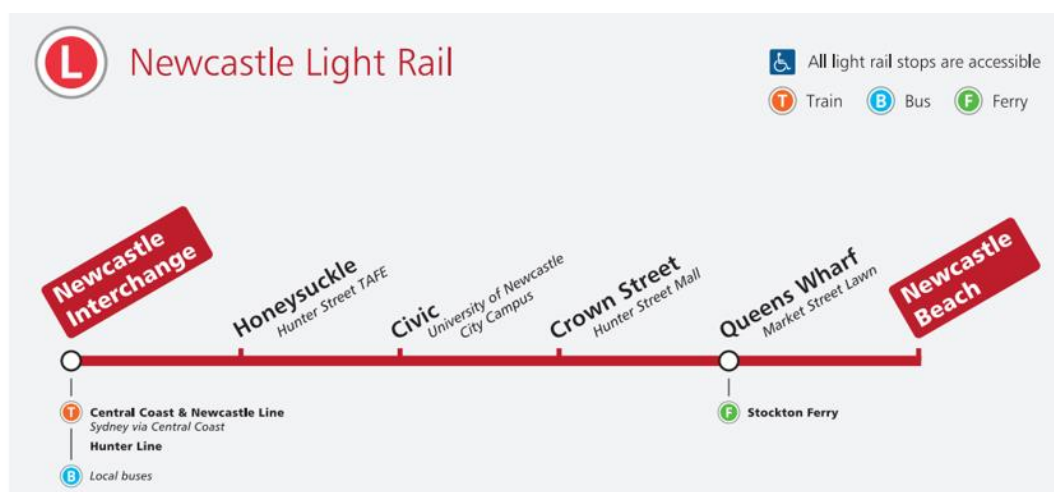


*Figure 6: Newcastle Light Rail*

It is a 2.7km network with six stops, operating across the CBD from Newcastle Interchange in Newcastle West to Newcastle Beach in Newcastle East. It runs approximately every 7 minutes in peak periods, with the capacity to transport 1,200 people per hour.

Newcastle Light Rail has become the first light rail program in Australasia to achieve an Infrastructure Sustainability Council of Australia 'excellent' rating<sup>8</sup> for both design and build. It also operates on Australia's first wire-free light rail system, facilitating connection with buses at the Newcastle Interchange and with the ferry at Queens Wharf.

The light rail fleet consists of six CAF Urbos 3 100 light rail vehicles.



*Figure 7: Newcastle Light Rail network map*

<sup>6</sup> Newcastle Transport <https://newcastletransport.info/plan-your-trip/light-rail-old/>

<sup>7</sup> Hunter & Central Coast Development Corporation <https://www.hccdc.nsw.gov.au/revitalising-newcastle>

<sup>8</sup> Infrastructure Sustainability Council of Australia <https://www.iscouncil.org/project/newcastle-light-rail/>

# Response to Terms of Reference

## (a) Their establishment and procurement, operation and maintenance

---

### Establishment and procurement

Transport for NSW's capital projects are subject to an independent risk-based assurance process established in Infrastructure NSW's Infrastructure Investor Assurance Framework<sup>9</sup>.

Infrastructure NSW's Gateway Review Process<sup>10</sup> requires Transport for NSW to develop a business case for each of its light rail projects which must:

- demonstrate 'how well the project has proven that the preferred option best meets the service need and maximises benefit at optimal cost'; and
- set out, amongst other issues, the delivery strategy and procurement strategy for each project.

As part of the Gateway Review Process, specifically in Gateway Review 3 (Readiness for Market), Transport for NSW must:

- demonstrate how well the project has developed a procurement and delivery approach to realise the benefits outlined in the final business case
- set out, amongst other documents:
  - procurement documentation
  - procurement and commercial approach
  - evaluation strategy for each of its light rail projects.

With each light rail project, the project team developed a tailored delivery and procurement strategy following engagement with advisors and stakeholders, including NSW Government agencies.

The delivery strategy is the combination of:

- a packaging strategy (if the project is best delivered in a single package or multiple packages)
- a contracting strategy (the optimal contracting strategy for the project or each package i.e. construct only, design and construct, alliancing, infrastructure package and supply, operate maintain package, Public Private Partnership (PPP) etc).

The procurement strategy determines how Transport for NSW will approach the market and is heavily influenced by the complexity of the project and any market sounding undertaken.

---

<sup>9</sup> Infrastructure Investor Assurance Framework [https://www.infrastructure.nsw.gov.au/media/2095/infrastructure-investor-assurance-framework\\_february-2020.pdf](https://www.infrastructure.nsw.gov.au/media/2095/infrastructure-investor-assurance-framework_february-2020.pdf)

<sup>10</sup> Gateway Reviews <https://www.infrastructure.nsw.gov.au/project-assurance/resources/nsw-gateway-reviews/>

Large, complex projects will typically use a multi-stage open market procurement process comprising:

- a request for registration of interest released to the open market
- a request for tender released to shortlisted tenderers.

Transport for NSW publishes open approaches to market on the NSW eTendering site<sup>11</sup> and as part of the Agency Procurement Plan for the Financial Year 2021/22<sup>12</sup>, it provides the current Procurement Plan View at the date of publication.

The procurement strategy determined for each of the light rail projects as part of the Infrastructure NSW Gateway Review 3 was executed to allow each of those projects to be delivered in accordance with their respective delivery strategies.

Light rail vehicles for the Inner West Light Rail, the CBD and South East Light Rail, Parramatta Light Rail Stage 1 and Newcastle Light Rail were procured via efficient, open and competitive global tender processes. At the time of their procurement, there was no established product base and limited manufacturing industry capability for light rail vehicles in Australia. Given the small fleet sizes, standard light rail vehicles with proven design and performance represented the best value for money in the global market.

### **Inner West Light Rail**

In March 2012, Transport for NSW acquired Metro Transport Sydney, the initial owner of the Inner West Light Rail. In June 2013, the five-year existing contract between Metro Transport Sydney and Veolia Transport expired and Metro Transport Sydney was concluded with the ownership and management of the light rail transferred to Transport for NSW.

In August 2012, a tender for six Urbos 3 100 light rail vehicles was awarded to CAF. A further six Urbos 3 light rail vehicles were ordered in October 2013 under options in the Sydney Light Rail Rolling Stock Supply Agreement with CAF.

The current fleet of 12 CAF vehicle maintenance was initially contracted to CAF on 15 October 2012 and ended on 30 June 2015.

From 1 July 2015, the operation and maintenance was incorporated into the Sydney Light Rail (including CBD and South East Light Rail) PPP with ALTRAC Light Rail Partnership.

Transport for NSW is procuring four CAF Urbos 3 light rail vehicles, under the contract options, which are due to be delivered in early to mid-2023. These vehicles are currently in the design phase.

### **CBD and South East Light Rail**

CBD and South East Light Rail Project has been completed and is being operated as a PPP.

In December 2014, Transport for NSW entered into a PPP with ALTRAC Light Rail as the operating company responsible for delivering, operating and maintaining the CBD and South East Light Rail project.

In February 2015, sixty Citadis X05 light rail vehicles were ordered from Alstom, as part of the PPP for finance, design, construction, operation and maintenance.

---

<sup>11</sup> eTendering <https://www.tenders.nsw.gov.au/>

<sup>12</sup> eTendering Procurement Plan View – 2021/22 <https://www.tenders.nsw.gov.au/?event=public.app.view&appuuiid=12AF63BA-BDB9-7017-44540966BF9013F1>

From 1 July 2015, the operations and maintenance was incorporated into the Sydney Light Rail (including CBD and South East Light Rail) PPP with ALTRAC Light Rail Partnership.

ALTRAC Light Rail Partnership subcontracted its obligations to the Design and Construct Contractor - comprising Alstom Transport Australia and Acciona Infrastructure Australia, who are responsible for design and construction of the Sydney Light Rail project works. ALTRAC has also subcontracted its obligations to operate and maintain Sydney Light Rail to Transdev Sydney Pty Ltd (Transdev).

### **Parramatta Light Rail**

Stage 1 of the Parramatta Light Rail is being built under a disaggregated model by two major contractors, one responsible for building the light system and the second to supply, operate and maintain the fleet. The Infrastructure Contractor is Parramatta Connect, a joint venture between Downer and CPB Contractors and responsible for building the light rail system.

Great River City Light Rail, a consortium between Transdev and CAF Australia is responsible for the supply of light rail vehicles, construction of the Stabling and Maintenance Facility, light rail stops and power system, and operation of the light rail network. This includes the operation and maintenance of the light rail system for eight years.

13 Urbos 3 100 light rail vehicles, customised for the Parramatta Light Rail, will be supplied by CAF Rail Australia as part of the Great River City Light Rail consortium. The consortium will deliver the Supply, Operate and Maintain contract, which was awarded in December 2018.

The vehicles, being manufactured for the Parramatta Light Rail, have been upgraded to incorporate an evolved design based on the fleet performance around the world.

### **Newcastle Light Rail**

The Newcastle Integrated Services Contract is a ten-year multi-modal contract covering light rail, amongst other public transport modes, between Transport for NSW and Keolis Downer Hunter Pty Ltd.

Keolis Downer Hunter Pty Ltd is responsible for the operations, maintenance and management of Newcastle Light Rail assets (amongst other things) under the contract. The Newcastle Light Rail Project was built by Downer EDI under a Managing Contractor with light rail vehicles purchased from CAF under a variation to the Inner West Light Rail contract.

The Newcastle Urban Transformation and Transport Program is an urban renewal and transport program in the Newcastle city centre. The Program was initially managed by Urban Growth NSW and subsequently led by the Hunter and Central Coast Development Corporation. Transport for NSW was the lead agency for the transport component of the Program.

Newcastle Light Rail has a fleet of six CAF Urbos 100 light rail vehicles, manufactured by CAF. In May 2016, Transport for NSW negotiated a restated deed with CAF to use the remaining options from the original Inner West Light Rail supply contract for the Newcastle Light Rail project.

# Operation and maintenance

## Vendor management control and validation processes

Vendor management control and validation processes are established to monitor delivery of services and the outcomes from monitoring and measurement processes are reported and reviewed under governance arrangements.

Contractual obligations in relation to service delivery and progress against KPIs are measured and reported at monthly and quarterly meetings and via monthly, quarterly and annual reports.

Forums to monitor and manage performance include Safety Assurance meetings, incident review meetings, reliability meetings and ad-hoc forums convened as required.

Light Rail vehicle real time performance for headway and journey time of Sydney Light Rail services is tracked automatically and data collection and analysis closely monitors and manages service delivery performance, such as availability and timeliness.

Performance metrics support root cause analyses of performance failure and trends to the development and monitoring of corrective action plans. Patronage is measured via data captured including Opal reports. Customer satisfaction and service quality KPIs are measured via surveys conducted by Transport for NSW. Audits to ensure compliance against contract requirements are carried out against an annual audit schedule.

The Sydney Light Rail Project Deed includes a suite of Project Plans to govern and control specific aspects, risks or obligations. These plans ensure that mechanisms for operations and asset management are conducted in a safe, effective, and sustainable manner.

The parties convene and establish focused working groups to address significant issues affecting Sydney Light Rail, as necessary.

## Sydney Light Rail

The Sydney Light Rail network is operated and maintained by ALTRAC Light Rail Partnership under the Sydney Light Rail Project Deed between Transport for NSW and ALTRAC Light Rail Partnership.

Under the PPP arrangement, entered into in December 2014, and expiring March 2036, ALTRAC Light Rail Partnership is responsible for the financing, design, construction, testing and commissioning, operation and maintenance of the Sydney Light Rail network.

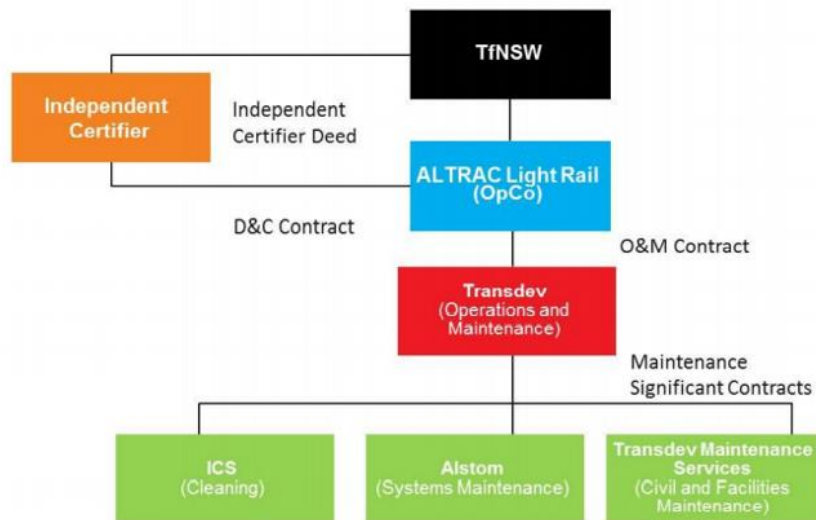
ALTRAC Light Rail Partnership subcontracted design and construction to Acciona and Alstom JV. ALTRAC Light Rail Partnership subcontracted operations and maintenance of Inner West Light Rail and CBD and South East Light Rail to Transdev Sydney Pty Limited (Transdev).

Transdev has subcontracted the rolling stock systems and infrastructure maintenance to Alstom Australia, civil infrastructure maintenance to Transdev Maintenance Services, and cleaning to International Cleaning Services.

Under the Sydney Light Rail contract, ALTRAC Light Rail Partnership manages service delivery requirements, workplace health and safety procedures, and obtains and maintains relevant accreditations, as per the Rail Safety National Law.

ALTRAC Light Rail Partnership is required to adhere to and report actual performance against key performance indicators and work with Transport for NSW to identify opportunities for service enhancements or increased efficiency. Performance is monitored in the context of an approved timetable and operations management plan.

The operations management plan outlines how ALTRAC Light Rail Partnership will perform the operations activities to promote the achievement of Transport for NSW's strategic objectives for the Project and the Sydney Light Rail PPP.



#### *Sydney Light Rail Operations and Maintenance Plan*

Sydney Light Rail depots along the alignment are used for light and heavy maintenance of Urbos 111 (used on the Inner West Light Rail) and Citadis X05 light rail vehicles (used on the CBD and South East Light Rail). Heavy maintenance for the Urbos and Citadis light rail vehicles is carried out at the Lilyfield Depot.

CBD and South East Light Rail light maintenance is performed at the Randwick Depot, with the Pyrmont Depot principally used as a stabling area for the Urbos light rail vehicles.

Transdev operates the light rail vehicles, while Alstom maintains the fleet.

When L2 Randwick Line commenced operations in December 2019, the end-to-end journey time for customers was 50 minutes per trip. Transport for NSW has worked closely with ALTRAC to implement a number of improvements across operations, such as additional driver training, rail and traffic signal optimisation, timetable adjustments, rolling stock and infrastructure reliability improvement plans and incident response capabilities. The average journey time has since reduced by almost half, to 33 minutes per trip.

#### **Inner West Light Rail**

The twelve light rail vehicles designed, manufactured and supplied by CAF are operated on the Inner West Light Rail under the Sydney Light Rail Project Deed. Transdev operates the light rail vehicles for this line, with Alstom maintaining the fleet.

CAF maintained the vehicles from July 2014 (when the first CAF vehicle entered service) until the end of June 2015.

## **Parramatta Light Rail**

The thirteen light rail vehicles designed for Stage 1 of the Parramatta Light Rail will be operated and maintained by Transdev, part of the Great River City Light Rail consortium with CAF delivering the Supply, Operate and Maintain contract. The operation and maintenance contract of the light rail system is for eight years commencing from date of first passenger services.

## **Newcastle Light Rail**

Keolis Downer Hunter Pty Ltd is responsible for the operation and maintenance of the Newcastle Light Rail in accordance with the provisions of the Newcastle Integrated Services Contract and applicable legislation.

Keolis Downer Hunter Pty Ltd is the Accredited Rail Transport Operator, the Rolling Stock Operator and Rail Infrastructure Manager, under the Rail Safety National Law<sup>13</sup>.

Newcastle Light Rail has a fleet of six Urbos 100 light rail vehicles, produced by CAF.

The fleet of six allows four vehicles to be operating on the track and two to remain in the depot. If a vehicle needs emergency cleaning or repairs, it can be substituted with minimal disruption.

A monthly comparison of patronage for the NSW light rail network is available on the Transport for NSW website. [Light Rail Patronage - Monthly Comparison | Transport for NSW](#)

---

<sup>13</sup> Rail Safety National Law (NSW) No 82a of 2012 <https://legislation.nsw.gov.au/view/html/inforce/current/act-2012-82a>

## **(b) The provision of alternative transport services**

---

### **Sydney Light Rail**

Incident management procedures are in place with risk-based contingency plans to counter the possible effects of unforeseen incidents or unplanned events occurring on the Sydney Light Rail network.

Protocols clarify the process that both ALTRAC Light Rail Partnership and Transdev follow for special events' incident response and management, and public communications with customers. They also detail the process to collaborate with Transport for NSW, other transport operators, various agencies and emergency services, that coordinate and support transport activities. This ensures that customers have a safe journey experience during normal, special, degraded operations or incident modes.

The Sydney Light Rail Project Deed prescribes minimum contract service level requirements with respect to regular services and special events. Under the Sydney Light Rail contract, replacement buses are organised in shutdown periods and/or service disruptions to ensure adequate levels of replacement services and to minimise customer impact.

In the event of an unplanned service disruption, Transdev will notify both the Transport Management Centre (TMC) and Transport for NSW. The TMC updates the Transport Info website<sup>14</sup>. Transdev works together with the provider of the replacement services to ensure disruption is minimised with the support of the TMC. The TMC is responsible for organising replacement bus services in the event of unplanned disruption.

In the event of planned service disruptions (which ALTRAC is allowed to have up to 180 hours per year), ALTRAC organises alternative transport services at their cost.

Customer information for all modes of transport in Sydney is provided by Transport Info (131 500). In the event of service disruptions, passengers are directed to Transport Info in accordance with Transport for NSW policy.

### **Inner West Light Rail**

In October 2021, the Inner West Light Rail light rail vehicle fleet operating on the L1 Dulwich Hill Line was grounded due to cracking and safety concerns and service was replaced by buses.

From 28 October 2021 to 7 November 2021, non-Opalised TMC emergency bussing was in operation, replacing light rail services operating between Central and Dulwich Hill.

From 8 November 2021 to 28 November 2021, Opal-enabled, low floor buses replaced light rail services between Central and Dulwich Hill. The two routes operating were Route 498, all stops from Central to The Star (during peak periods), and Route 499 all stops from Central to Dulwich Hill.

The 499 route provided a 10-minute frequency in the morning peak period (between 7am to 9.30am) and outside this time, buses operated to a 15-minute frequency.

The additional 498 route shuttle operated all stops between the busy Central and The Star section, providing a 15-minute frequency between 7am to 11am and 3pm to 11pm.

From 29 November 2021, three dedicated bus routes (2L1 – Central to Star, 3L1 – Star to Lilyfield and 4L1 – Star to Dulwich Hill) began providing various services between Dulwich Hill and Central, while the direct ferry service (F10) linked Blackwattle Bay to Barangaroo for L1 Dulwich Hill Line customers.

The bus services operated every 10 minutes in peak periods and 15 minutes outside of peak periods. On the weekend, a 50 per cent discount applied to fares.

The ferry service operated every 30 minutes, seven days a week.

From 17 January 2022, due to the impact of COVID-19 on bus driver availability and lower patronage levels, the 3L1 and 4L1 bus services were reduced to a 15-minute frequency all day. The 2L1 service was not changed.

Transdev has completed feasibility analysis and testing to operate CBD and South East Light Rail Citadis light rail vehicles on this line.

From 12 February 2022, a limited Citadis-based light rail service resumed on the Inner West Light Rail line (L1 Dulwich Hill Line) to provide a service every 15 minutes from 6am to 11pm (midnight on Fridays) each day. The 3L1 and 4L1 bus services were removed and the 2L1 is now operating every 15 minutes during the weekday peak periods to provide additional peak hour capacity from Central to The Star stop.

The Citadis light rail and 2L1 service fares were reduced by 30 per cent.

By the last quarter of 2022, it is expected the twelve CAF light rail vehicles will be repaired and returned to service.

## **Parramatta Light Rail**

Stage 1 of the Parramatta Light Rail Supply, Operate and Maintain contract contains the general obligation for establishment of guidelines and procedures for incident management and service level requirements. Replacement services would be provided in accordance with those guidelines and procedures.

## **Newcastle Light Rail**

Replacement bus services are put in place when required to replace light rail services which are unable to be delivered for reasons, including but not limited to:

- track maintenance requirements – both planned and unplanned
- light rail vehicle maintenance requirements – both planned and unplanned
- emergencies effecting the ability to use the alignment.

Where possible, replacement bus services mirror the alignment and frequencies of the light rail as much as possible considering the circumstances leading to the cessation of light rail service.

## **(c) Any other related matter**

---

### **Project Learnings**

Each of the light rail projects undertook lessons learned reviews across applicable domestic and international projects. The learnings of each of the light rail projects were progressively built on and applied to the next light rail project, which included risk management, stakeholder and community engagement, procurement strategy and use of enabling works.

Several knowledge transfer items have been developed for the Parramatta Light Rail from lessons learned from light rail projects around Australia and internationally, including Newcastle Light Rail, Capital Metro (Canberra), Gold Coast Rapid Transit and CBD and South East Light Rail.

In the case of Newcastle Light Rail, a lessons learned workshop was carried out in February 2019 and key outcomes were identified and shared, including in areas of interface management and operational readiness.

In the case of CBD and South East Light Rail, knowledge shared included covered systems integration, operator incident response, network functionality, customer experience, construction methodology and business impacts.

The development of the Stage 1 Parramatta Light Rail delivery strategy considered the construction impacts of the CBD and South East Light Rail on local businesses at the time. This included incorporating specific contractual requirements for a construction grace period and effective means to support businesses, such as free business support, Business Reference Group and activation program.

### **Benefits realised for CBD and South East Light Rail**

The CBD and Sydney East Light Rail has reduced congestion and contributed to the overall liveability of the city of Sydney and its communities.

The light rail lines service major education, sport and health facilities and transport hubs, creating easier interchange points with other modes of transport, including buses, ferries and trains.

The project has also improved and created new and exciting public spaces, including the transformation of George Street from a congested, unpleasant stretch of heavy traffic to a sleek pedestrian boulevard. It has been the catalyst for renewal and growth across the planning and construction phases in delivery, with more than \$6 billion of activation along the corridor in redevelopment during planning, delivery and ultimately construction.

Importantly, the November 2020 Transport for NSW Customer Satisfaction Survey showed 96 per cent of light rail customers were satisfied with the network services, their safety, security, convenience, comfort and timeliness.

The Benefits Realisation report (Infrastructure NSW Gate 6 review) is being prepared and is scheduled for delivery to Infrastructure NSW in the second quarter of 2022.

The analysis from this report will include customer, operating, environmental, health and wider economic benefits.

The analysis has been subject to variability in patronage and economic activity throughout the COVID-19 lockdown period in 2021 and the wider economic benefits will only become evident across an extended timeframe.

### **Benefits realised for Newcastle Light Rail**

In August 2021, a benefits realisation report for Newcastle Light Rail was completed and noted that Light rail services are more frequent than planned, with improved connections to the rest of the network. Initial light rail ridership is high, with 3,413 daily trips in the first year of operations, over 40 per cent more than planned.

Although travel times are a minute longer than planned, at 15 minutes, services are operating more frequently, every 7.5 minutes during peak times.

Further, Newcastle Light Rail has helped better connect the Newcastle public transport network, with a reconfigured bus network and new bus interchange which take advantage of light rail and integrated Opal fares and ticketing.

### **Repairs for the grounded Inner West Light Rail (L1 Dulwich Hill Line) light rail vehicle fleet**

Detailed inspections have been carried out on the 12 vehicles which make up the CAF Urbos 3 light rail vehicle fleet.

Transport for NSW is continuing to work with ALTRAC and CAF to assess the fleet condition, determine a root cause and a repair and return to service plan, in the most expedient manner. This includes revising any maintenance practices as necessary, to prevent the likelihood of a similar issue recurring.