

# CONCORD HOSPITAL – FORENSIC MENTAL HEALTH UNIT

# Traffic Impact Statement

17 JANUARY 2024



SCT Consulting acknowledges the traditional owners of the lands on which we work. We pay our respects to Elders past, present and emerging.





# **Quality Assurance**

Project:	Concord Hospital – Forensic Mental Health Unit		
Project Number:	SCT_00379		
Client:	NBRS & Partners Pty Ltd	ABN:	16 002 247 565
Prepared by:	SCT Consulting PTY. LTD. (SCT Consulting)	ABN:	53 612 624 058

Information	Name	Position	Signature
Author:	Andy Yung	Director	AY
Reviewer:	Matthew Chow	Senior Transport Planner	MANES)
Authoriser:	Andy Yung	Director	AY

Version	Date	Details
1.0	8 September 2023	Draft report
2.0	27 September 2023	Final report
3.0	11 January 2024	Additional detail on parking supply and demand
4.0	17 January 2024	Minor edits to parking supply details



#### © SCT Consulting PTY LTD (SCT Consulting)

SCT Consulting's work is intended solely for the use of the Client and the scope of work and associated responsibilities outlined in this document. SCT Consulting assumes no liability with respect to any reliance that the client places upon this document. Use of this document by a third party to inform decisions is the sole responsibility of that third party. Any decisions made or actions taken as a result of SCT Consulting's work shall be the responsibility of the parties directly involved in the decisions or actions. SCT Consulting may have been provided information by the client and other third parties to prepare this document which has not been verified. This document may be transmitted, reproduced or disseminated only in its entirety and in accordance with the above.



# Contents

1.0	Intro	duction		1
	1.1	Project	background	1
	1.2	Project	scope of works	1
	1.3	Purpose	e of this report	2
	1.4	Structur	re of this report	2
2.0	Exist	ting cond	itions	3
	2.1	Site loc	ation	3
	2.2	Surrour	nding road network	4
		2.2.1	Homebush Bay Drive	4
		2.2.2	Concord Road	5
		2.2.3	Hospital Road	
	2.3		Cess	
	2.4	Car par	king	7
	2.5	Public t	ransport	8
	2.6	Active t	ransport	8
3.0	Desc	cription of	f Proposal	9
	3.1	Propose	ed Mental Health Unit	9
	3.2	Propose	ed general access	10
	3.3	Propose	ed ambulance access	11
	3.4	Propose	ed servicing access	11
	3.5	Staff gro	owth	12
	3.6	Vehicle	trip generation and parking demand growth	13
4.0	Traff	ic Impact	Assessment	14
	4.1	Constru	iction impacts	14
		4.1.1	Impact to Hospital Road	
		4.1.2	Impact to internal access roads	14
		4.1.3	Pedestrian access	
		4.1.4	Parking impact during construction	
		4.1.5	Parking for construction workers	
	4.2	•	ons impacts	
		4.2.1	Parking impacts	
		4.2.2	Road network impacts	
		4.2.3	Public transport impacts	
		4.2.4	Active transport impacts	
5.0	Cons	struction	traffic management plan	17
6.0	Cond	clusion		18



# 1.0 Introduction

# 1.1 Project background

The Concord Hospital, Forensic Mental Health Unit (FMHU) project is part of the State-Wide Mental Health Infrastructure Program (SWMHIP) and forms part of the \$700m capital works component of a broader series of reforms across the state's mental health services. This project focuses on patient-centric models of care, engagement with consumers, carers and staff, and best practice service delivery with improve outcomes for consumers, carers, families and stakeholders.

Concord Repatriation General Hospital (Concord Hospital) is a large multifaceted health facility, located in the western sector of the Sydney Local Health District (SLHD). It is located in the City of Canada Bay Local Government Area (LGA) in Sydney, NSW. Concord Hospital operates as a general hospital, building on its proud heritage of caring for the Veteran community, it now services the local communities of Concord, Strathfield, Burwood and beyond.

As a 750-bed teaching hospital for the University of Sydney, the facility offers a comprehensive range of specialty and sub-specialty services, many of which are recognized as centres of excellence worldwide. Supported by these services is the Concord Centre for Mental Health, a modern purpose-built precinct for inpatient care with additional comprehensive patient support services including admission and assessment, acute and rehabilitation adult services, services for older people and extended adolescent care 24/7.

In addition, the ANZAC Health & Medical Research Institute is located onsite, undertaking research into disorders of lifestyle and aging. The Institute recognises the contribution that the nations Veteran's and War Widows have made in establishing the society we have today.

The Concord FMHU will be located within the Concord Repatriation Hospital Campus' Mental Health Precinct.

# 1.2 Project scope of works

The proposed project is a new purpose-built Low and Medium secure FMHU within the Sydney Local Health District. The proposal incorporates the Functional Brief and Model of care principles and is planned to have 18 Medium secure forensic beds, 24 low secure forensic beds, as well as clinical support spaces, outdoor secure courtyard spaces and amenities.

Comprised of Ground Floor, Level 1 and Level 2, the team identified locations for critical components of the program, testing adjacencies and the interrelationship of spaces within the following fundamental design decisions:

Ground Floor

- Front of House Shared Entry
- Admissions Secure Entry
- Medium Inpatient Unit including accommodation pods, General Consumer Area and Clinical Support Area, Outdoor Area
- Back of House

First Floor

- Centralised Clinical Support Area and General Consumer Areas
- Low Secure Inpatient Units arranged along perimeter of the building
- Proximity of staffed areas to entry from lift lobby to facilitate patient entry/ exit

Second Floor

- Consolidated Shared Staff Zone Medium and Low (ABW) areas
- Engineering plant zone



# 1.3 Purpose of this report

This Traffic Impact Statement was prepared in support of the Schematic Design Report of the Concord FMHU at the Concord Repatriation Hospital Campus. This report presents the results of the following tasks undertaken:

- Existing conditions review of the site location and existing traffic, parking, servicing, public transport, active transport facilities and conditions.
- Scope of works description of proposed works and associated traffic changes.
- Transport and parking impact assessment review of likely impact on traffic, parking, servicing, public transport, active transport facilities and conditions.
- Construction traffic management plan (CTMP) preliminary overview of a CTMP to be used during construction works.

# 1.4 Structure of this report

This report has been structured into the following sections:

- Section 2 presents an overview of the existing traffic and transport conditions in the study area
- Section 3 provides an overview of the proposal
- Section 4 presents a qualitative assessment of the construction, operational traffic impacts and suggested measures for mitigation
- Section 5 provides a preliminary overview of a construction traffic management plan to be used during construction works
- Section 6 concludes with a summary of the expected impacts.



# 2.0 Existing conditions

This section of the report discusses the existing traffic and transport context of the network that may be impacted by the proposed campus infrastructure works.

# 2.1 Site location

The site is located on land title DP 535257, in the Municipality of Concord. The new Forensic Mental Health Building will be located within the Concord Precinct, Mental Health and Sub-Acute Precinct, and is accessed by Hospital Road.

The proposed site includes the redevelopment of Building 29 (the Sydney Local Health District Fire Services Building) as well as the at-grade car park located between Buildings 28 and 29.

#### Figure 2-1 Site location



#### Source: NBRS, 2023

The adjacent buildings to the proposed site include the two storey Bernie Banton Centre (89) on the northern boundary, the one storey Learning Development/Animal Holding Centre (28) to the northwestern corner, the two storey University of Sydney Concord Medical Education Centre (26) on the western boundary, all part of the Research and Education Precinct. On the southern boundary is the one storey ECT Suite and Mental Health Unit 7 (111,112) which is part of the Mental Health Precinct. Across the road on the eastern boundary is the main mental health building (108, 109, 110) with Admissions and Administration centrally located and Mental Health Unit 6 in the northern wing and Mental Health Unit 5 in the southern wing.



# 2.2 Surrounding road network

The Concord Repatriation General Hospital is accessible via major arterial roads including Homebush Bay Drive and Concord Road which connect to Hospital Road. A map of the hospital grounds and surrounding road network is presented in **Figure 2-2**.





Source: NBRS, 2023

#### 2.2.1 Homebush Bay Drive

Homebush Bay Drive is part of the A3 (state arterial north-south corridor) in Sydney that extends from Mona Vale to the north and Blakehurst to the south. It generally has three traffic lanes in each direction in the vicinity of Concord Road, with additional turning lanes at major intersections. It has a posted speed limit of 70km/hr in the vicinity of the study area. The corridor has clearways conditions implemented during the peak periods and no stopping is permitted during other hours, hence on-street parking is not permitted along the whole corridor.

Homebush Bay Drive forms a signalised intersection with Concord Road which is one of the main accesses to Concord Hospital from the surrounding road network, as indicated by the directional signage as shown in **Figure 2-3**.





Figure 2-3 Intersection of Homebush Bay Drive and Concord Road

Source: Google Maps, 2023

#### 2.2.2 Concord Road

Concord Road is a north-south sub-arterial road that extends from the A3 (Homebush Bay Drive) to the north and Parramatta Road to the south. It generally has two traffic lanes in each direction. It has a posted speed limit of 60km/hr in the vicinity of the study area.

The signalised intersection of Concord Road / Hospital Road provides direct access to Concord Hospital.

#### 2.2.3 Hospital Road

Hospital Road is a local street that serves the local residential area of Concord West and Concord Hospital. It has a posted speed limit of 50km/hr and on-street parking is permitted on both sides of Hospital Road.



# 2.3 Site access

The main frontage of the Concord Repatriation General Hospital is on the southern side of Hospital Road. The northern side of Hospital Road consists of the hospital car park for staff, patients and visitors, which is also part of the overall hospital precinct.

The main entry points to the on-grade hospital car parking are along the northern side of Hospital Road. Gate 2 on Hospital Road also provides secondary vehicular access to staff parking on the southern portion of the hospital site and the mental health precinct on the south-eastern portion of the site.

Gate 3 on Hospital Road has vehicular and pedestrian access to the Concord Centre for Mental Health, ANZAC Research Institute, Bernie Banton Centre, the University of Sydney Medical Education Centre, and staff parking. The services entry is via Gate 4 on the southwestern portion of the hospital site on Boronia Street.

The site for the proposed development can be accessed via Gate 3 on Hospital Road and is on the western side of the main internal roadway within the Mental Health Precinct, as shown in **Figure 2-4**. There are potential secondary rear access points from the southern boundary of the site.

#### Figure 2-4 Site access arrangement



Source: NBRS, 2023



# 2.4 Car parking

There are currently 51 at-grade staff car spaces on the proposed development site, as shown in **Figure 2-5**. These car parks are allocated for the mental health fleet cars and staff parking. These spaces will be demolished, except for car park spaces 48-51.

#### Figure 2-5 Existing on-site parking



Carpark 48-51 retained

Source: NBRS, 2023

At the time of writing, the new Multi-Storey Car Park (MSCP) is under construction, and the hospital has a parking supply of 1,949 parking spaces campus wide according to the *Concord Repatriation General Hospital Redevelopment (Concept & Stage 1) Transport and Accessibility Report* (ARUP, 2018), submitted as part of the redevelopment SSDA. Parking demand at this time was predicted to be 2,381. This is a constrained supply due to the ongoing construction works around the MSCP, This supply will grow to 2,539 once the MSCP is completed later this year, adequately catering for demand.



# 2.5 Public transport

Transport networks in the area include bus routes along Hospital Road, Rhodes Station 1.6 kilometres northwest (20min walk) and Concord West station 2.0 kilometres southwest.

Concord Hospital is serviced by two bus routes:

- Route 410 that connects Macquarie Park with Hurstville, with a slight detour along Hospital Road to service Concord Hospital (as shown in Figure 2-6 (left)). It typically provides regular services at 10-minute intervals in each direction during the peak hours on the weekdays and at 20-minute intervals in each direction weekends.
- Route 458 that connects Ryde with Burwood, with a slight detour along Hospital Road to service Concord Hospital (as shown in Figure 2-6 (right)). It typically provides half-hourly services in each direction on the weekdays and weekends.



#### Figure 2-6 Bus routes serving Concord Hospital



Source: Transport for NSW, 2023

# 2.6 Active transport

Footpaths are provided on both sides of Hospital Road and there are wombat crossings provided at the intersection of Hospital Road and Fremont Street for safe crossing opportunities to and from Concord Hospital.

There is an existing on-road cycle path along Nullawarra Avenue. Otherwise, there is a network of formal and informal shared path along the foreshore and the peninsulas of Yaralla Bay.



# 3.0 Description of Proposal

# 3.1 Proposed Mental Health Unit

The proposed project is a new purpose-built Low and Medium secure FMHU within the Sydney Local Health District. The proposal incorporates the Functional Brief and Model of care principles and is planned to have 18 Medium secure forensic beds, 24 low secure forensic beds, as well as clinical support spaces, outdoor secure courtyard spaces and amenities. As these services are not currently provided at Concord Hospital, this development will increase staffing by approximately 91 Full Time Equivalent (FTE) staff.

A section of the proposed development is shown in Figure 3-1.



Figure 3-1 Proposed Mental Health Unit section

Source: NBRS, 2023

Comprised of Ground Floor, Level 1 and Level 2, the team identified locations for critical components of the program, testing adjacencies and the interrelationship of spaces within the following fundamental design decisions:

Ground Floor

- Front of House Shared Entry
- Admissions Secure Entry
- Medium Inpatient Unit including accommodation pods, General Consumer Area and Clinical Support Area, Outdoor Area
- Back of House

#### First Floor

- Centralised Clinical Support Area and General Consumer Areas
- Low Secure Inpatient Units arranged along perimeter of the building
- Proximity of staffed areas to entry from lift lobby to facilitate patient entry/ exit

#### Second Floor

- Consolidated Shared Staff Zone Medium and Low (ABW) areas
- Engineering plant zone



# 3.2 Proposed general access

The proposed vehicular access to the new building is made via a new access road that connects between the existing access to Building 89 and the internal rear access road to the loading docks of Buildings 29 and 111. The new access will provide connection with the new hardstand and secure entry point at the back of the proposed new building, directly opposite the loading dock of Building 29.

Pedestrian access to the building will be made via the pedestrian footpaths and through to the Front of House.

#### Figure 3-2 Proposed access



Source: NBRS, 2023

The design of access to the proposed mental health unit has considered and will achieve the critical needs of access by other services, as shown in **Figure 3-3**. They relate to Direct Access (co-located), Ready Access (proximate access via vertical or horizontal means) and Easy Access (access on site such but relationship is not critical).

- Direct Access to the Low and Medium Secure Units will be co-located within the facility and will include the internal relationships described further below.
- Ready Access to:
  - CCMH Inpatient Unit duress response (code black)
  - CCMH Mental Health Intensive care unit
  - ECT located in Building 111 ECT Suite
  - Pharmacy located Building 109 CCMH
  - Mental Health Trust Office



- External service providers such as couriers, deliveries and emergency services
- Easy Access to:
  - Emergency Department (Building 3)
  - Security located in Building 5
  - Pathology located in Building 5
  - Medical Imaging and Diagnostics located in Building 3
  - Food, Linen and Waste Service CRGH (truck)
  - Stores Supply CRGH (by motor TUG)
  - Public transport to access community resources
  - Other General Hospital clinical departments as required
  - Engineering Department and Fire Service
  - Other areas will need to be considered.

#### Figure 3-3 Service access



Source: NBRS, 2023

# 3.3 Proposed ambulance access

The development will provide for ambulance access to the secure entry point at the western side of the building building for patient transfer.

# 3.4 Proposed servicing access

Ealy consultation with SLHD indicates that the following servicing needs are required to access the new hardstand area, at the back (western face) of the new building (directly opposite the loading dock of Building 29):

- Linen trucks of 10.2m in length
- Food delivery trucks of 5m in length
- Internal waste trucks of 6.0m in length



- Grace Records Management trucks (confidential waste) of 13.0m in length

Swept paths have been undertaken to confirm the maneuvering of HRV (12.5m long), 10.5m long trucks, MRV (8.8m long) and SRV (6.4m long) along the rear access road and for the trucks to dock at the hardstand area. The existing roadway will be widened to accommodate the proposed vehicle sizes, as illustrated in **Figure 3-4**.





Larger freight vehicles including the HRV and 10.5m long trucks will require the use of the loading area outside Building 29 (to the north) to reverse into the proposed hardstand area of the new FMHU.

### 3.5 Staff growth

An indicative staffing profile for the low and medium secure service has been developed in the functional brief to inform the facility design. A staffing growth of approximately 91 FTE is expected for the proposed FMHU. This workforce is broken down into the following categories:

- Medical staff (Specialists and registrars): 9 FTE
- Nursing: 52 FTE
- Allied health workers: 14 FTE
- Support staff (administration, hotel, security, etc): 16 FTE

Staff arrive at different times of the day depending on shift patterns. The approximate proportion of staff working morning, afternoon and night shifts for each category of staff<sup>1</sup> are presented in **Table 3-1**.

Source: NBRS, 2023

<sup>&</sup>lt;sup>1</sup> Concord Repatriation General Hospital Redevelopment Transport and Accessibility Report, 2018



#### Table 3-1 Staff proportion by category and shift

Staff	Morning shift	Afternoon shift	Night shift
Medical Staff	85%	10%	5%
Nursing	55%	30%	15%
Allied health workers	70%	15%	15%
Support staff	94%	4%	2%

This equates to an additional 60 staff arriving at the hospital during the AM peak, the most critical peak hour.

# 3.6 Vehicle trip generation and parking demand growth

Concord Hospital has a relatively high car mode share, with 85% of staff driving<sup>2</sup>. The additional staffing will result in a growth in 51 vehicle trips arriving in the AM peak, and a growth in parking demand by 51 spaces.

Visitors to the FMHU beds will be booked visits and able to access the unit between 3pm to 8pm daily, as described by the functional brief. Assuming one visitor car per bed per day, distributed over the five visitation hours, there is an expected increase in demand of nine parking spaces for visitors.

<sup>&</sup>lt;sup>2</sup> Concord Repatriation General Hospital Redevelopment Green Travel Plan, 2022



# 4.0 Traffic Impact Assessment

# 4.1 Construction impacts

The provision of safe routes for pedestrians, minimising any impacts on public transport access and staging of road closures (where required) will be confirmed as part of the Construction Traffic Management Plan (CTMP) that will be prepared prior to start of any demolition and construction. The extent of closures and access difficulties will be dependent on the volume and types of construction vehicles used during the works. **Section 5.0** provides more details of construction impacts that would be further considered in the CTMP.

Construction of the FMHU may coincide with the main works for the Concord Hospital Redevelopment project and consideration will need to be given to the cumulative impact of construction traffic.

### 4.1.1 Impact to Hospital Road

Hospital Road is used regularly by hospital vehicles and services and construction works on the street will require careful coordination with the hospital. Both vehicle and pedestrian access will need to be maintained during construction works so key hospital operations are not disrupted under all circumstances.

### 4.1.2 Impact to internal access roads

The access roads surrounding the proposed site facilities key hospital functions including access to different buildings within the hospital and servicing access requirements. Given that the scale of the proposal is limited, impacts to the local access roads are expected to be minimal and likely to be a result of construction vehicles that are waiting for access.

### 4.1.3 Pedestrian access

Pedestrian access will need to be maintained in coordination with the hospital to ensure that access to all adjacent buildings are available during the construction period.



### 4.1.4 Parking impact during construction

47 existing at-grade car parking spaces will be demolished during the construction of the proposed facility. This loss is equivalent of 2.4% of total campus wide parking supply at the time of writing (1,949). Parking will be constrained until the completion of the MSCP, after which the supply of parking is expected to meet demand.

In the interim, a new at-grade car park was completed in June 2023, which has provided the site with 300 parking spaces (**Figure 4-1**). This will help offset the impact of the decommissioned spaces until the completion of the MSCP.

The MSCP is currently under construction and delivery is expected in 2024.

#### Figure 4-1 New at-grade car park



Source: nearmap, 2023

### 4.1.5 Parking for construction workers

Construction workers are encouraged not to drive to site. Impact to on-street parking is minimal as it is already near maximum capacity and the time restrictions are not suitable for most workers.



# 4.2 Operations impacts

The FMHU is a completely new facility at Concord Hospital, with 42 new beds, visitors for these beds, and additional staffing. There will be an associated growth in traffic volume, parking demand and pedestrian volumes once the facility is complete and in operation.

## 4.2.1 Parking impacts

No on-site car parking is proposed as part of the FMHU. The growth in staff and visitor parking demand will need to be met by the available parking supply on campus. On completion of the MSCP later this year, total parking supply will be 2,539 according to the *Concord Repatriation General Hospital Redevelopment (Concept & Stage 1) Transport and Accessibility Report* (ARUP, 2018). This is sufficient to meet the Stage 1 parking demand of 2,381, with a surplus of 158 spaces.

The FMHU will reduce campus parking supply by 47 spaces (reducing overall supply to 2,492), while increasing parking demand by 60 spaces (increasing predicted demand to 2,441). The campus' parking supply will therefore be able to cater for the additional demand, even after accounting for the spaces being demolished.

In the long term, Concord Hospital will need to apply initiatives listed in their Green Travel Plan<sup>3</sup> to reduce daytime staff reliance on travel by car. This is especially critical as the redevelopment of Concord Hospital continues to increase the number of staff and visitors expected on site. The Green Travel Plan aims to reduce car mode share by 10% for staff that are part of the morning shift.

### 4.2.2 Road network impacts

The increase in traffic demand as a result of the operation of the facility is relatively small, with a growth of 51 car trips in the critical AM peak period. This is a negligible growth when compared to the existing volumes on Concord Road / Hospital Road intersection of over 7,000 movements in the AM peak period.

### 4.2.3 Public transport impacts

There is negligible impact on the public transport as a result of the proposed works, particularly as the public transport mode share of the hospital is low.

### 4.2.4 Active transport impacts

There is negligible impact on the active transport network as no new footpaths or cycling infrastructure are proposed. Existing infrastructure remains largely untouched except for the pedestrian footpath located between Buildings 29 and 89 which will intersect with the new rear access road. Vehicle trips along this roadway are expected to be low and the impact to pedestrian movements will be minimal.

While not considered necessary, a wombat crossing (continuous footpath) treatment could be applied here to maintain priority for pedestrians that use this footpath.

<sup>&</sup>lt;sup>3</sup> Concord Repatriation General Hospital Redevelopment Green Travel Plan, 2022



# 5.0 Construction traffic management plan

A detailed Construction Traffic Management Plan (CTMP), which would include a construction traffic control plan would be prepared, separate to this report by the contractors. This would be done prior to commencement of construction and in accordance with the Traffic Control at Work Sites Technical Manual (2010).

The CTMP will address the overall traffic management of the site during the construction phase, including details of the following:

- Description of construction activities
- Working hours
- Construction vehicle movements and expected routes to and from the site
- Provision for vehicle, pedestrian and cyclist access and management
- Parking for construction vehicles and workers
- Emergency access management
- Appropriate wayfinding.

The overarching strategy of the CTMP would be to:

- Ensure all stakeholders are considered during all stages of construction
- Provide safe routes for pedestrians and cyclists during construction
- Minimise any impact on public transport access
- Communicate changes to roads or paths to the community, emergency services, public transport operators, and any other affected stakeholders
- Identify measures to manage the movements of construction-related traffic to minimise traffic and access disruptions on the public road network
- Provide a car parking strategy for construction staff.

The CTMP for the FMHU will also need to consider any cumulative impacts occurring from construction works being undertaken for the Concord Hospital Redevelopment Project.



# 6.0 Conclusion

This traffic impact statement has reviewed the traffic, access and parking changes associated with the proposed Forensic Mental Health Unit facility. The assessment finds that the development will:

- Have negligible impact on the road network operational performance
- Have negligible impact on the public transport network and the active transport network
- Increase parking demand by 60, while also demolishing 47 existing spaces. This increase in parking demand will be met by the available on-site parking supply once the new Multi-Storey Car Park is delivered later this year.
- Require a detailed Construction Traffic Management Plan to be prepared prior to commencement of construction, which would seek to minimise the impacts of the construction work. This plan will have to consider for other construction occurring on site, such as the construction of the new multi-storey car park.

Concord Hospital will need to apply initiatives proposed in its Green Travel Plan to reduce reliance on car travel. This will ensure that parking demand will not exceed supply, especially as the hospital continues to grow in staff and patient volume.



Thoughtful Transport Solutions

Suite 4.03, Level 4, 157 Walker Street, North Sydney NSW 2060 sctconsulting.com.au