TTW Structural Civil Traffic Façade

Preliminary Operational Traffic and Access Management Plan

The Sutherland Hospital Operating Theatre Upgrade Project

Prepared for Health Infrastructure NSW

1 March 2021

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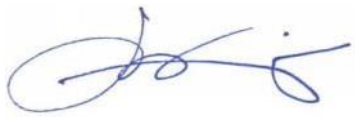
Revision Register

Rev	Date	Remarks	Prepared By	Reviewed By	Approved By
0.1	25/02/2021	Draft for comment	N. Borja	M. Babbage	-
1	01/03/2021	Issue for SSDA	N. Borja	M. Babbage	P. Yannoulatos

Document Control

Internal reference	181387
File path	P:\2018\1813\181387\Reports\TTW\Traffic\Report\5 - SSDA\4-OTAMP\210301 TSHOTUP Operational Traffic and Access Management Plan Rev 1.docx

Prepared by	Reviewed by	Authorised By
		
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1 Introduction

Taylor Thomson Whitting (TTW) has been engaged by CBRE Project Management for NSW Health Infrastructure (HI) to provide traffic engineering consultancy service for The Sutherland Hospital Operating Theatre Upgrade Project (TSHOTUP). The project design is being undertaken by HDR (architect).

An Operational Traffic and Access Management Plan (OTAMP) is a way to identify, and plan for, the regular transport and access requirements of a site. The aim of the document is to provide a clear plan of management for vehicle and pedestrian movements and develop strategies (if required) to assure smooth traffic flow and safe movement within and around a site.

This preliminary OTAMP has been prepared to support the development and future operation of The Sutherland Hospital. This plan also satisfies a condition of the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning:

> *"[Provide] a preliminary operational traffic and access management plan."*

1.1 Objectives

This Operational Traffic and Access Management Plan (OTAMP) provides an overview of facilities and connectivity within and around the site, and the anticipated transport demands of the site. This plan considers the interface of multiple transport modes (including specialty modes such as service vehicles and ambulances) and strategies which may be required to safely and efficiently manage these. A hierarchy system has been considered for these transport modes.

The document is preliminary in nature and is intended to be dynamic and respond to the future operation of the site. This document may also form a reference point for further development of new operational plans in the future.

1.2 Distribution and Use

It is anticipated that this preliminary OTAMP will be developed into a more comprehensive and final OTAMP prior to commencement of operations of the new development.

The finalised OTAMP is to be maintained by the Hospital and shall be distributed to all the concerned logistic personnel and managers. The Hospital is also responsible for distributing appropriate information to staff and contractors as necessary. A copy of the OTAMP is always to be held on-site and available for customer review.

1.3 Reviews and Updates

This OTAMP should be reviewed regularly and updated as required. It is recommended that an initial review should take place following six months of operation. This review should include detailed observations of the transport operations of the site, consultation with the site manager, and adjustments to procedures where necessary.

Following this initial review, a review every two years would likely be an appropriate update schedule. To ensure that the ongoing review of this OTAMP is carried out as expected, responsibility for this task should be allocated to a specific staff member such as the hospital manager.

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2 Hospital Operations

2.1 The Site

The Hospital is located at the corner of Kingsway and Kareena Road, Caringbah. The site location and surrounding environs are shown in Figure 2.1.

Figure 2.1: Site location and environs

Basemap source: Sixmaps

2.2 Operating Hours

The Hospital operates 24 hours a day, 7 days a week. Visiting hours for patients are as follows:

- General Wards: 8am to 8pm
- Maternity Unit: 8am to 8pm
- Intensive Care Unit: 12pm to 8pm
- Mental Health Unit: 11am to 1pm and 4pm to 8pm weekdays, 10am to 8pm weekends

Staff come on duty for ward rosters at 7:00am, 1:30pm and 9:30pm.

2.3 Services and Facilities

The Hospital offers a comprehensive range of inpatient and outpatient healthcare services to the residents of the Sutherland Shire. Each year the Hospital cares for more than 50,000 patients in the Emergency Department and around 28,000 patients are admitted to the hospital.

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3 Site Access

3.1 Vehicle Access

There are three main access points to the site. On completion of the upgrade works and other infrastructure upgrade projects, general traffic will be able to enter and exit the site via:

- The Kingsway (entry and exit westbound only)
- Kareena Road northern access (entry northbound and southbound; exit southbound only)
- Kareena Road southern access (entry and exit northbound and southbound)

The ring road around the site connects the northern Kareena Road access and Kingsway, to the southern Kareena Road access point via a boom-gate controlled parking zone (CP6) and is therefore partially disconnected within the site. Some movements between parking modules (e.g. CP1 to CP5) or other areas of the site require movement via the external road network at Kareena Road.

Figure 3.1 shows the on-site vehicle circulation and access pattern to the site (on completion of the Operating Theatre Upgrade Project).

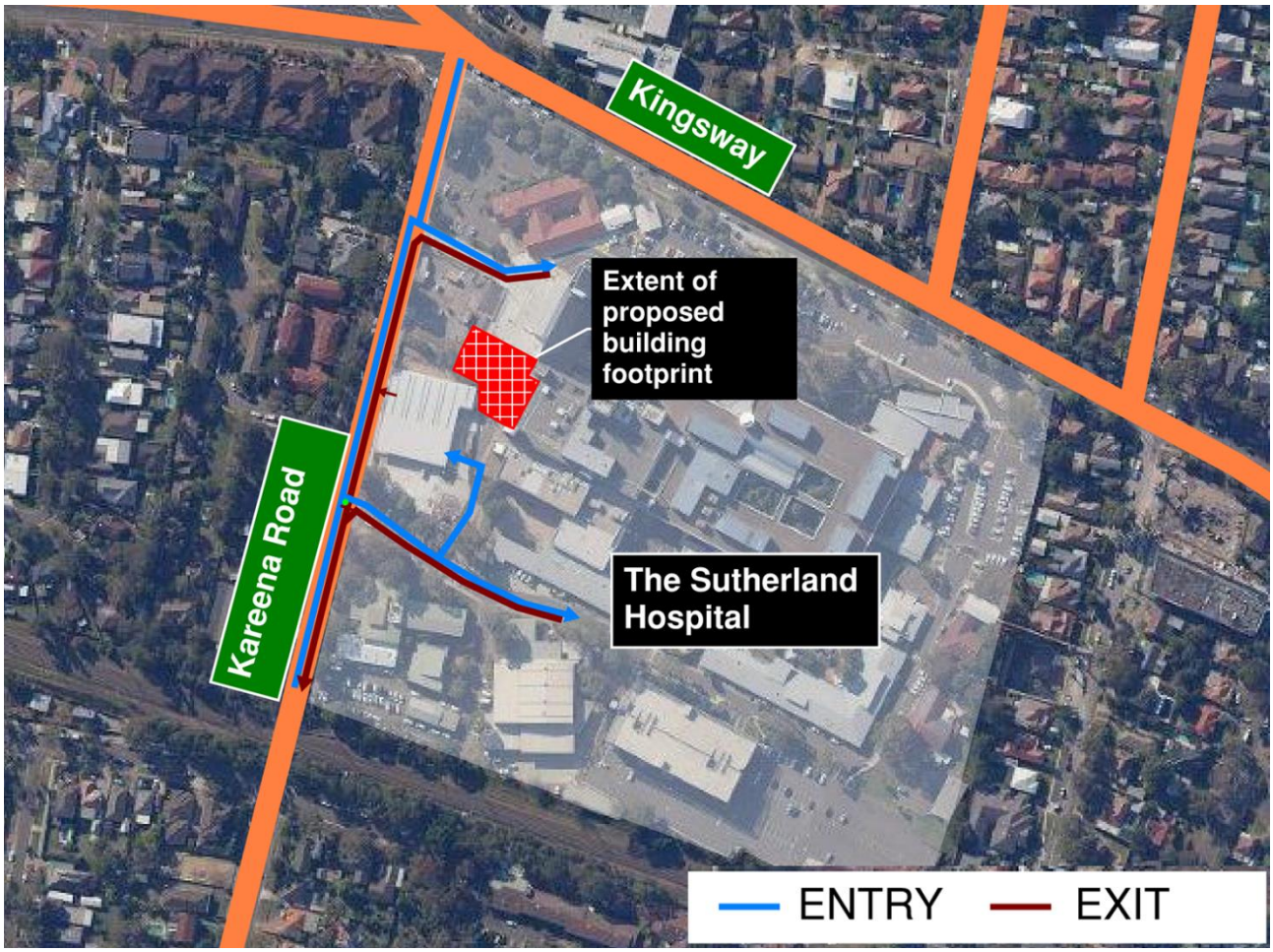

Figure 3.1: Future vehicular access to TSH

3.1.1 Emergency Vehicles

The emergency department is located closest to the Kareena Road northern access.

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3.1.2 Car Parking

Car parking modules are distributed around the site. Car parking is available from all site access points, however as noted above not all modules can facilitate full internal connections. Car parks CP1, CP2, CP3, and CP6 can be accessed from Kingsway and the northern access at Kareena Road. Car parks CP5 and CP6 can be accessed from the southern access at Kareena Road.

The overall off-street parking inventory available to the staff, visitors and some special uses is assumed to be 873 spaces. Figure 3.2 shows the distribution of existing parking areas on the site.

Figure 3.2: Existing parking layout

Basemap Source: Nearmap

3.1.3 Drop-off and Pick-up

On-site 15-minute drop-off and pick-up zones are located at the north of the Hospital with access via Kingsway and Kareena Road northern access, and at the south of the Hospital via Kareena Road southern access. The northern drop-off and pick-up zone can accommodate 6 cars and includes a roundabout to ensure that any excess queuing is accommodated within the site. The southern drop-off and pick up zone has a capacity for approximately 6 cars.

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3.1.4 Loading Docks

The internal loading dock is accessed via the southern Kareena Road access.

3.2 Pedestrian Access

The site is well connected with a broader internal network of pedestrian footpaths. The main access of the Hospital is at the northern frontage via Kingsway. However, there are other pedestrian accesses throughout the site. Zebra crossings are available at designated pedestrian crossings that are linked to the Hospital building accesses and car parking areas.

Signalised pedestrian crossings are available on all approaches of the intersection at Kingsway/Kareena Road. The signalised crossing on the eastern and southern legs of the intersection provides direct pedestrian access to the site.

The bus stops on Kingsway adjacent to the Hospital access is provided with seats and accessible path.

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4 Transport Demands

To provide context for the management planning for the site, a transport hierarchy has been developed to inform the prioritisation of strategies. The hierarchy has been developed based on consideration of operations, safety, and sustainability. The hierarchy for the Hospital is shown in Figure 4.1.

The demands for each transport type are detailed in the following sections of this Plan.

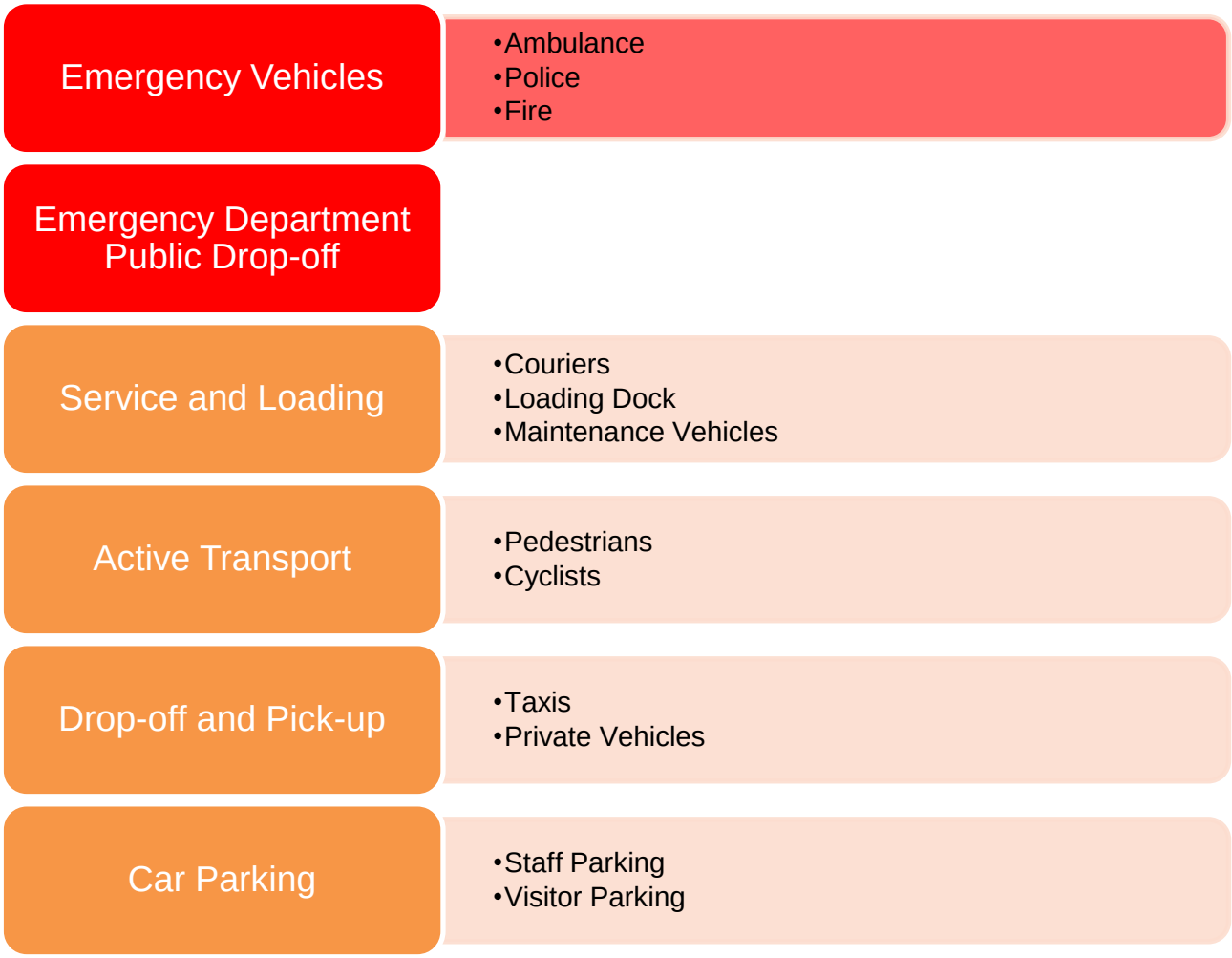

Figure 4.1: Transport hierarchy

It is noted that additional transport modes which will operate around the site, but do not need to be managed within the site, includes buses.

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4.1 Emergency Vehicles

Emergency vehicles are the highest priority vehicle types requiring access to the Hospital. Emergency vehicles share access with private vehicles, service and delivery vehicles. The Hospital has capacity in the covered ambulance bay for five (5) ambulances, near Kareena Road. Though the Hospital is under shared zone speed limit of 10km/h, an efficient management of the site operation is necessary to control the overall vehicle movement and ensure safety.

4.2 Emergency Department Public Drop-off

Public drop-off areas are provided as direct access to the Hospital emergency department. The zone has capacity for six (6) cars in a 15-minute parking zone, and is restricted to a 3.0-metre height clearance.

4.3 Service and Loading

Service and loading functions can be critical to the operation of the Hospital and are considered the highest priority non-emergency transport type.

Predominantly 3-tonne trucks (similar to SRV or MRV size) are used for deliveries. Based on the information provided by Hospital, there will be 20-25 service vehicle movements per day depending on the Hospital demand, predominantly during the morning.

The waste collection on the site occurs through the loading dock area and generally is completed once every day.

All trucks deliver to the Loading Dock via the Kareena Road roundabout access.

4.4 Active Transport

Active transport modes include walking and cycling and other non-motorised means of transport. On the Hospital site, active transport modes may include patients or visitors in wheelchairs.

For the purposes of this Plan, active transport also considers pedestrian movements to and from vehicles parked within internal car parks or on-street. These movements result in some level of conflict and crossover with vehicle movements in and around car parking areas, and therefore require safe management. For this reason, active transport is a higher priority mode than non-emergency car movements.

4.5 Drop-off and Pick-up

In a hospital, many visitors are travelling by car and patients are being dropped off. As discussed in section 3.1.3, drop-off and pick-up areas are provided and accessible via Kingsway and Kareena Road. Sufficient provision of pick-up and drop-off space to cater for drop-off and pick-up demand (via private arrangement, or commercial vehicles such as taxi or Uber) will be necessary.

4.6 Car Parking

Travel by car for the purposes of car parking is considered the lowest priority transport mode. While the demand volumes for car parking can be high, the safety and sustainability of private vehicle travel result in this being a low priority mode. Nevertheless, to ensure operation of the site it is critical to manage the car parking in an efficient way, for example to allow staff to access the facility in a timely manner.

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5 Risk Assessment

A risk assessment process has been undertaken in the context of the site transport demands and the transport hierarchy. The level of risk is developed based on a risk matrix approach. This approach considers both the likelihood and consequence of an incident occurring as a result of any element of the site. The current risk register is provided at Table 5.4. The Hospital should update this risk register during operations or as required.

Table 5.1: Incident Frequencies

Source: Austroads Guide to Road Safety Part 6A, Table 4.1

Frequency	Description
Frequent	Once or more per week
Probable	Once or more per year (but less than once a week)
Occasional	Once every five or ten years
Improbable	Less often than once every ten years

Table 5.2: Incident Severities

Source: Austroads Guide to Road Safety Part 6A, Table 4.2

Severity	Description	Examples
Catastrophic	Likely multiple deaths	High-speed, multi-vehicle crash on a freeway. Car runs into crowded bus stop. Bus and petrol tanker collide. Collapse of a bridge or tunnel.
Serious	Likely death or serious injury	High or medium-speed vehicle/vehicle collision. High or medium-speed collision with a fixed roadside object. Pedestrian or cyclist struck by a car.
Minor	Likely minor injury	Some low-speed vehicle collisions. Cyclist falls from bicycle at low speed. Left-turn rear-end crash in a slip lane.
Limited	Likely trivial injury or property damage only	Some low-speed vehicle collisions. Pedestrian walks into object (no head injury). Car reverses into post.

Table 5.3: Level of Risk Matrix

Source: Austroads Guide to Road Safety Part 6A, Table 4.3

	Frequent	Probable	Occasional	Improbable
Catastrophic	Intolerable	Intolerable	Intolerable	High
Serious	Intolerable	Intolerable	High	Medium
Minor	Intolerable	High	Medium	Low
Limited	High	Medium	Low	Low

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Table 5.4: Risk register

Risk ID	Hazard	Risk	Pre-treatment risk			Treatment	Post-treatment risk		
			Likelihood of risk occurring	Consequence of risk occurring	Risk rating		Likelihood of risk occurring	Consequence of risk occurring	Risk rating
1	**Emergency vehicles share access points with public vehicles**	High-speed vehicle collisions	Occasional	Serious	**High**	Signage to be provided for clear instruction to public vehicles and drivers to maintain clear of emergency spaces. ***Signage and wayfinding – refer Section 6.5***	Improbable	Minor	**Low**
2	**Vehicles reversing within loading dock area**	Damage to property; pedestrian injuries	Improbable	Serious	**Medium**	Loading dock management and safety procedures to be implemented. ***Loading Dock Management – refer to Section 6.2***	Improbable	Limited	**Low**
3	**Heavy vehicles share access points with public vehicles**	Traffic congestion; vehicle collisions	Improbable	Minor	**Low**	Heavy vehicles to operate outside peak periods and within nominated zones. ***Delivery scheduling – refer to Section 6.1*** ***Signage and wayfinding – refer Section 6.5***	Improbable	Limited	**Low**
4	**Pedestrian movements along or across internal roadways**	Pedestrian injuries	Occasional	Minor	**Medium**	Pedestrian zones to be clearly highlighted to drivers. Activity levels to be monitored, and actions taken where necessary. ***Signage and wayfinding – refer Section 6.5*** ***Drop-off and pick-up Monitoring – refer to Section 6.8***	Improbable	Limited	**Low**
5	**Vehicles queuing at boom gates block access for emergency vehicles**	Delays to emergency medical care	Improbable	Limited	**Low**	Activities and incidents to be monitored, and actions taken where necessary. ***Incident recording system – refer Section 6.3***	Improbable	Limited	**Low**
6	**Rat-runs through site from Kingsway to Kareena Road to avoid traffic signals**	Traffic congestion	Occasional	Limited	**Low**	External wayfinding to ensure rat-run demand is minimised. ***Signage and wayfinding – refer Section 6.5***	Improbable	Limited	**Low**

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6 Management Strategies

The following sections provide the strategies and methods recommended for safe and efficient management of transport through and around the hospital site. These management strategies respond to the risk assessment as detailed in Section 5, and other elements of the site which may require transport management.

It is noted that these strategies are currently *recommendations* and are anticipated to be finalised in post-approval documentation.

6.1 Delivery Scheduling

Wherever practical, particularly for large or specialty vehicles, all deliveries to the site are to be scheduled. The Hospital is to maintain an accurate schedule of deliveries and shall consider the following:

- Scheduled deliveries to be separated by 15-minutes to allow buffer for unexpected delays.
- Nominated external personnel (if available) to be recorded and provided with induction information if necessary (refer Section 6.8).
- Deliveries to be scheduled outside visiting hours (8am to 8pm) where possible.
- Relevant managers of departments adjacent to loading dock to be advised of any scheduled activities which may be noisy or disruptive.
- Once deliveries are completed, a record of deliveries is to be kept for at least four years after the deliveries occurred, to assist with future planning or any incidents which may occur.
- Vehicle size to be determined, and necessary traffic control measures to be considered if necessary and planned for within the scheduling system.
- Vehicle requirements (e.g. reversing alarms) are to be made clear to contractors.

To schedule a delivery, contact details for the site manager are:

- Name:
  - *To be advised by LHD for inclusion in post-approval documentation.*
- Role:
  - *TBC*
- Phone:
  - *TBC*
- Email:
  - *TBC*

6.2 Loading Dock Management

The delivery truck would enter the site in a forward direction via the Kareena Road southern access and adjacent to the site by utilising the truck stopping zone and then reverse into the loading dock area. On completion of unloading activities, the delivery truck should exit the site in a forward direction to Kareena Road southern access.

All trucks should be fitted with reversing alarms and cameras to assist truck drivers in performing reverse manoeuvre into the loading dock and avoiding any conflict with other vehicles and pedestrians. Given the deliveries would occur out of visiting hours, there are negligible chances of any such conflict to occur, however as a minimum safety requirement delivery trucks should be fitted with the above recommended safety features.

It is envisaged that all deliveries are carefully managed by the Hospital's logistics team and should cover with the drivers all the necessary requirement details including truck and driver, time of arrival, time spent within the dock, frequency of deliveries and the unloading/loading systems. A delivery log should always remain on the site that accounts for each delivery and complaint management as detailed in section **Error! Reference source not found.** of this plan.

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In circumstances where deliveries are scheduled within hospital visiting hours, a certified traffic controller should remain on-site to control the truck movement. The traffic controller should be a trained hospital staff member or an individual familiar with this OTAMP and manage the traffic in accordance with Safe Work Australia requirements.

The traffic controller responsibilities include but are not limited to the following:

- prevent pedestrian access to the area surrounding loading dock until the truck movement has been completed,
- include the placement of temporary obstructions (including signage) within the right of carriageway to signal other vehicles that a truck movement is currently in process, and
- maintain communication with the driver at all times.

6.3 Incident Recording System

The Hospital should keep and maintain an on-site traffic incident record. The record is to contain a description of the incident, including contact details and what actions were taken by the Hospital in response to the incidents. Records of the incidents must be kept for at least four years after the incident occurred. A sample incident register sheet is attached in **Appendix A**.

The Hospital should maintain ongoing communications with NSW Ambulance and encourage recording of any incidents involving ambulance vehicles, such as access blockages or difficulties.

The Hospital should be able to provide the traffic incident register to the Council on request.

6.4 Complaints Management

The Hospital is to keep and maintain a record of all complaints made in relation to the delivery or collection of goods from the site in a complaint register. The record is to include details of the following:

- the date and time of the complaint;
- the method by which the complaint was made (e.g. phone or email);
- any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- the nature of the complaint;
- the action taken by the store in relation to the complaint, including any follow-up contact with the
- complainant; and
- if no action was taken by the store, the reasons why no action was taken.

Records of the complaint must be kept for at least four years after the complaint was made. The Hospital is to provide a copy of the complaints register to Council on request. The Hospital is to display a complaints phone number at the hospital entry.

6.5 Signage and Wayfinding

Patients and families visiting hospitals commonly need an easy-to-follow signage and comprehensible direction to their destination. Signs and wayfinding system be implemented throughout the Hospital which include:

- building colour assignments
- exterior signage visible from street-level at major entrances
- wall signage
- a wayfinding-specific website
- printed maps and directions

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- updating electronic patient communications with wayfinding details
- digital touchscreens that provide maps & turn-by-turn directions to almost all hospital destinations
- speed limits signs
- pedestrian footpath and crossing signs

External signage and wayfinding is also to be considered. Specifically, consultation should occur with Council and/or Transport for NSW where required if rat-run activities occur, to ensure that external wayfinding is provided for movements from Kingsway to Kareena Road.

6.6 Green Travel Plan

A Green Travel Plan is a way to manage the transport needs of staff and visitors to a development. The aim of this Plan is to reduce the environmental impact of travel to and from the site and aims to encourage walking, cycling, public transport, car sharing and car-pooling, while reducing dependence on private vehicles.

As part of this OTAMP and the safe management of transport on the site, implementation of the Green Travel Plan will reduce vehicle volumes and improve safety and ease of site management. As detailed in the Green Travel Plan, implementation strategies include the following:

6.6.1 Actions

In order to achieve these objectives, a number of initiatives and programs are proposed to be implemented as detailed in the following sections of this Workplace Travel Plan. Five base strategies are considered which aim to meet the objectives of the GTP:

Enable informed users

It is recommended that a brochure or leaflet be developed that provides information on bus routes and active transport facilities near the Hospital. Brochures can easily be given to staff, patients, and visitors, and can be developed in-house or by an external consultant. The brochure should also be uploaded to the Hospital website to provide information for visitors. NSW Health has a track record of developing Transport Access Guides for many hospital sites across NSW.

Regular Reviews of Travel Plan

This Green Travel Plan, Workplace Travel Plan, and other associated documentation (such as a Transport Access Guide) will be reviewed regularly and updated as required. It is recommended that an annual review would be an appropriate update schedule. This annual review should include an updated travel mode survey, consultation with staff and visitors, and adjustments to initiatives and targets.

Staff Responsibility

To ensure that the ongoing review of this Plan is carried out as expected, responsibility of this task should be allocated to a specific staff member.

6.7 Drop-off and Pick-up Monitoring

6.7.1 Purpose

Ongoing monitoring and review are crucial to the success of the hospital transport and access management plan. The assessment of whether the initiatives have been successful in terms of meeting the objectives and targets.

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6.7.2 Frequency

Data collection and monitoring should occur on an annual basis. OTAMP updates should be issued prior to the start of the year. Surveys should be undertaken quarterly to ensure that appropriate changes and revisions can be made prior to the next year (or later, for longer-term changes).

6.7.3 Data Collection

The drop-off and pick-up zones annual review will include an updated travel mode survey, consultation with staff and visitors, and adjustments to initiatives and targets. Data to be collected are as follows:

- Number of vehicles using the drop-off/pick-up zone
- Length of time each vehicle loads/unloads
- Observational assessments (e.g. queuing, illegal stopping, safety concerns etc.)
- Any other relevant information as required

6.7.4 Taking Action

Hospital Management

For recommendations requiring changes to hospital management or policies, items shall be raised with the staff executive group for action and will also be raised with the P&C committee for input or action as required.

Hospital Works

For recommendations requiring physical works on the Hospital site such as additional bike rails or signage, works will be distributed as appropriate. Minor works shall be undertaken in coordination with the Hospital grounds team. More significant works are to be raised with the staff executive group for action and may require budgetary approval.

Public Works

Where requirements or recommendations are identified for public works (such as footpath upgrades external to the site), consultation with local authorities shall take place.

6.8 Induction Procedures

Proper management of vehicles at any site starts with informed users. The following induction procedures are recommended to take place:

- A copy of the Operational Traffic and Access Management Plan is to be provided to all:
    - Executive staff
    - Department managers
    - Contractors and delivery companies
    - NSW Ambulance personnel as required
- New contractors and new delivery companies to be contacted by phone prior to first visit, for explanation of site access procedures and contact details.
- A site walk-through prior to vehicle arrival may be required for large or specialty vehicles.
- NSW Ambulance staff to be provided with site walk-throughs for new staff on request.

It is the Hospital's responsibility to ensure that users of the site, particularly regular users and heavy vehicle operators, are aware of any management strategies they are required to adhere to.

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6.9 External Authorities

If external authorities are required to be contacted (such as for enquiries, suggestions, or local traffic issues), the Hospital should liaise with Sutherland Shire Council.

Contact details for Council's nominated representative are:

- Name:
  - *To be advised by Council for inclusion in post-approval documentation.*
- Role:
  - *TBC*
- Phone:
  - *TBC*
- Email:
  - *TBC*

Council's traffic planning and engineering teams are familiar with the Operating Theatre Upgrade Project and the Hospital site more broadly and will be responsible for most local traffic changes. Issues along Kingsway may be the responsibility of Transport for NSW however Council may be a helpful first contact in this instance.

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Appendix A – Sample Incident Register Sheet

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INCIDENT REGISTER SHEET

Incident No.	
Reported by:	

1. Incident information:

Date and time:	
Location:	
Specific Area of Location (if applicable):	

2. Incident Type

Injury – First Aid	
Injury – Medical/Emergency Treatment	
Property Damage	
Equipment Failure	

3. Incident Description

Incident Description:	
Cause of Incident:	

4. Name / Contact of Parties Involved

1.	
2.	
3.	

5. Name / Contact of Witnesses

1.	
2.	
3.	

6. Action Taken

Provide hospital or police report details if applicable.

7. Follow-up Action

Supervisor Name:		Supervisor Signature:		Date:	

SAMPLE