

URaP – T T W



Consulting Engineers

INGHAM HEALTH RESEARCH INSTITUTE
Traffic and Parking Report

for



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1 INTRODUCTION

1.1 Background

This study provides a review of the traffic and parking needs for the new Ingham Research Institute as part of the Liverpool Hospital. A Concept Plan for the redevelopment of Liverpool Hospital was approved on 2nd February 2007. This proposal is consistent with the approved Concept Plan.

The Ingham Health Research Institute is the first research centre of its kind in the south west of Sydney, providing an essential and unique research facility for south west Sydney that will link clinical health services and universities to clinical practice. It is a partnership between the Ingham Health Research Institute (**IHRI**), Sydney South West Area Health Service (SSWAHS), the University of New South Wales (UNSW) and the University of Western Sydney (UWS).

The main concerns of this study relate to the provision of adequate and appropriate parking facilities and vehicle access to and from the proposed Hospital sites.

1.2 The Study Area

The site is situated on the North West corner of Forbes and Campbell Street in Liverpool. The site is part of the Liverpool Hospital campus which is located within Liverpool Local Government Area.

The site is currently occupied by a childcare centre called Rainbow Cottage and a cottage used for Drug and Alcohol services. Both of these structures will be demolished prior to the construction of the new IHRI building.

1.3 Scope of the Report

The report is divided into four sections including the introduction.

- Section 2 provides an analysis of the proposed sites.
- Section 3 covers the proposed development plan and its implications.
- Section 4 provides a summary and conclusions.



Figure 1.1 Development Site

2 SITE ANALYSIS

2.1 The Development Site

The site sits within the Liverpool Health Campus on the opposite side of Campbell Street from the main hospital complex. Development to the north of the IHRI site is predominantly a mixture of low and high rise residential in a 2(d) zone.

To the east of the site are Liverpool Girls High school and the hospital multistorey car park. Immediately to the south is the main Liverpool Hospital campus and the Health Services Building is located immediately adjacent to the west.

The general area to the south and east are medical related with general practices, Xray practices and other allied and paramedical services.

2.2 Major Approach Routes

The site has an immediate vehicle access from Campbell Street (via a driveway) while Forbes Street provides a major access to the site. The main approach routes to site include Hume Highway, Cumberland Highway and Elizabeth Drive.

The intersection of Campbell and Goulburn Streets is controlled with traffic signals with pedestrian crossing facilities.

Campbell and Forbes Streets are two way roads with one travelling lane and one parking lane in each direction. A total of some 55 parking spaces are provided along these streets.

A peak hour traffic volume along Campbell Street is recorded at some 400 vehicles per hour (vph) while Forbes Street at north of Campbell Street experiences some 260 vph during an afternoon peak hour (Traffic and Parking Report for Liverpool Hospital).

The inspection of the area and its route network has revealed that all access routes to the site and its associated intersections are operating at a good level of service with minimal level of vehicular delays.

2.3 Public Transport and Accessibility

The IHRI site is located at the mid point to Warwick Farm and Liverpool Train Stations. The site is in close proximity to the above stations within 15 and 20 minutes walking distances, respectively.

Liverpool and Warwick Farm Stations are serviced by CityRail along Cumberland, Inner West, Bankstown and Southern Lines with connections to

major destinations within the Sydney Metropolitan area such as Sydney CBD, Parramatta, Strathfield, Bankstown, Campbelltown and Blacktown.

Both Warwick Farm and Liverpool Train Stations have a high patronage with over 4,000, and 17,500 passengers daily, respectively. The frequency of services along these stations is relatively high with minimum of 30 stops daily. Kiss and Ride facilities are also provided at both Stations while a new additional carparking facility is about to be constructed adjacent to Warwick Farm Station. Bus interchange with capacity of 12 separate bus stands is also available at Liverpool Train Station.

Bus routes provide services to the site and the Hospital Campus. The site is accessible by bus routes such as 900 and 849 while the Transport Access Guide for Liverpool Hospital provides a detailed public transport guide for the users of the site and the Hospital Campus. The Guide clearly indicates all opportunities for public transport accessibility including pedestrian paths and cycle routes. Please see a copy of the Guide in Appendix A?.

3 PROPOSAL

3.1 Population

The planned development for the new Research Facility will supplement facilities that currently are available at Liverpool Hospital.

It is intended that the site will accommodate about 297 researchers with some 150 of these new staff. It is expected that most of staff will be on site during normal hours (say 9.00 am to 5.00pm) while a proportion of them will work outside the normal hours due to the nature of their works.

The Master Plan for the redevelopment of the Hospital has provided a detailed study on travel patterns of the Hospital population including its staff and visitors. The Traffic and Parking Report for the Hospital Redevelopment (2006/07) indicates that currently some 80% of staff use car as their mode of travel i.e. car driver while such use is much lower on other hospital (e.g. St George Hospital has a car driver mode of 50% among its staff).

Therefore, the Master Plan for the Hospital Redevelopment puts forward a number of strategies in order to encourage a higher use of public and active transport among its users particularly staff. These initiatives include:

- Provision of better information on availability of travel choices.
- Further collaboration with transport operators/agencies to improve services to the Hospital Campus.
- Provision of financial incentives to staff to use bike or public transport instead of driving a car.
- Implementation of car parking policies.

The Hospital Master Plan seeks to reduce the car dependency substantially among staff from 80% to similar levels at other Hospitals (say 50 to 65%).

3.2 Parking

From the information supplied for the proposed development and considering other similar type of facilities within the existing Hospitals, a parking demand of some additional 95 spaces has been assessed. This is based on

- About 150 new staff will join the Hospital Campus as the result of IHRI while the remainder of staff (some 147 out 297) will continue to use similar arrangement per existing situation.
- It is expected that some 90% of staff will be at site during a day on normal hours (as generally staff attend seminars or have holidays or work after or before hours).

- Use of 70% car driver as travel mode by considering a) the new “Work Travel” initiatives by the Hospital and b) taking into account that generally researchers are more public and active transport oriented (e.g. very high use of bike and public transport among researchers in St Vincent Bio-Technology Institute – URaP-TTW, 2006).

Therefore a car parking demand of some 95 spaces would results ($150 \times 90\% = 135$ persons $\times 70\% = 95$ car drivers).

As mentioned earlier all parking requirements have been assessed as part of the Master Plan for the Hospital Redevelopment and appropriate level of parking has been accommodated as part of the Hospital Master Plan. The multilevel car parking facility with capacity of some 800 spaces which is located to the south east corner of the development site will provide parking facility for the site. It is envisaged that the site will have minimal level of visitors while any visitors’ parking demand will be accommodated as part of the Hospital’s current arrangement.

It is envisaged that parking for bicycles will be provided as part of the proposal. These will be located along Campbell Street and the basement of the IHRI building.

3.3 Access

The site development should be designed on the basis of best practice and current guidelines, Australian Standards, catering for disabled access and people with disability.

The proposed access arrangements should meet the required vehicular and pedestrian access situation to the proposed IHRI site and the Hospital and serve the Hospital’s needs adequately.

Bus stops in the vicinity of the IHRI site provide public transport facilities to and from the site.

The vehicular access to the site for the car park? will be via a one-way access road off Goulburn and Forbes Streets at north of Campbell Street along northern boundary of the existing HSB and the proposed IHRI site. This access road will be controlled by a boom gate and will mainly be used for truck access for loading and unloading at the back of the proposed development. All movements to and from the site will be in forward direction from Forbes Street and exit onto Goulburn Street

A pick up and drop off area along Campbell Street (north side) provides kiss and ride facility for users of IHRI and its adjacent HSB site.

A pedestrian bridge connecting the IHRI to the existing Cancer Services site on the southern side of Campbell Street is also proposed in the future but does not form part of this application.

Access ramps will be provided at entry/exit point to/from the site.

3.4 Traffic Impact of the Development

An additional traffic generation of some 45 vehicles per hour (during peak periods) has been estimated for the proposed facility – considering that not all staff arrive or depart at the same time; say 60% of additional 95 car drivers less 15 vehicles associated with the existing uses of the site child care and Drug and Alcohol Unit.

Considering this level of vehicular traffic (i.e. about less than 1 car per minute), the road system will continue to operate at a good level of service.

The introduction of parking management measures as part of the sustainable transport strategy for the Hospital will provide an appropriate parking condition for the new facility.

The development proposals will ensure the accessibility of the site in terms of vehicular and pedestrian movements. As part of the proposal, appropriate walkways will be provided within the Hospital Campus. Vehicular access and pick-up and set-down facilities are included to provide amenity for the site's users.

Directional signs should be placed as part of the concept master plan to improve the accessibility for the site and the Hospital and to encourage a higher use of the Hospital's Entrance at designated location.

3.5 Director General's Requirements

The Director-General's Requirements for the proposed development has been addressed as part of this report. This section highlights such requirements and provides further information as relevant. The relevant Director-General's Requirements include:

5. **Transport and Accessibility**, including a *Transport & Accessibility Impact Assessment prepared in accordance with the RTA's Guide to Traffic Generating Developments and making reference to the Metropolitan Transport Plan – Connecting the City of Cities, NSW Planning Guidelines for Walking and Cycling and the Integrating Land Use and Transport policy package, considering the following issues:*
 - **sustainable transport:**
 - *demonstrate how users of the development will be able to make travel choices that support the achievement of relevant State Plan targets;*
 - *detail the existing pedestrian and cycle movements within the vicinity of the site and determine the adequacy of the proposal to meet the likely future demand for increased public transport and pedestrian and cycle access;*
 - *identify measures to mitigate potential impacts for pedestrians and cyclists during the construction stage of the project;*
 - *describe the measures to be implemented to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages in addition to addressing the potential for implementing a location specific sustainable travel plan; and*

- provide an assessment of the implications of the proposed development for non-car travel modes (including public transport, walking and cycling);
- traffic:
- an estimate of the trips generated by the proposed development and including daily and peak traffic movements likely to be generated by the project;
- the impact on the safety and capacity of the surrounding road network and nearby intersections; and
- the need and provision of upgrade, road improvement works, or funding (if required).

6. Car Parking, Access and Loading Dock arrangements, including minimal levels of on-site car parking for the proposed development having regard to the high public transport accessibility of the site, local planning controls and RTA guidelines (note: the Department supports reduced parking provision, if adequate public transport is available to access the site).

The Liverpool Hospital as part of its redevelopment program has initiated appropriate measures to improve active and public transport among the Hospital's users and also reducing car parking dependency. The Traffic and Parking Report (Transport and Planning Associates, 2006) identifies a number of measures to promote sustainable transport among the Hospital's users. These include:

- Promotion of car pooling among staff and visitors
- Improving access and links to the railway and bus stations
- Provides financial incentives to staff
- Preparation of Transport Plan for the Hospital Campus

The report also discusses *Metropolitan Transport Plan – Connecting the City of Cities, NSW Planning Guidelines for Walking and Cycling and the Council's relevant policies*. All traffic and parking requirements for the Hospital campus (including IHRI site) are also fully assessed and detailed as part of the Hospital's redevelopment master plan (Transport and Planning Associates, 2006).

Accordingly, all the above has been applied as part of the IHRI proposal considering its location within the Liverpool Hospital campus. These are supported by the following points:

- ☐ Pedestrian and bicycles networks are already established for the area including the development site.
- ☐ Pedestrian and bicycle links are provided to bus stops and train stations in the vicinity of the site.
- ☐ The Transport Access Guide for Liverpool Hospital (including IHRI site) provides a clear and user friendly plan for all the users of the Hospital including IHRI (please see Appendix A).

- ☐ A pick up and drop off area along Campbell Street (north side) provides kiss and ride facility for users of IHRI and its adjacent HSB site.
- ☐ A pedestrian bridge connecting the IHRI to the existing Cancer Services site on the southern side of Campbell Street is also proposed in the future but does not form part of this application.
- ☐ Access ramps are included as part of the IHRI proposal at entry/exit point to/from the site.
- ☐ A Traffic Management Plan (TMP) will be developed prior to the construction of the site and will address appropriate measures.
- ☐ Traffic generation for the site has been included as part of the master plan report while this report also details its minimal impact on the road network (Section 3.4).
- ☐ Liverpool Hospital is planning the development of a large new multideck carpark on the eastern side of the hospital campus programmed for completion in August 2011 to align with the large hospital development currently underway. This new multideck carpark was included in the Part 3A Concept Plan and the carparking needs for the complete site were considered at that time inclusive of the proposed IHRI facility. The proposed IHRI development is targeted for completion in August 2012 *by which time the new multideck will be operational.*
- ☐ Liverpool Hospital will be providing a number of local short term parking spaces for the small number of IHRI visitors in an existing parking area immediately adjacent the IHRI development (to the rear of the Health Services Building) and the necessary parking for research staff will be arranged to be accommodated within the existing multideck carpark accessed from Campbell Street immediately opposite the new development site. *Once the large new multideck carpark is operational, the management of staff parking will be reorganized across the entire campus.*
- ☐ The provision of additional car parking (structure car parking) adjacent to Warwick Farm Train Station is also underway as part of the government initiatives.
- ☐ It is ensured that all vehicle movements associated with site including deliveries and services vehicles will take place in safe and efficient manner.

4 CONCLUSION

The parking demand for the proposed IHRI development will be provided as part of the Hospital's Redevelopment Master Plan.

It has been estimated that an additional 45 vehicles during a peak hour could be generated by the proposed facility. This level of vehicular traffic would have a minimal impact on the road system.

The access routes to the site will be via Forbes and Campbell Streets while Hume Highway, Cumberland Highway and Elizabeth Drive will continue to provide a direct approach routes to the site. These roads have a satisfactory level of service and will continue to have a similar level of service once the development is completed.

The level of additional vehicular traffic will be low and the road network will continue to have good operational characteristics.

The access layout should be in accordance with the RTA's Guidelines, the Australian Standard and Council's Code.

The proposed plan are aimed to improve the safety and efficiency for vehicular traffic, pedestrian and bicycle movements within the Study Area.

Appendix A