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Liverpool Hospital Redevelopment



Preliminary Environmental Assessment



prepared by

LFA (Pacific) Pty Ltd

for

NSW Health

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Fig. 01 - Site Aerial

1.0 Introduction



This assessment has been prepared to identify key potential issues associated with the preparation of a Concept Plan for the redevelopment of the Liverpool Hospital site.

In accordance with Part 3A of the EP&A Act and associated guidelines, this preliminary Environmental Assessment has been prepared to provide an overview of the Liverpool Hospital project and to inform consultation with relevant agencies in a Planning Focus Meeting (PFM) (if required).

In summary, the project involves the development of substantial new 'state of the art' hospital facilities to meet the clinical needs of the Sydney South West Area Health Service [SSWAHS] to meet the requirements generated by a rapidly growing population located in the south west region of Metropolitan Sydney. The proposal involves consolidation and refurbishment of some existing buildings to meet changing clinical needs and the development of an extended hospital building and new research and education facilities. The proposed development may lead to the release of surplus lands. The proposed development will facilitate opportunities for the commercial development of a range of complementary new office, retail and residential development by the private sector.

Fig. 02 - Regional Location Plan

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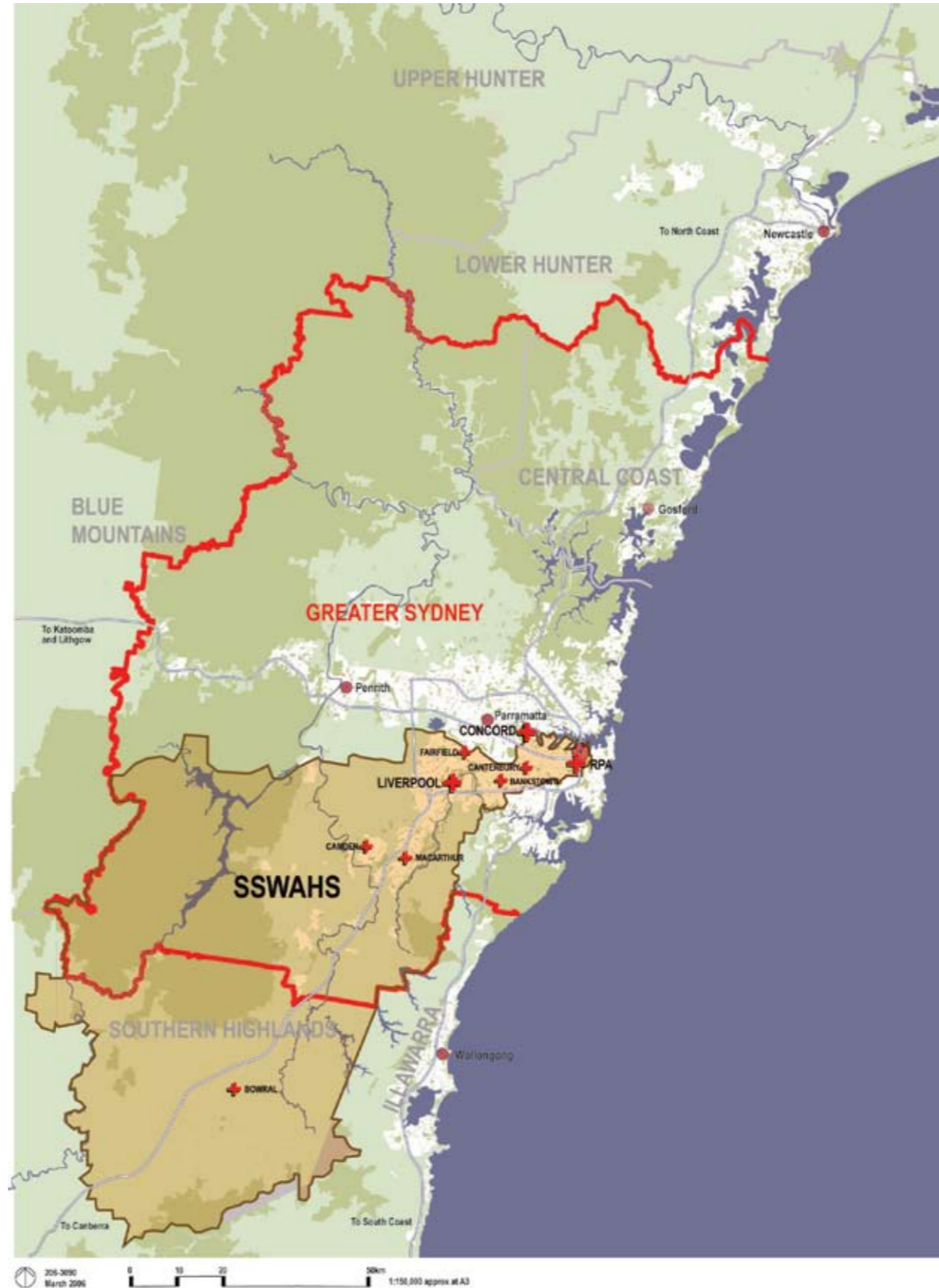
2.0 Aims and Objectives



The development objectives of the Liverpool Hospital Project are to:

- Provide new 'state of the art' hospital facilities with high quality care standards.
- Facilitate the delivery of improved health, education, research and community facilities on site.
- Provide improved access to and between different health and community services on site.
- Provide flexible building design to allow for future modification and expansion to meet anticipated growth in demand for services and changes in clinical practice.
- Encourage supplementary and support private hospital health facilities on lands core to the Liverpool Hospital public hospital.
- Ensure development provides harmony and balance with the surrounding areas.
- Facilitate the broader redevelopment of Liverpool and surrounding environs.
- Facilitate a wide range of uses in the broader site context, given the site's proximity to the Liverpool Railway Station, including educational, commercial, retail and residential uses, whilst maintaining, as a dominant element, the hospital and complementary health activities.
- Provide a high quality urban environment through careful design of buildings and a well designed public domain.
- Improve and enhance the public domain, including a variety of public areas and pedestrian and vehicular connections through the site.
- Retain any significant heritage items, within a campus-wide strategy for adaptive reuse.
- Enhance access to public transport, including walking, cycling, rail and bus networks.
- Provide adequate car parking on site.
- Manage traffic through the site so that pedestrians can move freely and safely within the appropriate amenity.
- Encourage public transport use by enhancing convenient access to rail and bus networks.
- Maintain a leafy, green environment.
- Identify opportunities for the private commercial development of any surplus lands to fund procurement and/or accommodate new health and related facilities.

3.0 Study Team



This preliminary environmental assessment has been prepared on behalf of NSW Health, the proponent of the project. The consultant team for the project currently includes:

- Capital Insight Pty Ltd – Project Director/Management
- Sophie Nelson and Associates – Health Facilities Planner
- Rice Daubney – Hospital Planning
- LFA (Pacific) – Urban Planning
- Transport and Traffic Planning Associates – Traffic Engineers
- Sinclair Knight Merz – Building Services/ESD Engineers
- Otto Cserhalmi and Partners – Heritage Architect
- NSW Department of Commerce - Data Collection/ Survey
- Davis Langdon Australia – Quantity Surveyors
- Intalink – Market Analysis

Fig. 03 - South West Sydney Area Health Service

4.0 The Environment

4.1 Regional Context

The site is located close to the central business district of Liverpool, adjacent to the Georges River. The site is accessed from the Sydney CBD by the M5 a drive of approximately 30 minutes.

Liverpool has been identified as one of the river cities in the Metropolitan Strategy for Sydney, offering a full range of business, government, retail, cultural, entertainment and recreational activities. The Metropolitan Strategy will ensure that Liverpool provides a focus for innovative business environments, jobs, as well as lifestyle and work opportunities close to the developing parts of Sydney. The strategy also provides for the delivery of new shopping, health, education, business and cultural facilities.

The southwest growth centre identified in the Metropolitan Strategy will also provide an impetus for enhanced transportation services in terms of rail and bus networks. The recent completion of the M7, together with the existing M5, provides for ready access to the wider Metropolitan area as well as enhanced access to the range of opportunities that will progressively become available within the Liverpool City Centre.



Fig. 04 - Locality Plan

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4.2 Local Context

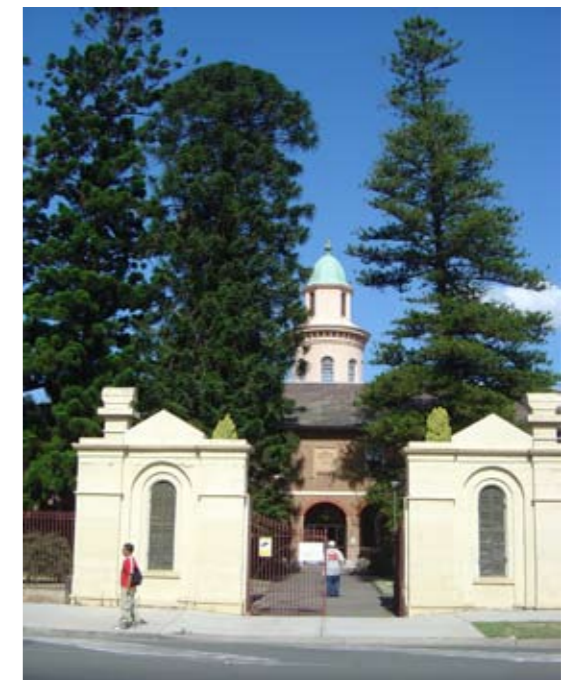
The site is within the Liverpool Central Business District and within walking distance of both Liverpool Railway Station and Warwick Farm Railway Station and is close to a transport interchange located adjacent to Liverpool Railway Station. The transport interchange provides for the "T" bus system which links Parramatta and Liverpool. Liverpool Hospital is surrounded by a wide variety of land uses within the CBD including high density housing and a range of medical clinics and professional suites to the west, and Western Sydney TAFE and Bigge Park to the south. Liverpool Girls High School and Boys High School together with school playing fields are located to the north. In summary the site is within ready walking distances of transportation networks, major shopping complexes, offices, educational facilities, open space and residential areas.

Topographically the 15.5 ha site is located on a broad inclined plain with the adjacent deeply incised Georges River. The site is bisected by the existing rail network into the east and west campuses. Access between the campuses is restricted by a level crossing.

The site is accessible from both the Hume Highway and the M5, although it is noted that there is a measure of traffic congestion within the Liverpool CBD.



Fig. 05 - Precinct Analysis



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4.3 Existing Development



Fig. 06 - Detailed Area

Liverpool Hospital is the major tertiary referral hospital in the south west of SSWAHS, providing leadership in clinical care, teaching and research, and is a teaching hospital for the University of NSW. The hospital contains a major emergency department and plays a significant role in the provision of specialist services for the Sydney Metropolitan area, particularly in the surgical and medical services, mental health, paediatrics, maternity and community services.

The principal site covers an area of approximately 15.5 ha and is generally known as the Liverpool Hospital Campus. The land which will be the focus of major development is owned by Sydney South West Area Health Service and legally described as lots 1, 2, 3 in DP827031 and lot Part 2 in DP596770.

The Liverpool Hospital site currently houses a wide range of building types, styles and sizes, varying from temporary buildings to the multistorey Clinical Services Building.

Vehicular access to the site can be gained via Elizabeth, Goulburn, Campbell and Scrivenor Streets. Access generally is via the Liverpool CBD which is subject to a measure of vehicle congestion. Elizabeth Street has been privatized within the immediate vicinity of the hospital and links the east and west campus via a level crossing of the railway line. The site can be accessed from the west via a number of different locations including Elizabeth Street, Bigge Street and Campbell Street. Access to east campus can be gained via Scrivenor Street. Internal road networks provide vehicular access to various precincts and buildings within the hospital complex.



4.4 EP&A Act and Relevant Environmental Planning Instruments

EP&A Act

Part 3A the Act came into force on 1 August 2005. It established new assessment procedures for various forms of 'major development' of state or regional significance. Such significance can be established in a number of ways, including being a form of development listed at Schedules 1 & 3 of State Environmental Planning Policy (Major Projects). Group 7 of Schedule 1 lists Health and Public Service Facilities – Hospitals. This project clearly conforms to the Group 7 class of development.

NSW Health has requested that DOP confirm in writing that the development constitutes a 'major project' for which the Minister for Planning is the Consent Authority, and to which Part 3A of the Act applies.

Essentially, the concept approval process provides for the Minister to undertake a co-ordinated whole of government assessment of the merits of the concept of a project of significance to the state, and to establish procedures for the subsequent approval of detailed aspects of the project. NSW Health is seeking the Director General Environmental Assessment Requirements for the project. A concept plan will be prepared in accordance with the matters outlined in these requirements.

State Environmental Planning Policies

- State Environmental Planning Policy (Major Project) 2005 came into affect on 25 May 2005 and was subsequently amended on 31 October 2005. This SEPP defines what development is state significant development and is determined by the Minister of Planning. NSW Health has requested that DOP confirm in writing that the development will be declared as a 'Major Project' pursuant to Clause 6 of State Environmental Planning Policy (Major Projects). NSW Health has also requested that the Minister rezone the subject land and have it listed as a 'State Significant Site' pursuant to clause 8 of the SEPP to facilitate the disposal of surplus land for residential, commercial and retail development.
- State Environmental Planning Policy 55 – Remediation of Land
SEPP 55 states that land must not be rezoned or developed unless contamination has been considered and, where relevant, land has been appropriately remediated.

- State Environmental Planning Policy 11 – Traffic Generating Developments
SEPP 11 aims to ensure that the Roads and Traffic Authority is made aware of and is given an opportunity to make representations in respect of certain types of development referred to in Schedule 1 or 2 of the SEPP.

The following are included in the Schedules to SEPP 11:

- Schedule 1: (l) heliports, airports or aerodromes
- Schedule 2: (o) the erection of a building for the purposes of a hospital with accommodation for 100 or more beds or the enlargement or extension of a building for the purposes of a hospital where that enlargement or extension provides accommodation for 100 or more beds.
- State Environmental Planning Policy 8 – Surplus Public Land
SEPP 8 aims to promote and co-ordinate the orderly and economic use of land in public ownership which is no longer required for the public purpose and is otherwise surplus to public needs.
- Draft SEPP 66 – Integration of Land Use and Transport
The Draft SEPP states that the consent authority must consider whether the future development of the site helps integrate land use and transport, and minimises the need to travel by private car.

Liverpool Local Environmental Plan 1997

The site is located within a 5(a) special uses zone under the provisions of the Liverpool LEP 1997. The 5(a) zone provides for a range of permissible uses including hospital, carpark, child care centre, educational establishments, consulting rooms, heliports, hotels, motels, recreational facilities, serviced apartments as well as forestry and land fill, all subject to consent.

Apart from serviced apartments, residential, commercial and retail development is prohibited within the current zone. Notwithstanding, under SEPP (Major Projects) 2005, provided that the project is not "wholly" prohibited

in the current zone, the project can be approved by the Minister. It is also noted that the objectives of the 5(a) zone include the intent to permit "a range of uses which are compatible with the locality".

Liverpool City Centre – DCP 30

The DCP 30 is under review and advice has been received indicating that study outcomes will be subject to public exhibition process in April 2006.

DCP 30 indicates that the development of the hospital site would require

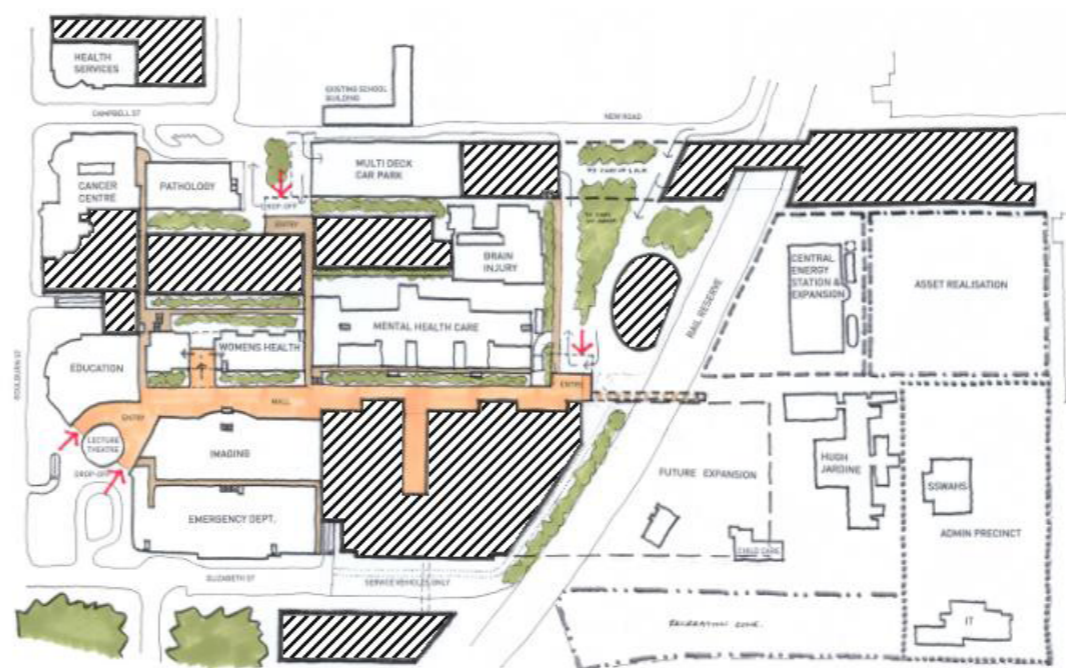
- A Masterplan that would need to be exhibited and adopted by Council
- A building height limit of 29m.

Other Relevant Legislation

NSW Legislation:

- Roads Act 1993 (S. 138) – consent to:
 - erect a structure or carry out a work in, on or over a public road, or (b) dig up or disturb the surface of a public road, or
 - remove or interfere with a structure, work or tree on a public road, or
 - pump water into a public road from any land adjoining the road, or
 - connect a road (whether public or private) to a classified road).
- Local Government Act 1993 (Section 68 approvals - drainage works, carry out work/connect to Council water supply, carry out work/connect to Council's sewer).

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OPTION B1 GROUND FLOOR PLAN



OPTION B2 GROUND FLOOR PLAN

The project will provide new 'state of the art' hospital facilities on the Liverpool Hospital campus to meet changing clinical needs. Any surplus land released by the consolidation of health facilities will provide opportunities for the development of complementary health facilities as well as commercial and residential development by the private sector to support and fund the procurement of the new health facilities.

The project will comprise:

- Hospital expansion, consolidation and rationalisation
- New development as well as expansion, consolidation and refurbishment of existing buildings to meet changing clinical needs, expanded research and educational facilities.
- Provision of accommodation for nursing and medical staff as well as students.
- Accommodation for hospital patient's relatives.
- New pedestrian links.
- New car parking facilities.
- New internal roads.
- Landscaping.
- New access road from the north.
- Introduction of a major east-west mall with links to all hospital facilities.
- Grade separated pedestrian access across north-south railway to the eastern campus.
- Existing entry points enhanced.
- New hospital entry points.

A series of hospital development options are currently under detailed evaluation and will be subject to a Value Management Study process.

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5.1 Aspects for which Concept Approval will be sought

Aspects for which concept approval will be sought includes:

- Land use distribution.
- Pattern of buildings.
- Building heights.
- Road hierarchy/layout.
- Open space networks.
- Access networks.
- Car parking facilities and numbers.
- Heritage Strategy.
- Construction Staging.

Pursuant to the Concept Plan provision of Part 3A of the EP&A Act, the detailed design of buildings and works will be separately approved.

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5.2 Zoning Rationale

The site is currently zoned 5(a) Special Uses under the Liverpool LEP 1997. Provided that the project is not “wholly” prohibited within the current zone, the project can be approved. The outcomes of the Concept Plan under Part 3A of the EP&A Act will allow hospital, parking, residential and commercial development on the site. The disposal of any surplus public land may require rezoning.

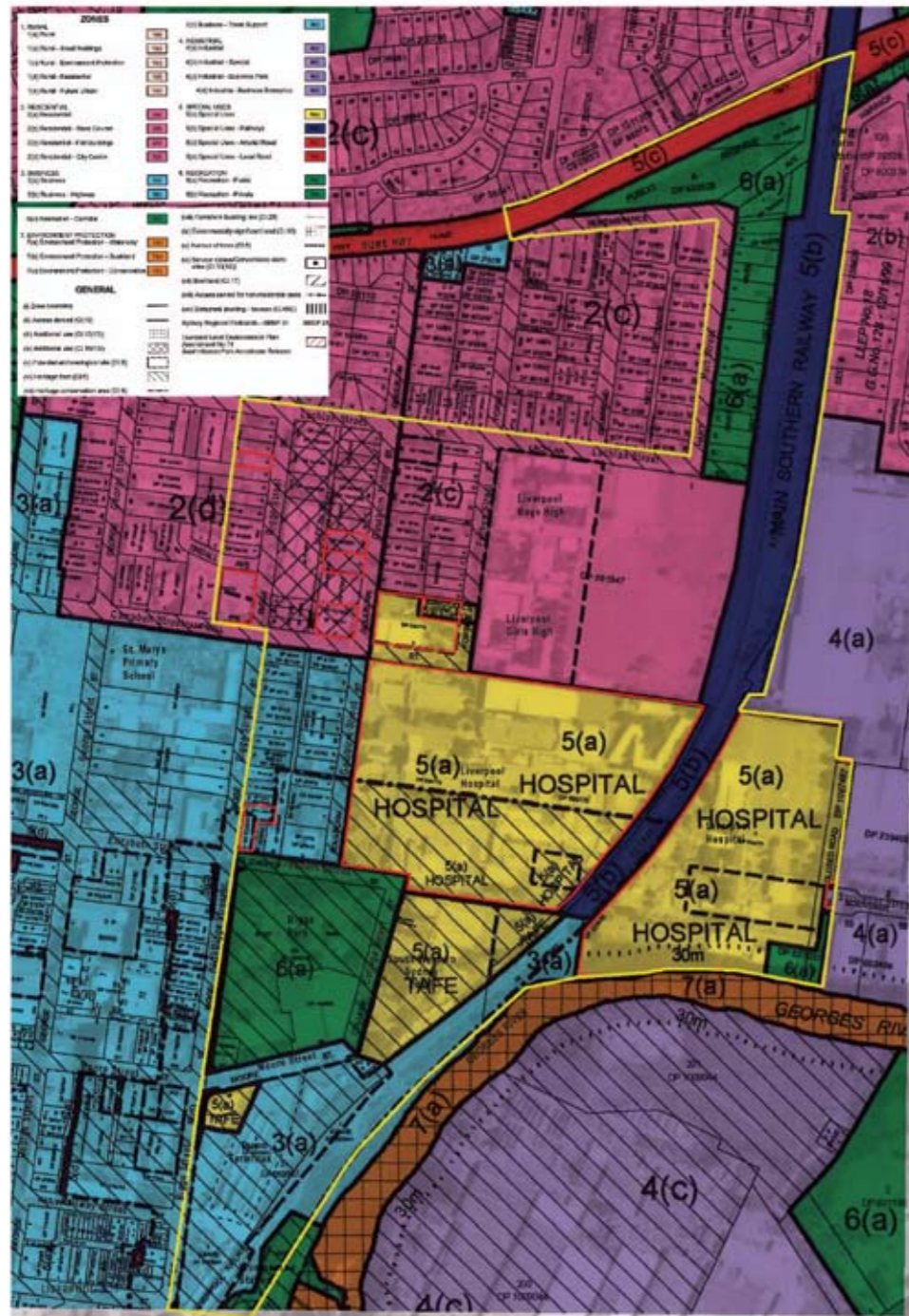


Fig. 07 - Zoning

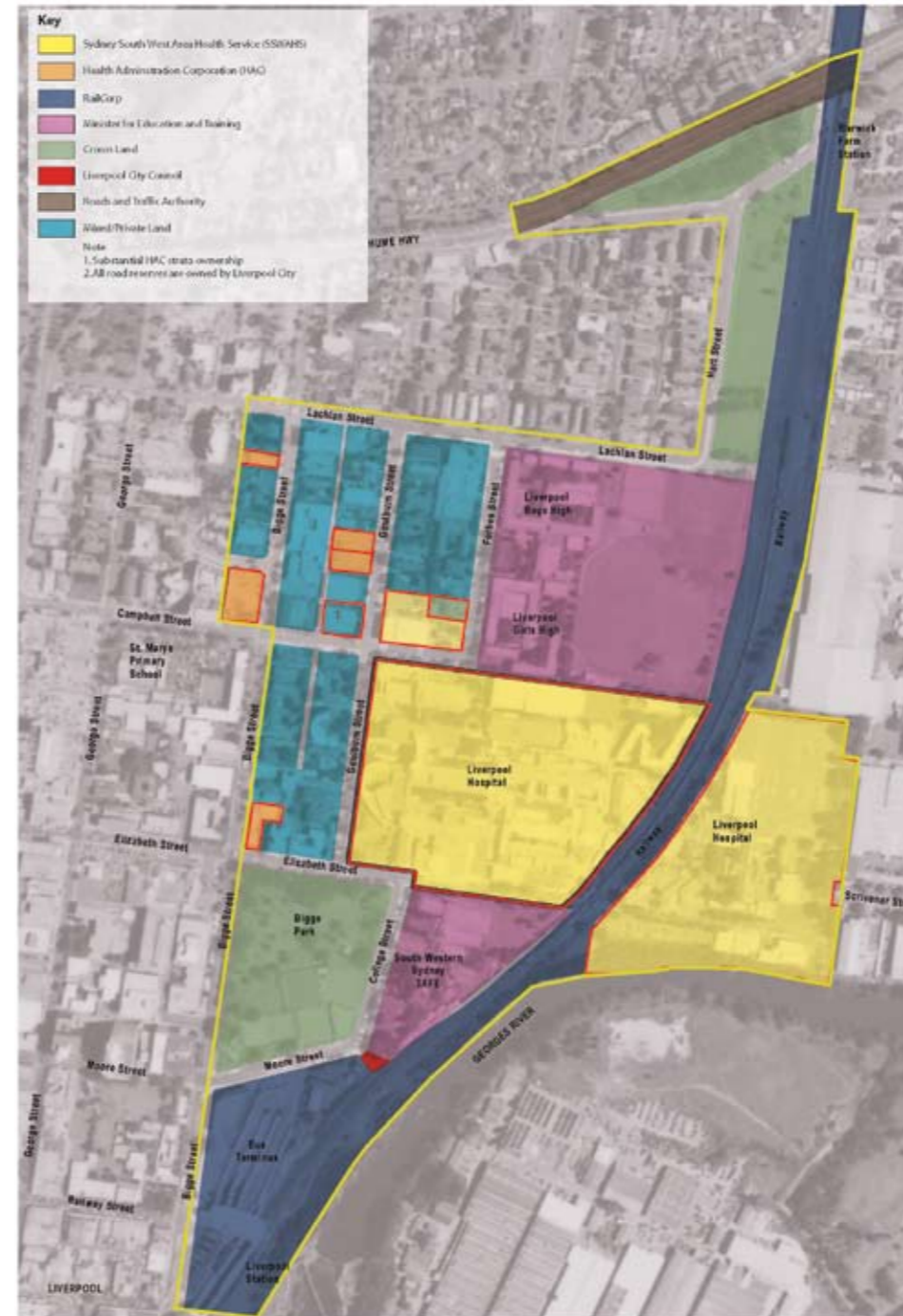


Fig. 08 - Ownership

6.1 Hospital Operations

Contemporary service delivery modes are changing the way in which health services are delivered and arranged. The ageing population will require services that are patient-centred and organised in a way that make services easy to access. Whilst inpatient beds will be an important part of the redeveloped facilities, most people will not receive treatment in a traditional in-patient unit, but will be cared for on a day-stay, ambulatory or outreach basis.

The Liverpool Hospital redevelopment project, provides opportunity to enhance health services on site by:

- Locating acute clinical services in one building complex, with close links to rehabilitation services to improve accessibility, and enhance continuity between acute and rehabilitation services.
- Improving links between community and other health services on site.
- Providing consolidated research facilities and multidisciplinary educational facilities on site.
- Providing flexible building design to allow for future modification and expansion to meet changes in clinical practice.

6.2 Metro Strategy

The Metro Strategy was released on 4 December 2005 and represents the State Government's latest strategic policy for the future development of greater metropolitan Sydney. The Metro Strategy for Sydney has identified Liverpool as a River City and has projected employment targets of 207,000 for the South West for by 2031. This represents an increase of 80,000 [63%] on the current working population of 127,000 for the South West. Liverpool is located within the identified "Sydney/Canberra Corridor" and is adjacent to major road corridors and transport interchange nodes. Liverpool is centrally located within the employment corridors identified in the Metro Strategy.

Opportunity exists on the Liverpool Hospital site to build on the site's strategic health, education and transport assets as a catalyst for employment and residential growth in line with the State Government's strategic plans for Liverpool. Given the size of the campus, there is opportunity to provide increased employment opportunities as part of the employment growth in Liverpool on the site. A large part of this employment potential will be in direct and indirect health-related services.

Similarly the site broader context offers amenity for residential uses by virtue of proximity to public transport, employment, services, shops, open space and entertainment can help meet demand for hospital-related accommodation demand (such as nurses and medical officer accommodation).



Fig.09 - Metropolitan Context



Fig.11 - Clusters

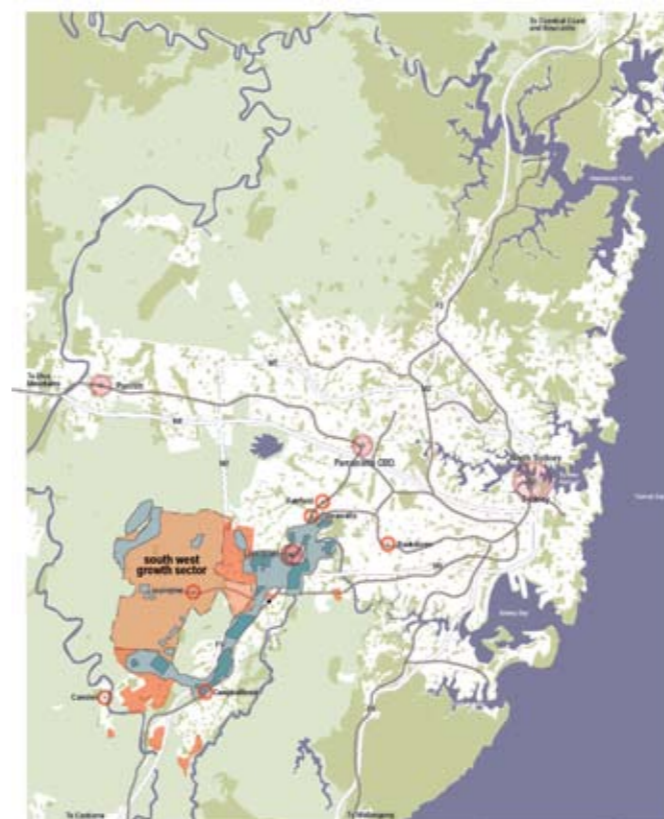


Fig.13 - Employment and housing



Fig.10 - Transport



Fig.12 - Population Chart

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6.3 State Significance of the Site

The Liverpool Hospital redevelopment can deliver valuable social and economic outcomes for the Region. The site will help achieve state and regional planning objectives, including those identified in the recently released Sydney Metropolitan Strategy. Significant opportunity exists on the site and, in the immediate site context, to provide employment and residential growth in line with State Government's plans for Liverpool as a 'River City'. The development will facilitate and reinforce the focus on Liverpool City Centre with the range of shopping, health, education, business and cultural facilities.

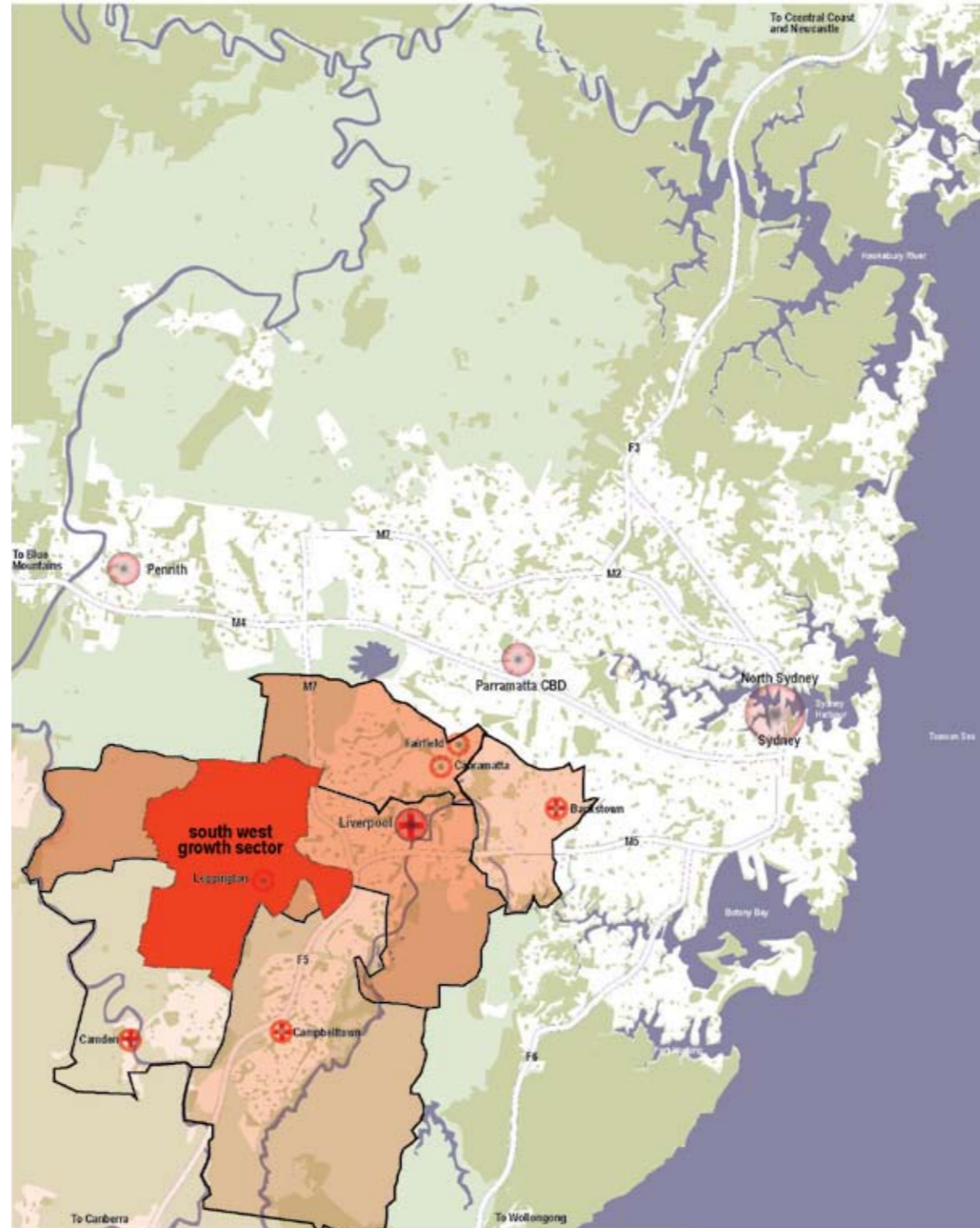


Fig. 14 - LGA

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6.4 Transport

The site benefits from convenient access to both rail and bus facilities which provide frequent and high capacity services. The convenience of the available public transport services will enable the hospital redevelopment to occur with an encouraged 'mode share' and a contained reliance on private car transport.

The Transport and Traffic issues for consideration will be:

- opportunities to upgrade the access and convenience of the public transport facilities
- opportunities to maximise bus servicing directly to the site and or potential 'shuttle' to/from the railway stations
- opportunities to facilitate and encourage walking and cycling to/from the site
- provision for emergency and service vehicle access
- opportunities to minimise traffic impact on sensitive road frontages (schools and high density residential) and the busy CBD streets
- operation and performance of the railway level crossing
- pedestrian connections to and through the site.

Rail

The introduction of the Southern Sydney Freight Line and the Liverpool Turnback project will result in four tracks over Liverpool Hospital level crossing.

The level crossing is within Liverpool Hospital and services the hospital, including staff and patient movements, and is a critical access path for the functionality of the hospital.

The crossing will be closed to road traffic for periods of 30 to 50 minutes per hour in peak periods and up to 5 minutes for the passage of a single freight train based on current levels of train operation.

The anticipated 2011 timetable will increase the period of crossing operation. This level of operation will result in the crossing operating being excessive and it will not be able to fulfil its purpose of road access for major time periods during the day.

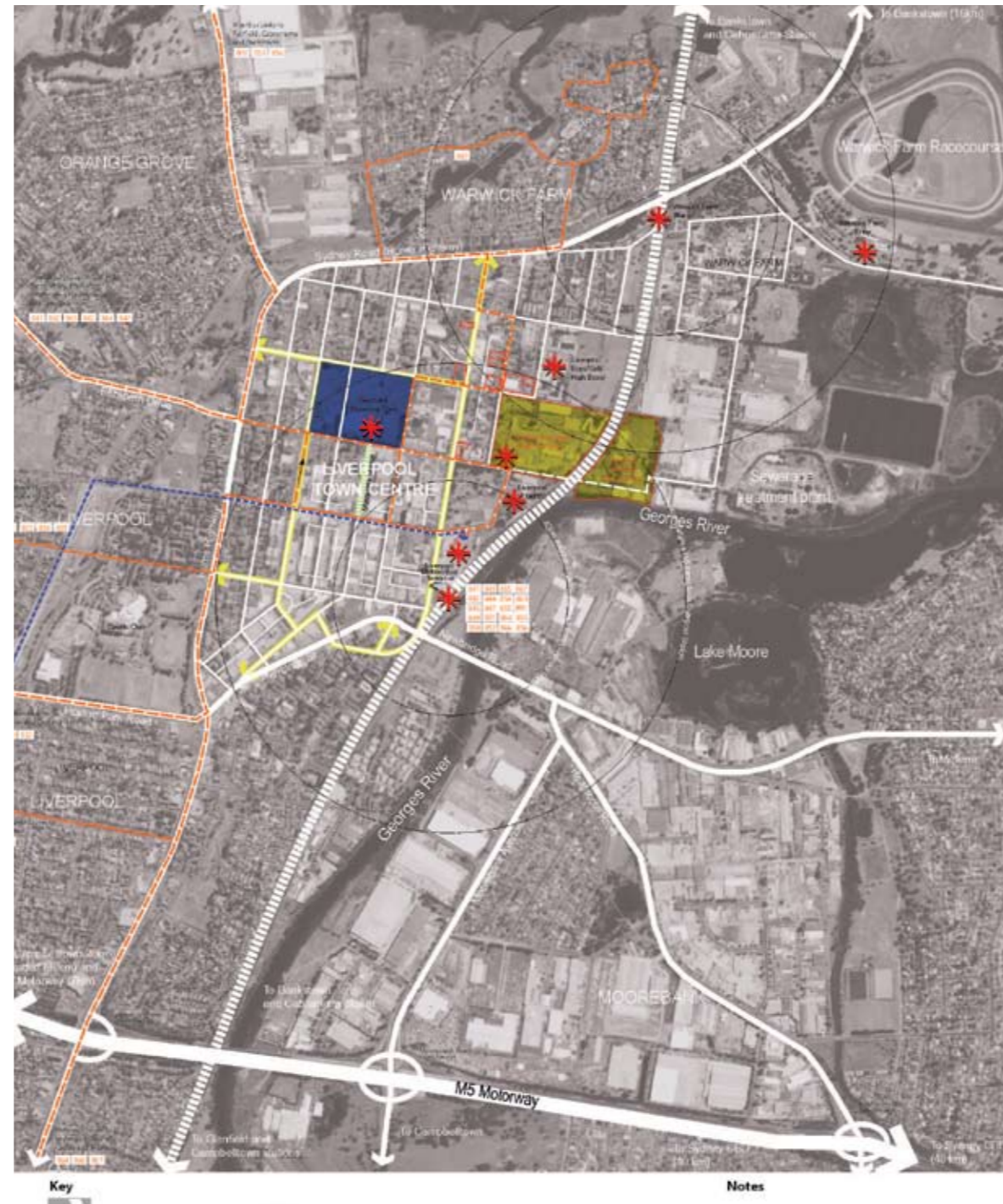


Fig. 15 - Locality Plan - Movement

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6.5 Vehicle Access and Car Parking

The site has reasonable access to the arterial road system and has significant elements of on-site carparking. The vehicle access and carparking issues for consideration will be:

- opportunities to develop a new separate vehicle access with direct connection to the Hume Highway (mitigating the impact on the sensitive street frontages)
- opportunities to increase the proportion of on-site parking spaces for use by visitors and day patients decreasing the on-street demand
- provision of increase staff parking in the eastern sector
- potential measures to increase the efficient utilisation of staff carparking (eg encouraging car pooling)
- opportunities to minimise the conflict between vehicle access and pedestrian movements.



Fig. 16 - Carparking and Access

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6.6 Heritage



Liverpool Hospital relocated to the present site in around 1960 from the original hospital, now the Liverpool Tafe College. The present main hospital building was completed in the mid 1990's and for this development the inter war period building Recreation Hall of Liverpool hospital was removed. Prior to this the 19th century Moore College Building, which occupied a site to the west of the hall, was demolished it is understood in the late 1920's.



The Liverpool Hospital is located in the context of the Bigge Park Conservation Area and the There are no structures / elements on the hospital site which are formally listed as having state heritage significance however certain heritage items were identified in the Liverpool Heritage Study of 1992. These were the Recreation Hall, the Bigge Park Conservation Area, some landscape items and a possible archeological site. In terms of the surrounding context the TAFE college grounds and buildings, the Bigge park and some buildings at Liverpool Station have heritage significance. The requirement under the Liverpool LEP for a Conservation Management Plan for proposed development on the TAFE site is noted.



A heritage and archeological assessment of the Hospital site including east and west campuses will be completed and at this point it is not expected that there will be any significant findings.



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6.7 Public/Private Domain



The definition of the Liverpool Campus by existing roads, adjacent large land parcels and the impact of the existing rail corridor, results in general public access to the site being limited.

Public access will be maintained to the main hospital facilities and pedestrian amenity enhanced with the complex.

The rationalisation of surplus public land will also create opportunities to provide new public spaces, enhance and protect the public domain including pedestrian connections from the site to both Liverpool Railway Station, Warwick Farm Station and the commercial core of Liverpool.



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6.8 Surrounding Land Use Context and Potential Conflicts

The 2005 Metropolitan Strategy identifies Liverpool as a regional city with a focus on retail, employment and cultural activity. The strategy also identifies the cluster of educational and health related facilities on the CBD flank as a potential 'knowledge precinct' and the potential to engage Liverpool city with the Georges River to create a 'River City'.

Key issues will be –

- to ensure that the existing facilities and knowledge based industries can be catered for within the precinct
- appropriate and logical allowances for expansion of facilities are considered
- opportunities to attract complementary services and mixed use facilities on land immediately adjacent to the hospital, e.g. Meds Hotels
- Consideration be given to innovative means of land utilisation e.g. air rights above bus station and railway corridor
- Potential relocation of incompatible uses to maximise the urban amenity and civic quality of key local assets, e.g. Bowling Club
- Create land use opportunities to engage the river frontage with the precinct, given that the river is at its closest to the CBD adjacent to the hospital precinct.

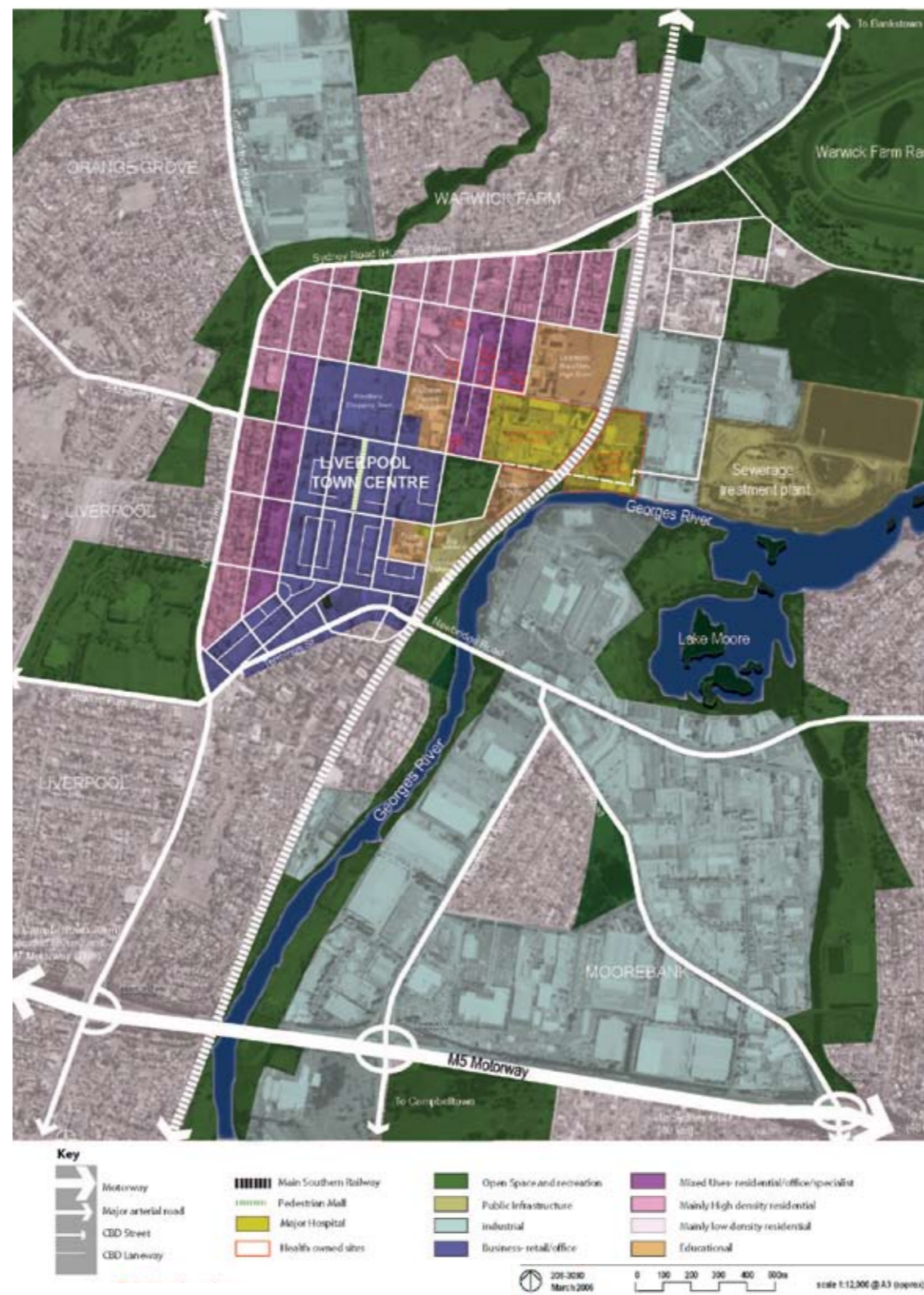


Fig. 17 - Land use

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6.9 Built Form and Urban Design

The key issues to be considered in determination of the built form include:

- Heights – relationship to topography and diverse range of surrounding heights.
- FSA – with particular regard to infrastructure capacity.
- Street edge – with regard to existing and desired townscape character of Liverpool
- Shadows – with particular regard to public domain space.
- Views – consideration of existing and potential view lines, sky lines and legibility of the Liverpool Town Centre.
- Activation – in particular the pedestrian and street system, in order to create a vibrant precinct and a vital, safe circulation system for campus users at all times of the day
- Sense of place – desire to create a memorable, contemporary, distinctive public domain that celebrates the inherent qualities of the site heritage, topography, landscape and social history.
- Connectivity - for pedestrians, public and private transport in moving through the campus and linking with adjacent educational, recreational, employment and residential land uses.
- Address – the need for a clear sense of address and identity to the various functional zones on site
- Planning controls – with particular regard to recent specific planning controls such as SEPP 65.

The landscape on the hospital campus has developed over time with a number of layers of planting evident from the late nineteenth century and throughout the twentieth century.

Detailed heritage investigations have commenced to ensure that landscape heritage values on the site are identified and the most significant elements protected and appropriately managed. A specialist Arborist Consultant will also be engaged to assess condition and anticipated impact of development on existing vegetation.

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6.10 Acoustics

The Hospital is subject to noise and vibration from a range of sources including traffic, both external to and within the hospital campus, helicopter movements and trains running on the Liverpool rail corridor which divides the Hospital into an east and west campus. A significant increase in the number of trains using the railway is planned. A new dedicated freight line to be operational by 2008 and a third commuter line is also planned.

An acoustic and vibration assessment will be undertaken to measure the effects of noise and vibration and how these effects can be mitigated so that the operation of the hospital is not impaired or adversely affected.

6.11 Social and Economic Impact

Property Market Overview

An analysis of the property market in Liverpool CBD has been undertaken and the key findings are as follows:

- Liverpool CBD experiencing high vacancy rates in all sectors
- Office/Commercial - low supply of quality A grade space; strata office space is experiencing mixed fortunes
- Industrial - Large amount of new space is in pipeline due to good access to M5/M7 corridor. Area to east of hospital has lower value due to protracted access.
- Retail- Very high vacancy rate particularly in south of CBD. Low rents.
- Hotel - Market has increased recently. A variety of 2-3 star facilities however general lack of quality accommodation in CBD due to low demand.
- Residential- stagnant market, heavy over supply of apartments and will take some years to recover.

Demographic and Socioeconomic Characteristics of the Liverpool LGA

The following information provides a snapshot of the Liverpool residents. Unless otherwise stated, this information is taken from the Australian Bureau of Statistics (ABS) 2001 Census:

- Liverpool LFA has 159,070 residents, an increase of 28% from 1996;
- Liverpool has a high proportion of young people, with a quarter of residents aged under 15 and almost 15% aged 15 – 24. Comparatively, almost 6% over 65;
- The Liverpool population is ageing. According to population projections provided by the Department of Infrastructure, Planning and Natural Resources (DIPNR) in December 2004, the proportion of people in these age groups will change by 2016 to be 20% (0 – 14), 15% (15 – 24) and 10% over 65;
- The number of people aged over 65 will increase from 950 in 2001 to 2,600 in 2016 (an increase of 173%);
- 56% of Liverpool's population report they were born in Australia. An analysis of trends since the 1991 census shows a reduction in the number of residents born in Australia from 66% in 1991;

- The five most common countries of origin are Fiji (4,509 people), Vietnam (4,195 people), UK (3,871 people), Italy (3,299 people), Lebanon (3,305 people);
- Other than English, Arabic, Italian, Vietnamese, Spanish and Hindi are the most common languages spoken at home by Liverpool residents;
- 9% of the Liverpool population do not speak English at all, or do not speak it well (over 13,000 people);
- Liverpool, along with South West Sydney generally, has a high intake of refugees, with almost 1,500 refugees settling in the LFA in the 5 years 1998 – 2003;
- People from Aboriginal and Torres Strait Islander background represent 1.3% of residents living in the Liverpool LGA, this equates to just over 2,000 people.
- Almost 60% of families in Liverpool are couples with children, and a further 17% are single parent families. This equates to over 31,000 children under the age of 15 living in a 2 parent family and over 6,000 children under the age of 15 living in a sole-parent family;
- Approximately 7,000 people live alone;
- Over 5,000 people in the Liverpool LGA have TAFE qualifications and a further 3,500 have University qualifications equating to approximately 7% of the 15+ population. This is markedly lower than that for Sydney as a whole with 12%;
- Almost half of Liverpool residents aged 15+ have not completed Year 12 or equivalent;
- The unemployment rate is 8%, higher than the national average at the time of 6%, with youth unemployment a particular issue;
- Almost three quarters of dwellings within the LGA are detached houses and the proportion of people who own or are buying their home is increasing;
- The median weekly income for individuals in the area is between \$400 and \$499, whilst for households it is \$1,000 to \$1,199. Very few households in Liverpool (0.2%) earn greater than \$1,500 per week, compared with 0.6% for Sydney as a whole.

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6.12 Infrastructure

The impact of the Hospital development on services infrastructure including water supply, sewer, stormwater, electricity and gas will be assessed. The utility authorities will be advised so that they may proceed with the planning and implementation of any augmentation that is necessary.

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6.13 Contamination

A recent building audit reveals an extent of asbestos containing material in older buildings on the site which may be subject to demolition for the Hospital development. This is not unexpected and will be dealt with under standard Workcover and OHS&R practices and requirements for the removal and treatment of such material.

A previous preliminary investigation of material was conducted for contamination in terms of acid sulphate soil and preliminary waste classification for the newly completed mental health facility site. Based on the results of this investigation any significant or widespread soil contamination is unlikely to be present on the site. However some local areas of contamination may be present and appropriate testing of the development site will be carried out.

Groundwater contamination is also unlikely to be present which will need to be confirmed with appropriate testing.

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6.14 Geotechnical

Previous geotechnical investigations have been carried out on the Hospital site and most recently for the newly completed mental health facility. Based on this the likely supporting material for new construction will be shale bedrock. The overlying material is likely to be alluvial soils and fill may also be present.

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7.0 Agencies to be Consulted

7.1 Agencies Consulted

7.2 Agencies to be Consulted