

- Considered separately, additional traffic generation as a result of the proposed redevelopment is regarded as low.

- When distributed on the road network, additional turning traffic volumes at key intersections will be very low indeed, within hourly fluctuations of the existing traffic.

- Refer to **Figures 6 and 7** for the estimated distribution of additional traffic at the key intersections.

- Traffic distribution by direction of travel was based on the results of a questionnaire survey of staff and visitors at NPH (conducted in May 2013)

- Respondents were asked to indicate on a map their routes of travel to and from the NPH.

Results of the assessment

- The cumulative impacts of the proposed development will remain within the levels

- previously approved for the NPH development
- previously approved for the Master Plan for Norwest Business Park (Norbrick Precinct 6)

- The proposed redevelopment will have no adverse impact on the road network operation, neither at present nor in the future.

Table 4.1. Traffic generation from the Norwest Private Hospital.

		Existing			Additional for redevelopment	Total after redevelopment	Approved Original DA	Approved Norwest Business Park
		On site	On street	Total				
AM peak	Inbound	114	11	125	33	158	154	154
	Outbound	30	3	33	9	42	61	59
	Total	144	14	158	42	200	215	213
PM peak	Inbound	31	8	39	10	49	77	101
	Outbound	95	23	118	31	149	159	185
	Total	126	31	157	41	198	236	286

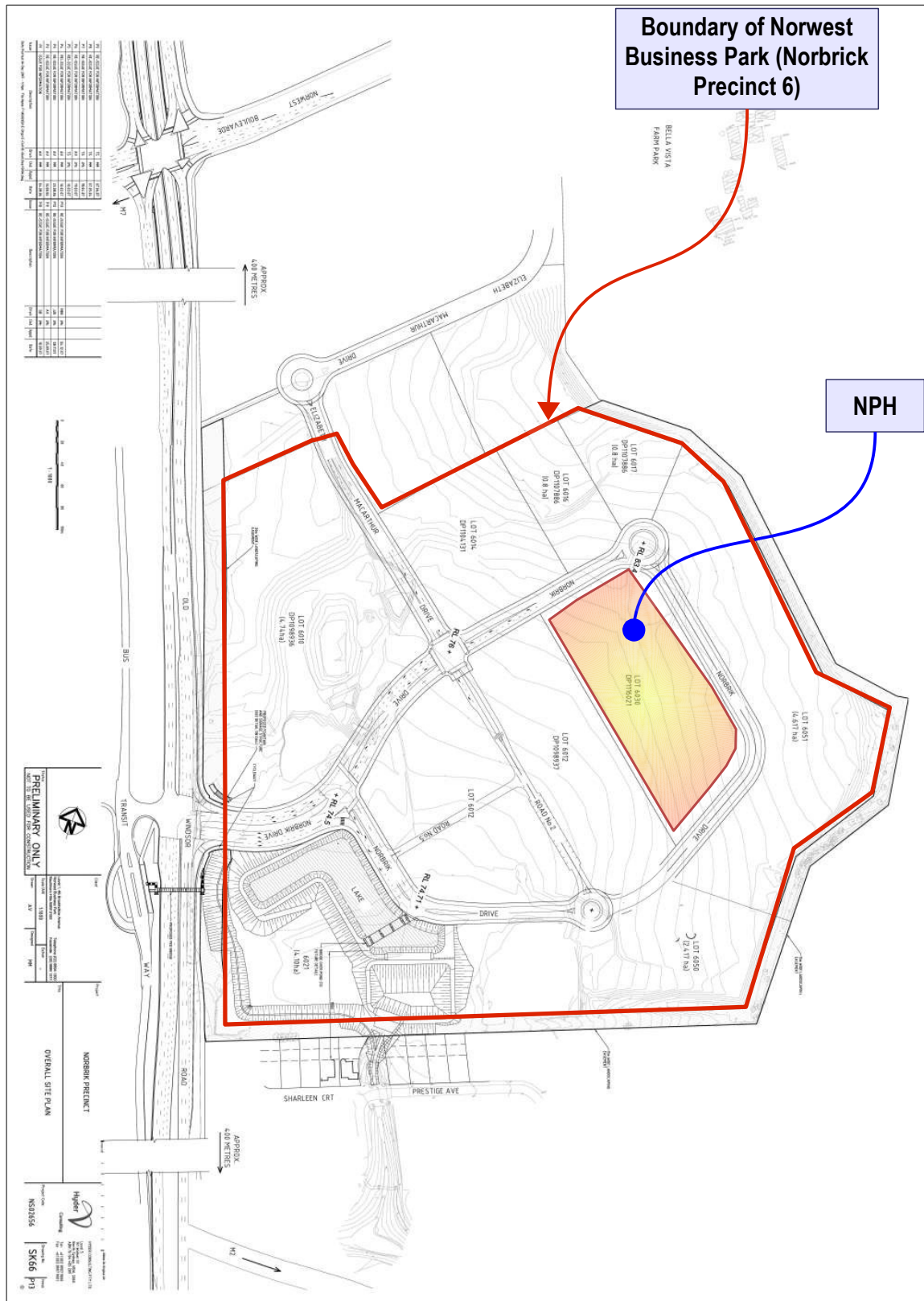


Figure 5. Boundary of the Norwest Business Park (Norbrick Precinct 6) (base drawing by Hyder Consulting).

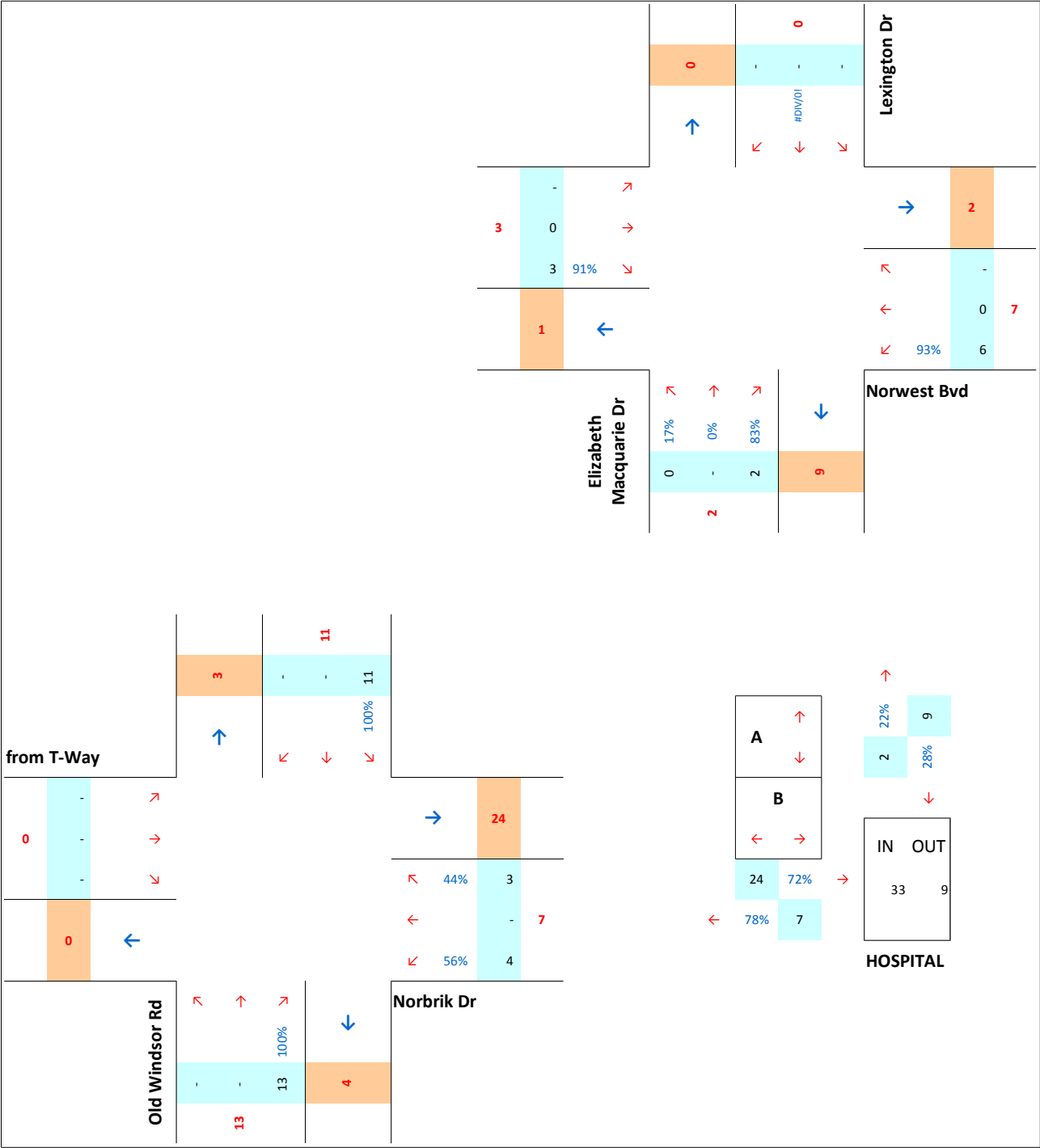


Figure 6. Estimated additional traffic generation and distribution (AM peak hour).

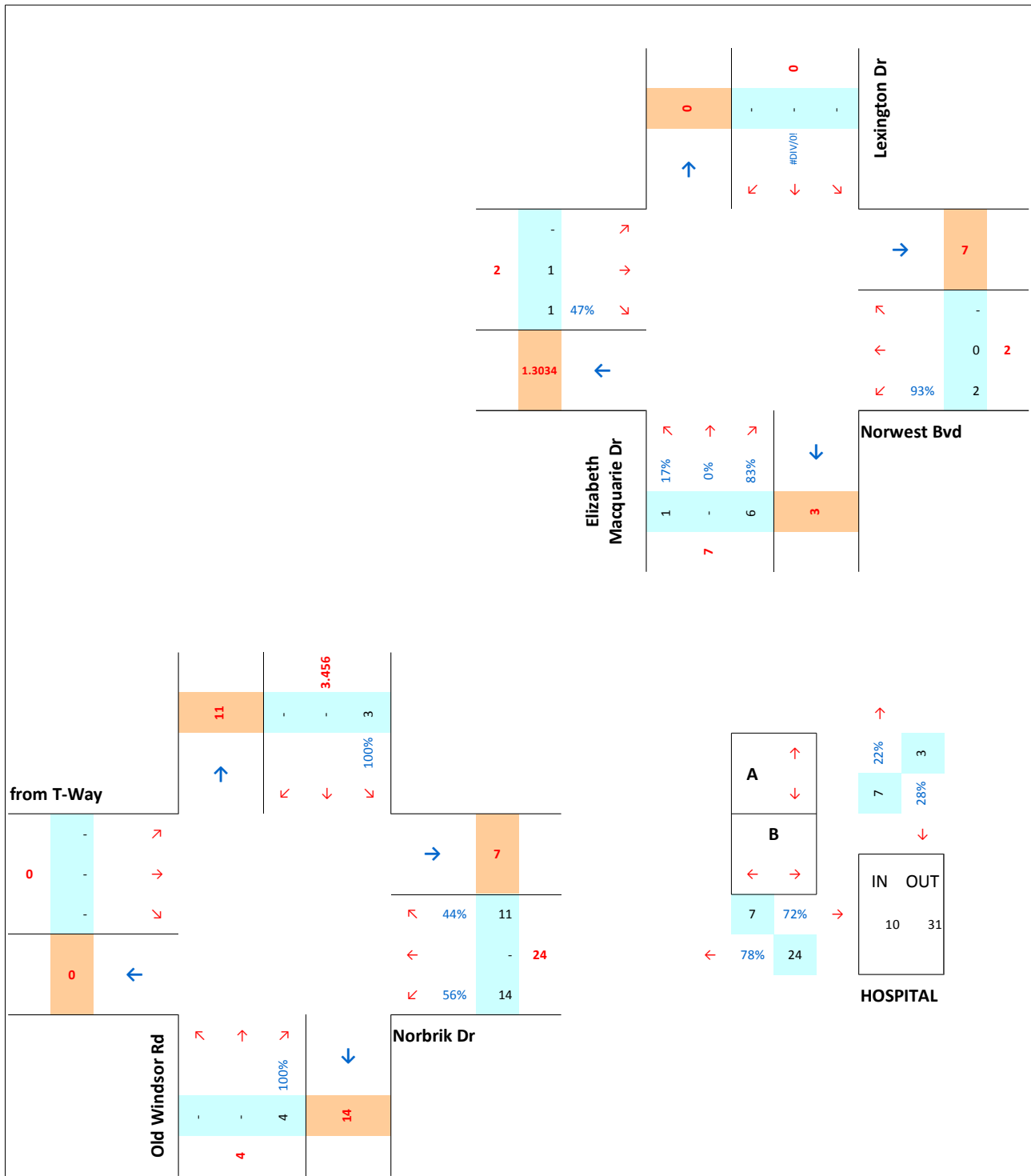


Figure 7. Estimated additional traffic generation and distribution (PM peak hour).

Known intersection operation issues

- The roundabout of Norwest Boulevard/Lexington Drive/Elizabeth Macarthur Drive currently operates at a poor Level of Service during commuter peak periods, mostly due to high traffic volumes in Norwest Boulevard.
- NSW RMS and The Hills Council have been undertaking investigations of possible improvements for this intersection for a number of future scenarios.
- This work has not yet been finalised, however NSW RMS is committed to carry out necessary (not yet confirmed) improvements to ensure satisfactory operation of this intersection in the future.

4.4 Travel modes other than private car**Sources of information**

- NSW Government Transport Info web site www.131500.com.au
- Web site of NSW Department of Planning & Infrastructure
- Results of the site inspection
- Results of the questionnaire surveys
- Results of surveys of pedestrian and bicycle movements

4.4.1 Walking and cycling**Existing path network**

- Footpaths are provided on all streets within the NBP which connect NPH with the main roads and bus stops, including the T-Way.
 - A shared cycle-pedestrian path runs along the eastern side of Old Windsor Road.
 - There are no designated cycle paths within NBP
 - Footpaths are mostly level.
 - Footpaths are not protected from adverse weather conditions.
 - There is no supportive directional signage to/from NPH and T-Way bus stops.
 - The existing capacity of the footpath network is more than sufficient for the existing demand.
 - Surveys of pedestrian and bicycle movements on the NBP street network indicated very low pedestrian volumes, generally in the order of 2-10 pedestrians per hour on each footpath.
 - In the morning peak the footpath along the northern NPPH frontage carried up to 30 pedestrians per hour
 - Refer to survey results in **Appendix C**
 - A pedestrian bridge above Old Windsor Road provides for a safe pedestrian connection between NBP and the T-Way bus stops
 - Results of questionnaire surveys indicate a very low travel mode share for both walking (1.2% for staff and 1.8% for visitors) and cycling (0.2% for staff and 0% for visitors).
- Future arrangements**
- As the land development at the NBP progresses, it is likely that the pedestrian mode share of visitors/patients will increase. It is expected that some employees of adjacent businesses would choose to use NPH GP and clinic services.
 - New cycle-pedestrian links are proposed to connect NBP to the Old Windsor Road cycleway and to other precincts north of Norwest Boulevard as part of the North West Rail Link Corridor Strategy (NWRLCS).
 - Refer to **Figure 8**.

- Additional pedestrian and bicycle trips as a result of the proposed NPH redevelopment are expected to be very minor if no measures are carried out to increase the non-car mode shares.
- The existing capacity of the footpath network will be sufficient for any foreseeable increase in pedestrian movements.
- The proposed Green Link and cycle links as part of the NWRLCS will adequately cater for the likely increase in bicycle trips.

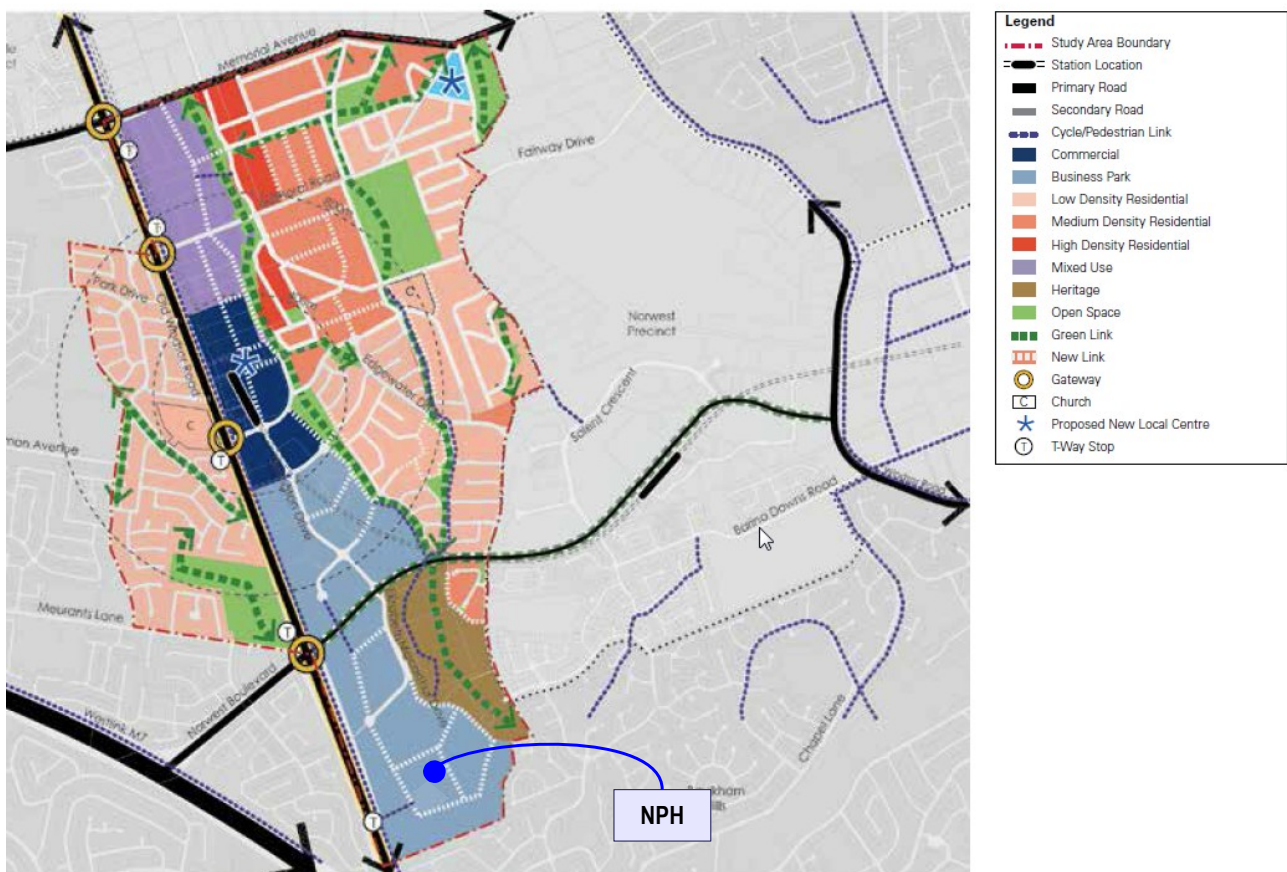


Figure 8. Proposed Structure Plan for the Bella Vista Study Area (Source: North West Rail Link Corridor Strategy).

4.4.2 Bus services

Bus

- Refer to **Figure 9** for locations bus routes and stops.
- Refer to **Appendix D** for bus route maps.
- Route T64 has bus stops near the site's main entrance.
 - Shelter is provided at only one of the two stops.
- T-Way with multiple bus services is within a convenient walking distance from NPH.
- Counts of passengers set down and picked up at the bus stops near the NPH indicated that in the order of 2-4 passengers per hour in the morning peak and about 30 per hour in the afternoon used buses for travel to and from the NPH.
- Existing bus services have sufficient capacity for the future increase estimated in

the order of 25% of the existing numbers.

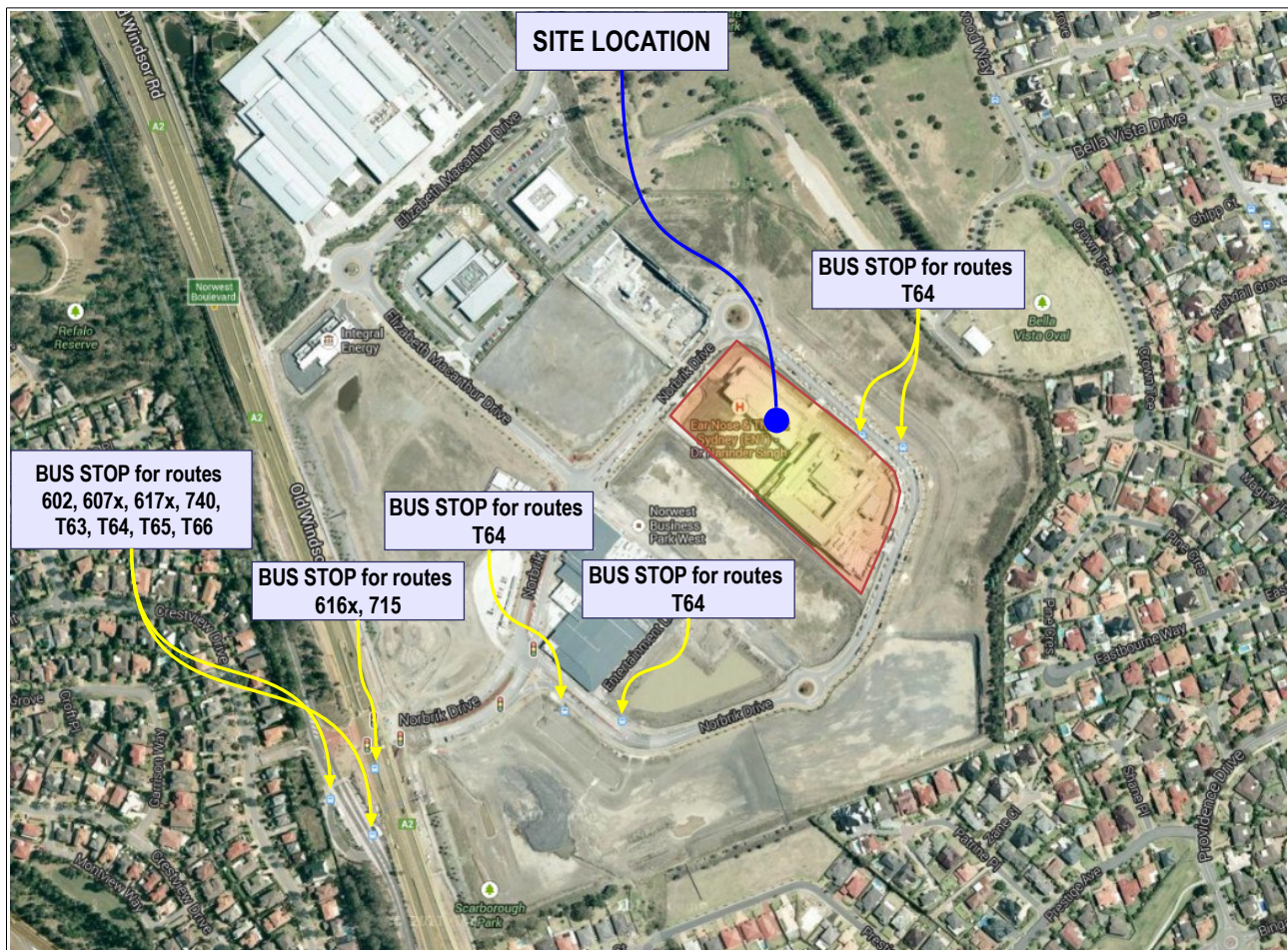


Figure 9. Existing bus stops in the vicinity of the Norwest Private Hospital.

4.4.3 Train services

- Currently there are no train stations within a walking distance from the NPH site.
- Direct bus connections (by bus T64 to the door or T63 & T66 to the T-way stop on Old Windsor Road)) exist from the West mead and Parramatta train stations only.
- Currently 0.6% of staff and nil visitors arrive to the NPH by train (those who do use buses to complete the trip).
- The proposed North West Rail Link will change this situation dramatically.
 - Two train stations will be within a close connection by a greater number of bus services and even on foot.
- Refer to **Figure 10** for the proposed North West Rail Link plan.

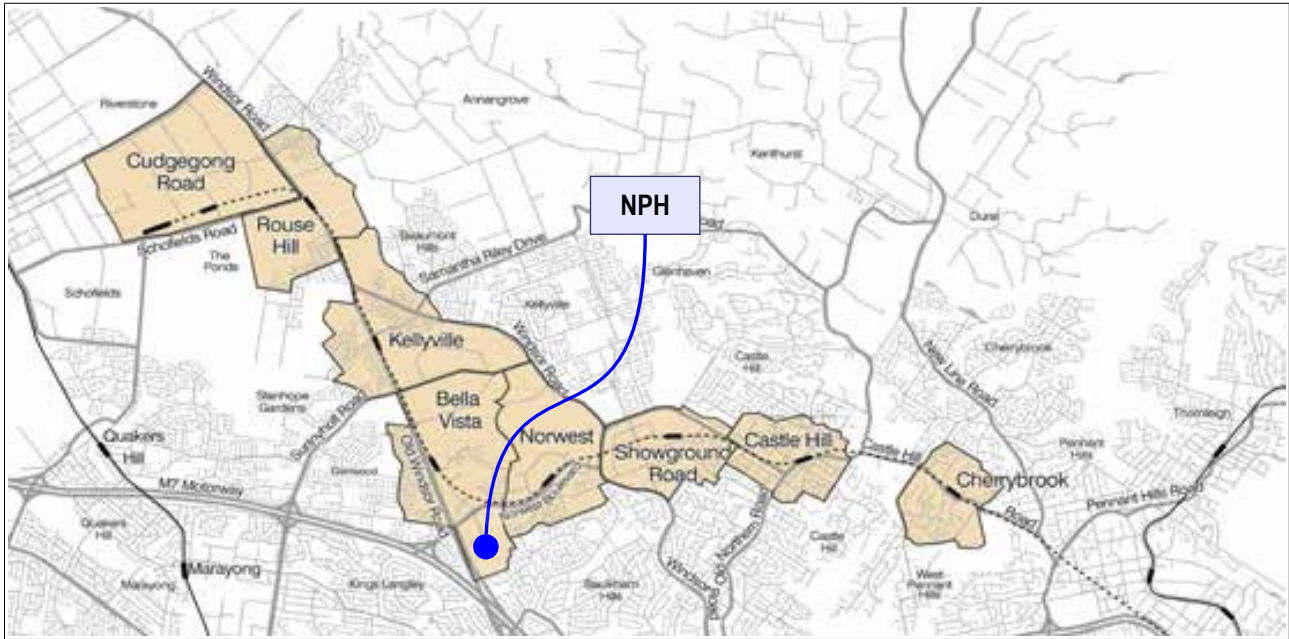


Figure 10. Proposed North West Rail Link (Source: North West Rail Link Corridor Strategy).

4.5 Access arrangements

- It is not proposed to change the existing access arrangements for staff, visitors, emergency vehicles, service vehicles and patient pick-up / drop-off.
 - Refer to **Figure 3**.
- The existing arrangements are satisfactory.
- The proposed development does not require any changes to be effected.

5 MEASURES TO PROMOTE SUSTAINABLE MEANS OF TRANSPORT

5.1 Framework and policies

NSW State Plan 2010	<ul style="list-style-type: none"> • Targets <ul style="list-style-type: none"> ◦ Increase the proportion of total journeys to work by public transport in the Sydney Metropolitan Region to 28% by 2016 (2009 value 24%)
	<ul style="list-style-type: none"> ◦ Increase the mode share of bicycle trips made in the Greater Sydney region, at a local and district level, to 5% by 2016 (2009 value 1%)
	<ul style="list-style-type: none"> ◦ Increase the mode share of walking trips made in the Greater Sydney region to 25% by 2016
NSW Bike Plan 2010	<ul style="list-style-type: none"> • 10 year vision for cycling focusing on the delivery of cycling infrastructure and the promotion of its use.
	<ul style="list-style-type: none"> • Includes partnerships between State agencies, local councils and non government organisations
	<ul style="list-style-type: none"> • Includes programmes such as bike parking, security, safety training, signage and community initiatives
PCAL	<ul style="list-style-type: none"> • Premier's Council for Active Living NSW (PCAL) <ul style="list-style-type: none"> ◦ PCAL comprises senior representatives from NSW Government agencies, and members from the business and community sectors.
	<ul style="list-style-type: none"> ◦ PCAL aims to encourage more people in NSW to be more active every day.
	<ul style="list-style-type: none"> ◦ The Council works with government, business and community partners in promoting greater involvement in active living, strengthening physical and social environments that facilitate and support active lifestyles, active travel and liveability. PCAL ensures that government policies and strategies provide every opportunity for the citizens of NSW to embrace active living through all stages of their life.

5.2 Measures and actions

Workplace Travel Plan	<ul style="list-style-type: none"> • NPH by its size and nature of activities is a good candidate for implementation of a Workplace Travel Plan (WTP). <ul style="list-style-type: none"> ◦ Until a WTP-specific study is carried out and the WTP is developed it is too early to specify all possible measures and actions which may form WTP.
	<ul style="list-style-type: none"> ◦ However, some possible measures have been identified for further guidance; these are listed below.
Possible measures	<ul style="list-style-type: none"> • Public transport timetables and maps made available to staff and visitors
	<ul style="list-style-type: none"> • Promotion of / information about key local walking and cycling routes on the web page and in printed material
	<ul style="list-style-type: none"> • Possibly subsidising/salary sacrificing cost of public transport tickets for staff
	<ul style="list-style-type: none"> • Improvement of current website detailing transport options for both staff and patients
	<ul style="list-style-type: none"> • Establishment of transport information packs to new staff explaining the various ways (other than motor vehicle) of travelling to the site
	<ul style="list-style-type: none"> • Development of a Transport Access Guide booklet for staff and visitors

- Provision of end-of-trip facilities for bicycle users
- A dedicated staff and visitor shuttle bus
- Utilise the popular car sharing initiatives (provision of a dedicated car share space, like GoGet)
- Campaigns / events to popularise and encourage walking and cycling (e.g. Ride to Conquer Cancer)
- Measures aimed to reduce staff travel on business (like teleconferencing)
- Introduce services on site to reduce the need to travel during the day (like post box, dry cleaning, etc.)

6 CONCLUSIONS

Proposal	<p>Redevelopment of the existing Norwest Private Hospital</p> <ul style="list-style-type: none"> Construction of a new 3-level building extension above the existing ground level car parking area, comprising <ul style="list-style-type: none"> A new hospital ward (51 additional beds) 5 new operating theatres New medical consulting suites (900 m²)
Car parking provision	<ul style="list-style-type: none"> Provision of 6 additional car parking spaces, thus bringing the total car parking provision to a total of 696 car parking spaces.
Car parking requirements	<ul style="list-style-type: none"> By The Hills Development Control Plan 2012 (HDCP) Part C Section 1 Parking <ul style="list-style-type: none"> 687 spaces
Parking impacts	<ul style="list-style-type: none"> The proposed additional car parking complies with and exceeds HDCP requirements. The proposed car parking provision is thus satisfactory; there will be no negative impact on the existing parking conditions neither on site nor off-site.
Traffic impacts	<ul style="list-style-type: none"> Additional traffic generated as a result of the proposed development is within previously approved overall levels and thus will not have a negative effect the operation of the street network.
Conclusion	<p>The proposal is supported on traffic and parking grounds.</p>

7 REFERENCES

- The Hills Development Control Plan 2012 (HDCP) Part C Section 1 Parking
- TEF Consulting (15 May 2007) An assessment of the potential traffic and parking impacts of the proposed Norwest Private Hospital and Medical Centre, Bella Vista.

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Appendix A.
Reduced copies of architectural drawings.

