



City of Ryde

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Civic Centre

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Michael File
Director, Strategic Assessment
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

MIN2010/1

24 January 2012

Dear Mr File

Request for DGRs for North Ryde Station Precinct – Ryde LGA (SSD-5093)

I refer to your letter dated 22 December 2011 regarding the Director General's Requirements (DGRs) for the State Significant Development Application for the North Ryde Station Precinct (SSD 5093).

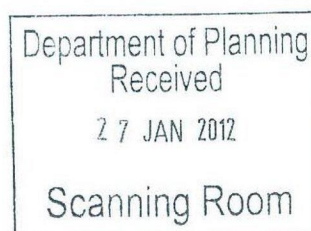
Council has reviewed the Supporting Document prepared by Transport for NSW in relation to the above application and provides the attached comments. Much of the matters addressed within the attached comments relate to the State Significant Site Study (SSSS) as well as the proposed State Significant Development Application. Whilst these applications are separate, it must be recognised that they are heavily interlinked and cannot be assessed separately from one another.

Accordingly, in preparing the DGRs for the State Significant Development Application, consideration must be given to Council's previous correspondence dated 31 October 2011 and the draft comments provided by Council prior to the Working Group Meeting held on 20 December 2011. These have been attached for your convenience.

For further information please contact Vince Galletto – Team Leader Building and Development Advisory Services on 9952 8233.

Yours sincerely

Dominic Johnson
Group Manager
Environment and Planning



Encl. English

If you do not understand this letter, please come to the Ryde Civic Centre, Devlin Street, Ryde, to discuss it with Council staff who will arrange an interpreter service. Or you may ring the Translating & Interpreting Service on 131 450 to ask an interpreter to contact Council for you. Council's phone number is 9952 8222. Council office hours are 8.30am to 4.30pm, Monday to Friday.

Arabic

إذا كنت لا تفهم محتويات هذه الرسالة، فالرجاء الاتصال بمركز مجلس بلدية رايد Ryde Civic Centre، وعنوانه: Ryde، Devlin Street، لمناقشتها مع العاملين في المجلس عن طريق مترجم، يستعين به العاملون لمساعدتك. أو يمكنك، بدلا من ذلك، أن تتصل بمكتب خدمات الترجمة TIS على الرقم 131 450 وأن تطلب من أحد المترجمين أن يتصل بالمجلس نيابة عنك. رقم تليفون المجلس هو 9952 8222، وساعات العمل هناك هي من الساعة 8.30 صباحا إلى 4.30 بعد الظهر من يوم الاثنين إلى يوم الجمعة.

Armenian

Եթե այս նամակը չէք հասկնար, խնդրեմ եկեք՝ *Րայդ Սիվիկ Սենթըր, Տեվլին* փողոց, Րայդ, խոսակցելու Բաղաքապետարանի պաշտոնեաներուն հետ, որոնք թարգմանիչ մը կրնան կարգադրել: Կամ, կրնաք հեռաձայնել Թարգմանության Սպասարկության՝ 131 450, եւ խնդրել որ թարգմանիչ մը Բաղաքապետարանին հետ կապ հաստատել ձեզի համար: Բաղաքապետարանի հեռաձայնի թիւն է՝ 9952 8222: Բաղաքապետարանի գրասենեակի ժամերն են՝ կ.ա. ժամը 8.30 - կ.ե. ժամը 4.30, Երկուշաբթիէն Ուրբաթ:

Chinese

如果您看不懂這封信，請到位于 Devlin Street, Ryde 的禮特區市府禮堂 (Ryde Civic Centre)與區政廳工作人員討論，他們將會給您安排傳譯員服務。或者您自己打電話給“翻譯及傳譯服務”，電話：131 450，請他們替您與區政廳聯係。區政廳的電話號碼是：9952 8222。區政廳工作時間是：周一至周五，上午 8.30 到下午 4.30。

Farsi

اگر این نامه را نمی فهمید لطفاً به مرکز شهرداری رايد در Devlin Street مراجعه کنید. کارمندان شهرداری ترتیب استفاده از يك مترجم را براي شما خواهند داد. یا میتوانید به سرویس ترجمه کتبی و شفاهی شماره 131 450 تلفن بزنید و بخواهید که يك مترجم از جانب شما با شهرداری تماس بگیرد. شماره تلفن شهرداری 9952 8222 و ساعات کار از 8.30 صبح تا 4.30 بعد از ظهر مي باشد.

Italian

Le persone che hanno difficoltà a capire la presente lettera, sono pregate di presentarsi al Ryde Civic Centre in Devlin Street, Ryde, e parlarne con gli impiegati municipali che provvederanno a richiedere l'intervento di un interprete. Oppure possono chiamare il Translating & Interpreting Service al 131 450 e chiedere ad uno dei loro interpreti di mettersi in contatto con il comune di Ryde. Il numero del comune è 9952 8222. Gli uffici comunali sono aperti dalle 8.30 alle 16.30, dal lunedì al venerdì.

Korean

이 편지를 이해할 수 없으시면 Ryde의 Devlin Street에 있는 Ryde Civic Centre로 오셔서 카운슬 직원과 상담하여 주십시오. 저희 직원이 통역 서비스를 연결해 드릴 것입니다. 아니면 131 450번으로 통번역 서비스(TIS)에 전화하셔서 통역사에게 대신 카운슬에 연락해 주도록 부탁드립니다. 카운슬 전화 번호는 9952 8222번입니다. 카운슬의 업무 시간은 오전 8:30부터 오후 4:30, 월요일에서 금요일까지입니다.

Planning Instruments

The State Significant Development Application (SSDA) should give consideration to Council's primary planning documents for Macquarie Park which are:

- *Ryde Local Environmental Plan 2010*
- *Development Control Plan 2010*. Particular reference is made to *Part 4.5 Macquarie Park Corridor*.

These documents provide Council's overarching expected outcomes for the Macquarie Park Corridor. Any future redevelopment must give due consideration to these controls with particular regards to the interface between areas not included within the Precinct and the access network that runs throughout the Corridor. Particular reference is made to the residential properties fronting Morshead Street, the properties bounded by Epping Road, Wicks Road and the subject site and Bundara Reserve and the adjoining residential property.

It should be noted that the Macquarie Park Corridor was initially conceived as a high order, high technology commercial employment centre.

In addition to the above, it must be noted that Council has lodged with the Department of Planning and Infrastructure Draft Ryde Local Environmental Plan 2011 and a Planning Proposal for the Macquarie Park Corridor that provides amended planning controls. These also must be considered as part of the SSDA as these documents provide details of Council's intended controls for the subject site.

Traffic and Transport

Traffic Generation from Proposed Development

Much of the matters to be considered under the above headings relate to the State Significant Site Study (SSSS) as well as the proposed SSDA. Whilst these applications are separate, it must be recognised that they are heavily interlinked and cannot be assessed separately from one another.

The SSDA and the SSSS should be supported by a **Transport Management and Accessibility Plan** that gives consideration to the wider Macquarie Park as well as the subject site. In particular, the following must be considered:

- **Macquarie Park Traffic Study** – This study was prepared on the basis of a 25 year development horizon to assist with long-term strategic planning. The report identified for in order for Macquarie Park to double its current FS (circa 1,200,000 m²), a number of infrastructure improvements are required. These improvements are detailed within the report.
- **Macquarie Park Pedestrian Movement Study** – This report details various pedestrian routes throughout Macquarie Park and includes recommended routes through the Precinct.
- **Structure Plan in Part 4.5 Macquarie Park Corridor in**

Development Control Plan 2010 – The Structure Plan provides Council's overarching plan for the access network within the Macquarie Park Corridor.

Given the location of the site and the surrounding major roads, transport, traffic and access are key concerns for the site.

It is recommended that Transport for NSW prepare a Trip Plan as part of the application that considers all forms of transport, not just vehicular traffic. This should consider all paths of travel through, to and from the site for pedestrians, cyclists and public transport. In particular, an estimate of bus movements to/from the station is required to understand likely bus zone sizing and any layover facility requirements for connection to train services.

In addition to the Trip Plan, a Road Safety Audit must be prepared that considers the vehicular, pedestrian and cyclist access network. This must consider:

- all connection points,
- intersection configuration,
- connections between pedestrian, cyclist and vehicular access networks.

In particular, it is noted that in previous discussions with Transport for NSW, Council has been advised that the pedestrian / cyclist bridge from the station to the M2 Site will be a continuous length with no breaks and a width less than 4m due to structural constraints. This is likely to cause significant risk to pedestrians by cyclists using the bridge due to the different speeds of each mode of travel.

Part 4.5 Macquarie Park Corridor of Development Control Plan 2010 provides detailed road types that apply within Macquarie Park. Any proposed access network must conform with these road types. In particular, it should be noted that the selection of road types will be largely dependant on the volume of vehicular traffic through the roads.

In addition to the above, given that the traffic numbers are likely to change substantially, future capacity for change should be built into the access network. In this respect, the possibility of the opening / closing of new turning lanes based on estimated figures for 2031 should be provided.

The configuration of the road network and the overall design of the roadways must be subject to detailed modelling based on an options assessment matrix similar to that which was undertaken by Council in 2007/2008 when the Macquarie Park 2031 Strategic Paramics Model and Study Report was being developed via input from a Steering Committee.

Council has not been in receipt of any specific modelling scenarios for discussion and evaluation of its effectiveness (or otherwise) or considered any modelling assumptions which predicate the proposed roads structure plan, which was recently presented to Council's for viewing. A matter of significant

concern to Council is the apparent 'glossing' over of the importance of Road 38's 'through connection' to Epping Road/Pittwater Road intersection, which Council supports vigorously (please refer to the 'Technical Note' for 'Road 38' which has been provided as **Attachment 3**). The preferred access to Epping Road as detailed in the proposed roads structure plan for the Delhi Road Development Precinct would be via Lucknow Road.

Council has concerns that the current intersection arrangement is not suitable to manage the additional traffic generated once the landforms around the North Ryde Station Precinct are fully developed. Modelling undertaken by Council has revealed significant worsening of the already congested Epping Road/Delhi Road intersection. The intention of Road 38 is to provide both an alternative "release" for the precinct's traffic and, also to give some traffic from Delhi Road the opportunity to "bypass" the congestion at the Epping Road/Delhi Road intersection.

All road typologies MUST be developed in accordance with the Macquarie Park DCP to ensure there is consistency with the rest of Macquarie Park and in particular, the extension of Waterloo Road through the site as the main 'spine' road for vehicular access. Council is supportive of Transport for NSW developing a left in/left out connection onto Epping Road to assist with reducing the potential 'traffic' burden generated by the site which will affect the efficiency of the existing Wicks Road/Epping Road signalised intersection. It is considered that Transport for NSW should fund or significantly contribute to the expansion/upgrade works at this intersection as development within the North Ryde Precinct occurs (in stages).

In addition to the above, any forthcoming road details as part of the SSDA must ensure that the entire precinct is capable of being adequately serviced by Council's waste vehicles. With this consideration in mind, care must be taken to ensure that adequate road side collection points are provided for all super lots and that the road network is capable of being adequately navigated by waste vehicles.

Biodiversity

It is noted that Transport for NSW has undertaken an assessment of the natural assets (including but not limited to flora, fauna and watercourses) present on sites within the North Ryde Station Precinct. In this respect, any forthcoming SSDA must ensure that due consideration is given to the possible impacts of the proposal upon existing environmental assets on the sites.

It is assumed that the Department of Planning and Infrastructure will ensure that all statutory obligations under the various applicable legislation are met by the proposal.

Flooding, Stormwater Drainage and Detention

Council's completed Macquarie Park Floodplain Risk Management Study & Plan provides the nature and flood extents and recommends a series of floodplain management measures to be implemented within the catchments. These documents must be considered as part of any forthcoming SSDA.

Parts of the site are subject to medium to high flood risk however, the majority of the site is free from the flooding. The flood levels information can be obtained upon request, however are subject to fees and charges. The DRAINS and TUFLOW models are available for purchase on application.

With regards to Stormwater Drainage and Detention, the principles of Water Sensitive Urban Design (WSUD) should aim at retention and detention of as much stormwater as possible on site, maintain the water balance and treat stormwater pollution before discharge to the environment. Additionally the strategy should ensure that the environmental stormwater objectives are met in accordance with Office of Environment and Heritage (OEH) guidelines.

Water Quality and Water Sensitive Urban Design

Whilst Council has prepared a draft WSUD policy, this document has not yet been adopted by Council. However, Council can provide MUSIC modelling data contained within the policy.

Council does not have any preferred techniques or practices with regards to WSUD, however any proposed development of the site must strive to achieve best practice. Generally, Council is of the opinion that the proposed development should achieve the following targets for WSUD:

- 90% reduction in the post development mean annual load of total gross pollutant loads (greater than 5 mm).
- 85% reduction in the post development mean annual load of Total Suspended Solids (TSS).
- 60% reduction in the post development mean annual load of Total Phosphorus (TP).
- 45% reduction in the post development mean annual load of Total Nitrogen (TN).

Given the size and scope of the proposal it is considered that an Integrated Water Management Plan for the entire precinct should be prepared. This Water Management Plan should strive to reduce and reuse stormwater. It is recommended that the proponents explore the possibility of Biological Sequestration and Filtration.

Provision of Servicing Infrastructure

It is noted that Transport for NSW has undertaken preliminary consideration of the infrastructure required to service the site.

With regards to water, given the size and scope of the proposal it is considered that an Integrated Water Management Plan for the entire precinct should be prepared. This Integrated Water Management Plan should strive to reduce and reuse stormwater and waste water. It is recommended that the proponents explore the possibility of Biological Sequestration and Filtration.

With regards to electricity, the possibility of onsite generation of power by photovoltaic cells, conversion of waste to energy, co/tri generation or other

should also be considered.

Any consideration of servicing infrastructure must factor in possible upgrade requirements and where the associated utilities are to be located. An example of this is the provision of kiosks and their location. Kiosks within the public domain areas such as road reserves, public open space or footpath areas will not be supported by Council.

Dedication of Assets

It is noted that the proposal will also include the provision of infrastructure and public domain areas that may be dedicated to Council. Consideration must be given as to the ongoing funding for maintenance of these areas. Details of possible funding arrangements must be included as part of any forthcoming SSDA.

Council will not support the dedication of assets that are not built to its specifications or should be rightfully maintained by future developers. Any assets, dedications or contributions must be clearly and carefully tied to the staging of construction works to occur on the site.

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Michael File
Director, Strategic Assessment
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

31 October 2011

Dear Mr File

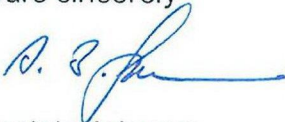
Draft State Significant Site Study Requirements – North Ryde Station Precinct

I refer to the Draft State Significant Site Study Requirements provided to Council on 12 October 2011.

Following the Working Group meeting 20 October 2011 and the presentation by the Transport Construction Authority to Council's Executive Team on 21 October 2011, Council has reviewed the document and provides the attached comments.

Please note that these comments should be considered in association with Council's previous comments dated 30 March 2011. These have been attached for your convenience.

Yours sincerely



Dominic Johnson
Group Manager
Environment and Planning

Planning Instruments	The Significant Site Study should give consideration to Council's primary planning documents for Macquarie park which are: – <i>Ryde Local Environmental Plan 2010</i> – <i>Development Control Plan 2010</i>. Particular reference is made to <i>Part 4.5 Macquarie Park Corridor</i>. These documents provide Council's overarching expected outcomes for the Macquarie Park Corridor. Any future redevelopment must give due consideration to these controls with particular regards to the interface between areas not included within the Precinct and the access network that runs throughout the Corridor. Particular reference is made to the residential properties fronting Morshead Street, the properties bounded by Epping Road, Wicks Road and the subject site and Bundara Reserve and the adjoining residential property. It should be noted that the Macquarie Park Corridor was initially conceived as a high order, high technology commercial employment centre. Also, the <i>Draft State Significant Site Study Requirements</i> also identifies the <i>Ryde Planning Scheme Ordinance 1979</i> as a relevant Council planning control. The Ordinance has been replaced by the <i>Ryde Local Environmental Plan 2010</i>.
Land Use, Urban Design and Built Form	Consideration must be given to the interface between the subject land and surrounding properties. Particular reference is made to the residential properties fronting Morshead Street, the properties bounded by Epping Road, Wicks Road and the subject site and Bundara Reserve and the adjoining residential property. This consideration must include but not be limited to appropriateness of development, impacts upon amenity of surrounding properties, pedestrian access, vehicular access and ecological impacts upon the Reserve.
Traffic and Transport	Any Transport Management and Accessibility Plan must also give consideration to the wider Macquarie Park. In particular, the following must be considered: – Macquarie Park Traffic Study – This study was prepared on the basis of a 25 year development horizon to assist with long-term strategic planning. The report identified for in order for Macquarie Park to double its current FS (circa 1,200,000 m2), a number of infrastructure improvements are required. These improvements are detailed within the report.

	– Macquarie Park Pedestrian Movement Study – This report details various pedestrian routes throughout Macquarie Park and includes recommended routes through the Precinct. – Structure Plan in Part 4.5 Macquarie Park Corridor in Development Control Plan 2010 – The Structure Plan provides Council's overarching plan for the access network within the Macquarie Park Corridor.
Surface Water, Groundwater quality and riparian corridors	Consideration must be given to the stormwater run-off and its ongoing management and disposal. This should include consideration of stormwater from the proposed major lots, the roads, open space areas and future development. Should the stormwater be proposed to connect into Council's existing infrastructure, consideration must be given to the capacity of the infrastructure to cater for the additional loads.
Social Impacts	The Social Impact Assessment of the redevelopment must give consideration to existing social infrastructure including but not limited to Blenheim Park, Childcare Centres and Schools.
Contributions	Consideration of contributions should also include possible Voluntary Planning Agreements, provision of affordable housing and sums payable under Council's <i>Section 94 Contribution Plan 2007</i>. The State Significant Site Study must also give consideration to when these contributions are to occur with regards to the staging of the development. It is noted that the proposal will also include open space areas. Consideration must be given as to the ongoing funding for maintenance of these areas.
Ecologically Sustainable Development (ESD)	Consideration should be given as to how the principles of ESD will be achieved throughout the development cycle from major lot subdivision to the construction of buildings and their ongoing use. The study should address how ESD principles will be enforced either through the application of a site specific Development Control Plan, restrictions on covenants or a Voluntary Planning Agreement.

Consultation Requirements	Government Agencies should be expanded to include the Roads and Traffic Authority (now NSW Transport)
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Mr Michael File
Director, Strategic Assessment
NSW Department of Planning
GPO Box 39
SYDNEY NSW 2001

30 March 2011

MIN2011/2

Dear Mr File

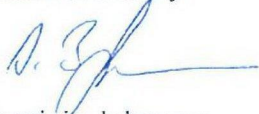
**Request for Comments on North Ryde Station Precinct
as a Potential State Significant Site (SSS) and Concept Plan application.
(MP11_0030 & MP11_0031)**

Attention: Dorna Darab

Thank you for your e-mail received on 4 March 2011 seeking Council's comment on the above applications. Council has reviewed the available documentation and provides the attached comments.

As the draft Director General's Requirements (DGRs) has not been made available, the comments address the proposal in general terms.

Yours sincerely



Dominic Johnson
Group Manager
Environment and Planning

Comments for Draft DGRs for North Ryde Station Precinct

General

City of Ryde (CoR) recognises the need for the North Ryde Station Precinct (NRSP) to be carefully and comprehensively planned and developed to provide optimum benefit to the local community, future residents and to the State. In this regard, no objection is raised to the identification of the Precinct as a State Significant Site (SSS).

However, the impacts on CoR as the local planning authority and a major provider of local services and infrastructure will be both deep and wide-ranging. Council therefore has an interest in ensuring that the redevelopment of the sites within the Precinct is of the highest order and the following comments are made with that in mind.

Put in simple terms, the proposal will create a sizeable new suburb. Any viable suburb cannot rely wholly on the existing facilities to provide all the services for its future population and many facilities will need to be provided "in-house". One of the main challenges for this proposal is to determine what infrastructure, utilities and services are required and how they will be most efficiently provided.

Land Use

The Macquarie Park Employment Corridor was conceived as a high order, high technology commercial employment sector. It is identified in the Metropolitan Strategy as a Specialised Centre stretching from Macquarie University to the Riverside Corporate Park and including the North Ryde Station Precinct. Much of the positioning of Macquarie Park as a Specialised Centre has been developed around its proposed future role as global destination for commerce and employment – ultimately as Australia's fourth largest CBD.

In the Executive Summary Report, the NRSP is presented as being at the southern edge of the Macquarie Park corridor. In fact, it is both within and an important part of the corridor, being between Macquarie Park proper and Riverside Corporate Park. North Ryde Station represents the eastern end of the spine that connects it directly to Macquarie University, and the commercial core along Waterloo Road.

The major justification presented for the NRSP as a SSS appears to be the boosting of passenger numbers through North Ryde Station. A stronger justification is required to move away from the employment specialisation role to a mixed use role. There is nothing "specialised" about a mixed use precinct. CoR already has several such centres as do many other local government areas.

In effect, the NRSP will provide a new mixed use centre at the eastern end of the employment corridor which will be both a competitor and complementary to the Macquarie University Station Precinct. However, the submitted documentation says nothing about the impact of NRSP on the remainder of Macquarie Park as a Specialised Centre.

The justification is not that it is required to assist CoR to meet its housing targets under the Metropolitan Strategy. With the number of Part 3A projects on hand, the NRSP has potential to more than double the Council's target for new dwellings. The justification must be found in understanding the objectives of the Macquarie Park Employment Corridor and how it will operate in the longer term future.

Comments for Draft DGRs for North Ryde Station Precinct

Transit Oriented Development (TOD)

Another justification presented for the NRSP is as a demonstration of TOD principles. As the precinct comprises a collection of fragmented sites at the confluence of but also separated by two arterial roads and a tollway, this will be a significant challenge. In this regard, the "vision for a new TOD" outlined in the documents presented to the Department of Planning must not be allowed to falter and become "big development near a railway station". In establishing the future pattern of development, consideration must be given to the integration of other forms of transport with rail. The creation of pedestrian linkages is important. So is the creation of other connections. Ease of access to North Ryde Station is essential to making it work. Contrary to ARUP's assertion in the Preliminary Traffic Report, CoR considers a road connection from the established residential areas south of Epping Road to North Ryde Station is essential to create it as a destination for a much wider catchment and to support it as the main commercial / retail heart of the precinct. In this regard, extending the so-called "Road 38" over Epping Road should remain as a consideration. (see below)

Not all the transport needs of future residents will be served by trains. There is a need to ensure that the full range of transport alternatives is available for residents. Given the location of the site on major roads, the use of motor vehicles in favour of other options (e.g. for flexibility) remains attractive and could be potentially detrimental to the TOD objectives for the precinct.

M2 Connection

It needs to be closely examined whether connection of the former depot site to the M2 Motorway will actually encourage the use of motor vehicles against the TOD objectives of encouraging patronage through North Ryde Railway Station. This may be particularly so if residents have to follow variable and indirect routes to school and work destinations. Once they are in the car for a journey to school (for example), it is unlikely that the driver will return home to catch the train. The establishment of the M2 connection as a bus only access could be explored.

Cycleways

The design of the precinct should have regard to CoR's *Ryde Bicycle Strategy and Master Plan 2007* and Council's DCP 2010 - Part 4.5 – Section 5.3.1 – Cycleways so that an integrated network is encouraged.

Roads generally

The design of the precinct needs to ensure that a road system is designed that does not encourage "rat running" to avoid existing poorly performing intersections in the locality.

The preliminary documentation for the proposal appears to acknowledge the value of a fine-grain road network to break up the sites to improve access and provide better development lots. Council endorses this approach but seeks an opportunity to influence the locations of roads to provide the best outcomes for the whole of the Macquarie Park Corridor as well as the NRSP.

Comments for Draft DGRs for North Ryde Station Precinct

Road 38

CoR's Development Control Plan for the Macquarie Park Corridor includes a fine-grain road and access network. One of these roads is identified as "Road 38". Council has undertaken a traffic study (Macquarie Park Traffic Study) that has identified the need for and the benefits of extending this new Road 38 to connect Delhi Road with Epping Road. The connection modelled joins Epping Road at its intersection with Pittwater Road. The land around North Ryde Station is represented in Council's *Macquarie Park 2007 Base Paramics (Traffic) Model*. Modelled at full development (under the significantly lesser yield available under Council's current controls) this area generates approximately 2,100 vehicle trips in each of the morning and afternoon peak hours. In the morning peak, Road 38 would serve the following purposes:

- as an access to for the high volumes of traffic entering the North Ryde Station site,
- as a "bypass" of the Delhi Road - M2 intersection for traffic which is not accessing the M2; and
- for traffic leaving the M2 at Delhi Road and heading eastbound to Epping Road or southbound to Pittwater Road (to avoid the less direct and congested Delhi Road - Epping Road intersection).

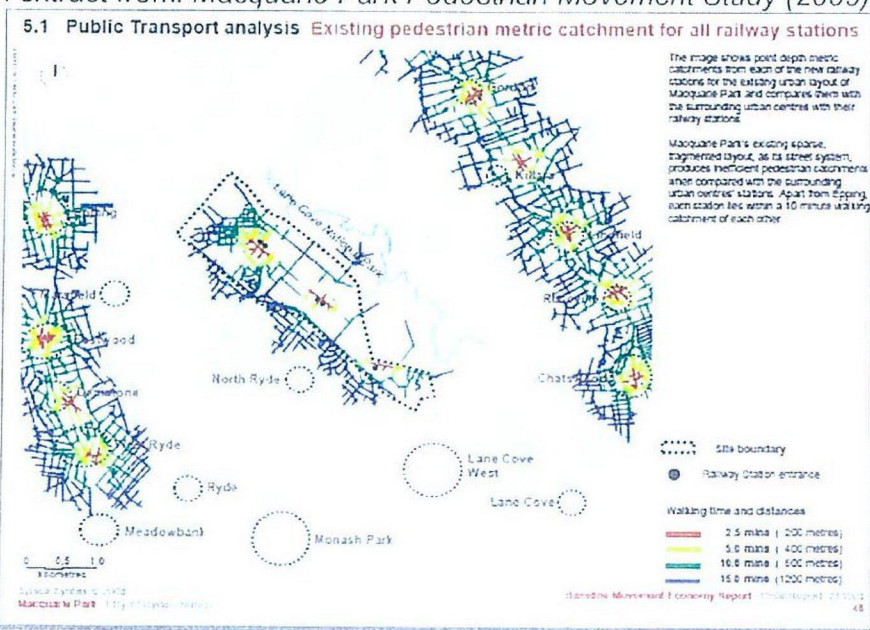
The primary need for Road 38 is shown in the modelling to be in the afternoon peak, serving the following key purposes:

- as an outlet for the high volumes of traffic leaving the North Ryde Station site;
- to reduce the traffic demand through the Delhi Road / M2 interchange; and
- to provide direct access from Epping Road and Pittwater Road from the south and east into the precinct rather than the alternative congested routes.

Council would be happy to provide the full details of the relevant Traffic Study and other studies that have been undertaken for the Macquarie Park Employment Corridor. Information on the studies can be found on Council's website.

(www.ryde.nsw.gov.au → Development → Town Centres → Macquarie Park Corridor

Below is an extract from: *Macquarie Park Pedestrian Movement Study (2009)*:



Comments for Draft DGRs for North Ryde Station Precinct

Utilities Services and Infrastructure

A clear plan for providing for all essential utility services and infrastructure needs to be agreed for the NRSP prior to the approval of a Concept Plan for the site.

Drainage, Stormwater and Groundwater Management

The precinct straddles a watershed and all stormwater drains to the Lane Cove River, some via Porters Creek to the north and the remainder to the east via an unnamed watercourse. The consideration of drainage needs to take account of the downstream impact. This should include demonstrated consideration of both the management and treatment of stormwater and to include Water Sensitive Urban Design (WSUD).

Social Needs / Social Impact Assessment

The proposal needs to be very specific in identifying how and when the social and other service needs of the future population will be met. The importance of this cannot be ignored. Services and facilities need to be planned, funded and delivered for the growing population. Any model of best practice TOD needs to address the social impact and to incorporate it into the design.

Any SIA should not assume that there is spare capacity in the provision of existing services and facilities. Already, there is a high demand for playing fields and other sporting grounds. The preliminary documents suggest that parks will be provided within the precinct but the suggestion is that they will be generally passive spaces. Means to provide for the active pursuits of future residents need to be fully explored as these are more likely to be accommodated outside the NRSP.

State provided services and facilities need to be considered. Where is the nearest public school and how accessible is it? Where is the nearest high school and how accessible is it? Where is the nearest public hospital and how accessible is it?

Interfaces with surrounding land

The submitted documentation does not adequately address important interface issues between the precinct and surrounding lands. These include:

- What is the future for CoR assets in the precinct? This includes Bundara Reserve which the report says will be "protected". How is an endangered ecological community to be protected when it is surrounded by three arterial roads and in the midst of a precinct that will grow to 350,000m²? If the indicative plan is a guide, the reserve will eventually be surrounded by buildings ranging from 30 storeys (west), 25 storeys (north), 15 storeys (east) and 8 storeys (south). This represents a significant change to its current conditions.
- Immediately adjoining the precinct, Blenheim Park is a multi-purpose recreational facility which is popular and well used generally and by a number of community groups. It does not necessarily have spare capacity to absorb the recreational demands of new unit dwellers and a significantly increased workforce.

Comments for Draft DGRs for North Ryde Station Precinct

The potential impact on Macquarie Park Cemetery and Crematorium needs to be considered. While the use is largely passive in character, there will be impacts on the site generated by the proximity of growing development and a more active community. The Cemetery is also identified as an item of heritage significance in Ryde LEP2010.

The potential impact of Macquarie Park Cemetery and Crematorium on the precinct development needs to be considered. This is a working facility and while emissions are controlled, it is currently adjoined by non-residential and low-scale uses. Smoke rises and can be blown by the wind in many directions. The affect on multi-storey unit designs that seek to incorporate passive cross ventilation should be considered.

Similarly, the potential impacts on and of the existing recycling and waste facility in Wicks Road needs to be factored into the design process. The waste facility was there first and is expected to continue operation into the foreseeable future.

The interface between 30 storey residential buildings and low scale commercial / industrial development in Wicks Road needs to be carefully considered. The option of providing a road along the shared boundary (subject to the identified ecological constraints) should be explored.

On the OSL site, the interface of eight storey buildings to single and two storey dwelling-houses (such as Morshead Street) and Blenheim Park, particularly with regard to shadowing and amenity issues. Consideration should be given to transition of lower heights away from Epping Road. Consideration should also be given to provide effective physical connections to the existing community. The new development should not turn its back on what is already there.

The interface with the remainder of Riverside Corporate Park is important. Almost all the business park is within 800 metres of North Ryde Station. Development within Riverside Corporate Park already has an important relationship with NRSP. Future development in the precinct needs to build on that relationship.

On the western side of the precinct, the land near Wicks Road is closer to (and probably more accessible to) Macquarie Park Railway Station. It certainly falls within the 800 metres catchment of that station.

Indicative Heights

The determination of "indicative heights" at this stage is considered premature. The way the heights are presented is also misleading insofar as they the heights are presented as "blocks" on the map. For example, it appears that the whole of the OSL site will be eight storeys. If that it's the intention, then the proposal should expect to receive considerable objection from residents living in one and two storey dwelling houses on its boundaries.

The indicative heights are well above Council's current controls. It is noted that the Macquarie University Concept Plan has controls that allow for a 30 storey building immediately adjacent to the Macquarie University Railway Station.

Illustrations in the documentation focus on much lower scale of development (two, three and eight storeys) with little to show successful examples of multiple high-rise building to 30 storeys. A number of historically poor examples can be brought to mind so the challenge is to positively demonstrate the visual impact of such development on a prominent rise surrounded by lower scale development.

Comments for Draft DGRs for North Ryde Station Precinct

Housing Mix

The assertion in the submitted documentation that "The proposal is aimed to provide a mix of housing" is problematic". The blocky depiction of height does not gel with the words and pictures in the documentation about "housing mix". The only housing type suggested here is the type that occurs in multi-storey buildings ranging from 8 to 30 storeys. That implies that the proposed housing mix is 100% units with the variable being in the number of bedrooms and / or bathroom available and the size of balconies. If that is the expectation, then the words should reflect it. If it is not the expectation, then the indicative controls should reflect that. As stated above, identification of indicative heights etc. is considered premature at this stage.

The discussion needs to be more explicit on how the proposed housing mix will include other housing types found in the general community for example affordable housing, adaptable housing, group homes, seniors living and so on.

Relationship to Council's DCP

Comments in the submitted documentation that argue that the indicative planning controls are "consistent with Council's DCP" are considered erroneous. For example, the Planning Overview says that the TCA proposal is "consistent with the intended character of the precinct". In fact, Council's DCP envisages a much lesser scale of development, more parkland and stronger connections with the local community. The TCA proposal has more height and floor space proposed.

Council does not dispute that the proponents can seek approval for a higher density of development as the processes have been put in place by the State Government for it to do so. However, the proposed development profile should be presented solely on its own merits and not in a way that implies some sort of Council pre-endorsement.

Proposed Pedestrian Bridge

The proposed pedestrian bridge needs to be accessible and operational for 24 hours a day. This will involve a design that incorporates ramps of appropriate gradient and location, has good visibility and safety. The footprint for such a bridge will be more expansive than one that relies only on lifts for access.

Roads & Traffic Authority site

The part of the precinct identified as the RTA site presents a number of development challenges. It appears to be a remnant parcel confined between two arterial roads. The only potential for vehicle access is from Epping Road on a busy straight or Delhi Road next an overpass and intersection. The land appears to be steep and well vegetated and it adjoins an endangered ecological community (Bundara Reserve) and private houses. The real potential for development seems limited but it indicatively earmarked for development up to 15 storeys. It is considered that some work is required to demonstrate that such a scale of development is workable. A more passive or innovative use for this land may be appropriate.

Comments for Draft DGRs for North Ryde Station Precinct

Environmental Quality and Ecologically Sustainable Development

The EA should address how issues of environmental quality (such as increasing density of population in a locality likely to be affected by high vehicle emissions) and achieving water and energy efficiencies in a high rise development. The design of the proposal should demonstrate environmental excellence compatible with the expectations of all other development in Macquarie Park corridor.

Future commercial development on Epping Road

The proposal needs to demonstrate how "Commercial buildings as buffer to Epping Road" will not become a magnet to the type of uses that encourage access by motor vehicles (except, of course, if that is the intention). Nearby examples of "bulky goods premises" include *Officeworks* and *Domayne*. Will future commercial buildings only face into the former M2 depot site and not rely on passing traffic for trade? Will the buffer be created by height or by distance or by both? A consolidated takeaway food site (like those found on Parramatta Road) would not be supported by Council in this location.

Staging

The staging of the precinct development needs to be explicit and well reported. It is identified that the OSL land is the subject of a long term lease and its "staging" is yet to be determined. Purchasers of the early stages of the development cannot be left with any doubt that sites such as "Tennis World" are development sites. Being a large open recreation facility, this may be seen by some as an attractor to the site. Over time, residents may come to see it as something they wish to see retained as part of a future high density community.

Future dedications and Public Domain

The issue of what infrastructure and facilities are likely to be dedicated to Council needs to be addressed early in the process. It is Council's expectation that dedicated roads will be built to its specifications and any public domain works will be constructed in accordance with the *Macquarie Park Public Domain Technical Manual (2008)*.

Negotiation on any proposed Planning Agreement or Development Agreement should also commence in the early phases of the proposal.

Council Submission

PROPERTY: North Ryde Station Precinct

MEETING DATE: 20th December 2011

TIME: 3:00pm

Dear Working Group Attendees,

Attached is a summary of Council's concerns regarding the North Ryde Station Precinct.

The concerns identified below are preliminary in nature and are based off the documentation and presentation made by the Transport Construction Authority (TCA) at the last Working Group held 16 November 2011 and to Council Staff on 30 November 2011.

It should be recognised that the comments attached are preliminary in nature and are based off the concept plans provided by TCA.

Regards,

Dominic Johnson
Group Manager Environment and Planning
City of Ryde Council

Planning Pathway

It is noted that the proposed planning pathway for the site involves two separate processes for the public domain / infrastructure works and the amended planning controls / layout plan. As the proposals will apply to the site and will be undergoing separate processes, care must be taken to ensure that both proposals speak to one another. It is crucial that a holistic approach be taken for as both applications will be responsible for the creation of a 'sense of place'.

Urban Form

It is noted that the proposal in its current form is currently resulting in heights ranging from 2 – 30 storeys. Council considers proposed heights to be largely excessive. This is as the heights proposed are out of character for the surrounding development, the heights allowed under *Ryde Local Environmental Plan 2010* and the proposed heights under *Draft Ryde Local Environmental Plan 2011*. The heights remain unchanged under *Ryde Local Environmental Plan 2010* and *Draft Ryde Local Environmental Plan 2011*. The heights proposed under the *Ryde Local Environmental Plan 2010* are shown in **Attachment 1**.

From **Attachment 1** it can be seen that the proposed height limits are well in excess of adjoining properties.

In particular, it is considered that it has not yet been demonstrated that the proposed density of the subject site is acceptable with regards to:

- Traffic,
- Transport,
- The proposed access network,
- Built form relationship to surrounding sites,
- Amenity and environmental impacts upon surrounding properties and those within the precinct,
- Visual approach along surrounding main transport routes

It is considered that these matters should be the influencing factors when devising the proposed heights and built form.

Whilst it is recognised that the subject site is a landmark site that is visually prominent, this does not provide justification for the proposed height. The landmark nature of the site can be recognised through design excellence and other techniques.

Alternate built form approaches could possibly be considered such as reduced heights with continuous built form heights along streets to reinforce the streetscape. However this will largely be dependant on the width of access networks and other matters such as amount of public open space and expected levels of density.

With regards to the proposed building heights, specifically of concern are the towers within M2 Site, the Station Goodman Site and the RTA Site. The M2 Site and the Station Goodman Site are of concern due to the inter relationship between the proposed heights and those of surrounding and adjoining land.

With regards to the Station Goodman Site, the heights of 20 and 25 storeys proposed are grossly out of keeping with the heights of adjoining buildings and the heights control limits applicable and proposed for surrounding land.

Given the isolated nature of the RTA site, its limited access, proximity to Bundara Reserve and the isolated single dwelling to remain between the site and Bundara Reserve, the ability of this site to support the proposed height of 13 storeys and the



associated density is highly questionable. This site is of particular concern given the potential for STIF to be contained within the site.

There is a need to consider the block to be bound by Wicks Road, Epping Road and the M2 Site. This block has maximum height limits under the RLEP 2010 of 30m and 22m which will remain unchanged under Draft RLEP 2011. This area is currently zoned B3 Commercial Core and B7 Business Park under the RLEP 2010 which will remain unchanged under the RLEP 2011. Consideration must be given to the future development of the above identified area and how it will relate to the subject site. From the documentation considered thus far, it is unlikely that the proposed height controls will result in a built form that is commensurate with that on surrounding land.

It should be noted that when considering height limits and maximum densities for the area, Council undertook detailed studies of the traffic capacity of the entire Macquarie Park Corridor. These studies determined that the proposed heights will result in a functioning road network system when combined with the proposed road access network detailed within Council's policies. Any deviation to the proposed floor spaces, access networks and heights may result in substantial traffic and transport ramifications for the entire corridor.

Generally, it is considered that all public domain areas should conform to the Macquarie Park Public Domain Manual as this is Council's adopted standard for the Macquarie Park Corridor.

Land Use

It is noted that no land use zoning has been identified for the subject and that the proposed use of the site will be primarily residential with some areas for commercial / retail purposes. Consideration must be given to how the land uses for the site will be controlled and non-residential land uses will be encouraged. This should also be considered in association with the social impact assessment and the needs of future and surrounding residents.

Council supports the placing of commercial land uses along the Epping Road frontage of the M2 Site.

Stormwater and Flooding

Council's completed Macquarie Park Floodplain Risk Management Study & Plan provides the nature and flood extents and recommends a series of floodplain management measures to be implemented within the catchments and can be provided upon request. These reports are also available on Council's website for viewing.

Parts of the site are subject to medium to high flood risk however, the majority of the site is free from the flooding. The flood levels information can be obtained upon request, however are subject to fees and charges. The DRAINS and TUFLOW models are available for purchase on application. Attachment 1 details the flooding extents of the subject site and its surroundings.

The principles of Water Sensitive Urban Design (WSUD) should aim at retention and detention of as much stormwater as possible on site, maintain the water balance and treat stormwater pollution before discharge to the environment. Additionally the strategy should ensure that the environmental stormwater objectives are met in accordance with Office of Environment and Heritage (OEH) guidelines.



Whilst Council has prepared a draft WSUD policy, this document has not yet been adopted by Council. However, Council can provide MUSIC modelling data contained within the policy. This is contained within **Attachment 2**.

Council does not have any preferred techniques or practices with regards to WSUD, however any proposed development of the site must strive to achieve best practice. Generally, Council is of the opinion that the proposed development should achieve the following targets for WSUD:

- 90% reduction in the post development mean annual load of total gross pollutant loads (greater than 5 mm).
- 85% reduction in the post development mean annual load of Total Suspended Solids (TSS).
- 60% reduction in the post development mean annual load of Total Phosphorus (TP).
- 45% reduction in the post development mean annual load of Total Nitrogen (TN).

Given the size and scope of the proposal it is considered that an Integrated Water Management Plan for the entire precinct should be prepared. This Water Management Plan should strive to reduce and reuse stormwater. It is recommended that the proponents explore the possibility of Biological Sequestration and Filtration.

Open Space

It is noted that the identified lands within the Station Precinct include the Tennis World site and are in close proximity to Bundara Reserve and Blenheim Park.

In this respect, the Council is finalising an Integrated Open Space Plan that considers the possibility of open space near North Ryde Station and has been provided to TCA. Whilst the proposal does include some areas of open space, due consideration must be given to the recreational needs of new and existing residents and the capacity of surrounding open space. In particular, it is noted that redevelopment of the OSL site may place additional strain on Blenheim park which is currently functioning at capacity.

With regards to the Blenheim Park it is noted that this site is the only large scale open space area within close proximity of the precinct. Accordingly, adequate open space must be provided within the precinct to cater for the needs of future residents.

Generally, Council's Integrated Open Space Plan indicates that there is a need within Ryde for active open space areas, not passive recreational areas. Furthermore it is noted that Councillors passed a resolution on 22 November 2011 which provided:

- (a) That in accordance with the draft IOSP which identifies a shortfall of open space in parts of North Ryde, Council facilitate a meeting with the Transport Coordination Authority development team to request that as part of the developers contribution through either Section 94 or a VPA, to provide in the identified areas for open space to include sportsgrounds and/or multi use sports facility (including the possibility of synthetic surfaces) to benefit the community of Ryde.*
- (b) That the meeting include all key stakeholders, such as Ryde City Hockey Club with the outcomes being reported to Council.*

With regards to the open space areas surrounding North Ryde Station, Council strongly suggests that these areas are 'urban' in character.



In addition to the above, care must be taken to ensure that any overshadowing of open space is minimised and avoided where possible.

Transport, Traffic and Access

Given the location of the site and the surrounding major roads, transport, traffic and access are key concerns for the site.

It is recommended that TCA prepare a Trip Plan as part of the application that considers all forms of transport, not just vehicular traffic. This should consider all paths of travel through, to and from the site for pedestrians, cyclists and public transport. In particular, an estimate of bus movements to/from the station is required to understand likely bus zone sizing and any layover facility requirements for connection to train services.

In addition to the Trip Plan, a Road Safety Audit must be prepared that considers the vehicular, pedestrian and cyclist access network. This must consider:

- all connection points,
- intersection configuration,
- connections between pedestrian, cyclist and vehicular access networks.

In particular, it is noted that the pedestrian / cyclist bridge from the station to the M2 Site will be a continuous length with no breaks and a width less than 4m due to structural constraints. This is likely to cause significant risk to pedestrians by cyclists using the bridge due to the different speeds of each mode of travel.

Part 4.5 Macquarie Park Corridor of Development Control Plan 2010 provides detailed road types that apply within Macquarie Park. Any proposed access network must conform with these road types. In particular, it should be noted that the selection of road types will be largely dependant on the volume of vehicular traffic through the roads.

In addition to the above, given that the traffic numbers are likely to change substantially, future capacity for change should be built into the access network. In this respect, the possibility of the opening / closing of new turning lanes based on estimated figures for 2031 should be provided.

The configuration of the road network and the overall design of the roadways must be subject to detailed modelling based on an options assessment matrix similar to that which was undertaken by Council in 2007/2008 when the Macquarie Park 2031 Strategic Paramics Model and Study Report was being developed via input from a Steering Committee..

Council has not been in receipt of any specific modelling scenarios for discussion and evaluation of its effectiveness (or otherwise) or considered any modelling assumptions which predicate the proposed roads structure plan, which was recently presented to Council's for viewing. A matter of significant concern to Council is the apparent 'glossing' over of the importance of Road 38's 'through connection' to Epping Rd/Pittwater Road intersection, which Council supports vigorously (please refer to the 'Technical Note' for 'Road 38' which has been provided as **Attachment 3**). The preferred access to Epping Road as detailed in the proposed roads structure plan for the Delhi Road Development Precinct would be via Lucknow Road.

Council has concerns that the current intersection arrangement is not suitable to manage the additional traffic generated once the landforms around the North Ryde Station Precinct are fully developed. Modelling undertaken by Council has revealed



significant worsening of the already congested Epping Road/Delhi Road intersection and the intention of Road 38 is to provide both an alternative “release” for the precinct’s traffic but also for some traffic from Delhi Road to be given the opportunity to “bypass” the congestion Epping/Delhi intersection.

All road typologies MUST be developed in accordance with the Macquarie Park DCP to ensure there is consistency with the rest of Macquarie Park and in particular, the extension of Waterloo Road through the site as the main ‘spine’ road for vehicular access. Council is supportive of TCA developing a left in/left out connection onto Epping Road to assist with reducing the potential ‘traffic’ burden generated by the site which will affect the efficiency of the existing Wicks Road / Epping Road signalised intersection. It is considered that TCA should fund or significantly contribute to the expansion/ upgrade works at this intersection as development within the North Ryde Precinct occurs (in stages).

Social / Community / Cultural Facilities

It is noted that the proposal will result in the provision of approximately 3000 dwellings within the precinct. This has substantial ramifications for the existing surrounding social infrastructure and capacity of existing services.

In this respect, consideration must be given to the capacity of surrounding social infrastructure including but not limited to schools, child care centres, parks, retail / commercial facilities, community and cultural facilities. At a minimum a Social Impact Assessment that considers the demographics of the incoming and existing surrounding residents, their needs and capacity of surrounding social infrastructure. This Social Impact Assessment should consider access to all forms of facilities.

Given the isolated nature of the site, care must be taken to ensure that adequate facilities are available within a reasonable distance to allow for the creation of lively focal points for community gathering and activity and to ensure that all needs of the community are reasonably serviced.

It should be noted that the area is not well serviced by community facilities, the closest being around the Cox’s Road area. Epping Road provides a significant barrier to these facilities. Council is currently undertaking two studies, the Cultural Spaces plan and the Community Hubs Study, that will provide more specific information on the types and combinations of facilities needed in any given location.

The capacities of existing facilities and their access are of concern given isolated nature of the sites and the likelihood of the need to use a vehicle to access them. Consideration should be given to how access to these facilities can be achieved via public / sustainable transport or whether separate facilities need to be maintained within the subject site.

Furthermore, given that the precinct will be the subject of further development applications for future buildings by separate applicants, care must be taken to ensure that sites will be able to foster a sense of community and allow for a degree of self sufficiency. The precinct must be considered and approached as a unified area rather than a collection of prospective individual buildings or sites.

In addition to the above, the provision of public art within the precinct and how this will be achieved should also be considered.

Sustainability

Given the scale, size and nature of the subject site it is considered that the precinct has the capability to be a primary example for ‘best practice’ sustainability.



With regards to sustainability there are four key areas that must be considered by the proposal. These are:

1. Transport

Future development must actively seek to encourage the use of sustainable transport to, from and through the precinct to surrounding residential and business areas. For this to be effectively achieved, care must be taken to ensure that walking, cycling and public transport are actively encouraged.

Whilst it is noted that a key method for this will be a reduction in the car parking rates for the precinct, consideration to incentives for use of sustainable transport should also be undertaken. One such example is the creation of a precinct wide *Location Specific Sustainable Travel Plan*. This is to ensure that a high use of public transport, walking and cycling is achieved and further increased over time. The *Location Specific Sustainable Travel Plan* should give consideration to the following:

- The establishment of a Precinct Wide Body Corporate which underpins the values of the *Location Specific Sustainable Travel Plan* for the precinct and is responsible for the governance of the plan.
- The use of an 'incentive' scheme. This could include matters such as a yearly rebate on their body corporate rates or other for purchasing a full year public transport travel pass.
- Establishment of a Public Transport Modal Shift Target of 40% by 2031 which would be part of the governance mechanism for the site which is the 'Precinct Wide Body Corporate'

2. Energy

Given the size and scope of the precinct, the possibility of self reliant energy generation methods should be considered. This could include the use of Photovoltaic Cells, Co / Tri Generation or similar methods.

3. Waste

Consideration of possible reduction methods for waste output of the entire precinct must be undertaken. This could include matters such as conversion of waste to energy, set targets for waste reduction and recycling within the precinct, or other applicable techniques.

4. Water

Whilst it is noted that the proponents are seeking to apply WSUD principles to the development consideration of possible onsite water treatment, biological sequestration filtration or grey and black water treatment for the entire precinct should be undertaken.

How sustainability will be achieved throughout the lifecycle of future developments and how these will form binding commitments of future developers must be considered.

It is noted that BASIX will apply to the future development, however the possibility of mandatory green star rated performance or similar should be considered given the scope, size and overall yield of the development. It is considered that the proposed development should strive to go above and beyond the requirements of BASIX.



Affordable Housing

Given the housing affordability issues in wider Sydney, consideration to the provision of Affordable Housing within the precinct should be undertaken. It is noted that TCA have identified that affordable housing will be provided and that discussions with NSW Housing are to take place.

Flora and Fauna

It is noted that in close proximity to the precinct is Bundara Reserve which has been identified as possibly containing Sydney Turpentine Ironbark Forest (STIF).

In this respect, it is noted that the current concept envisages a substantial level of development on this site which may have impacts upon possible STIF located within Bundara Reserve. A Flora and Fauna Assessment should be undertaken and of Bundara Reserve and if STIF is found within the site, a Species Impact Statement should be undertaken.

Assets, Land Dedications and Contributions

It is noted that the proposal will result in the creation of infrastructure and assets that may be dedicated to Council. Given the various resource restraints placed on Council, details of funding arrangements for the maintenance of any aspects dedicated to Council must be considered.

Council will not support the dedication of assets that are not built to its specifications or should be rightfully maintained by future developers.

It is noted that the proposed development will result in approximately 3000 dwellings located within the precinct and that TCA is proposing to provide a large portion of the public domain works prior to the selling of the super lots. Currently, it is unclear how Section 94 Contributions will be applied to the site and whether future proponents will be provided a deduction for the works undertaken.

Any assets, dedications or contributions must be clearly and carefully tied to the staging of construction works to occur on the site.

Utilities

Consideration must be given the capacity of existing utilities within the area and the proposed burdens resulting from the proposed development. This includes but is not limited to:

- Sewer,
- Electricity,
- Telecommunications,
- Water, and
- Gas.

This consideration must factor in possible upgrade requirements and where the associated utilities are to be located. An example of this is the provision of kiosks and their location. Kiosks within the public domain areas such as road reserves, public open space or footpath areas will not be supported by Council.

It is strongly suggested that TCA liaise closely with the various utility providers to consider possible upgrade requirements and their location. Also of consideration is the ongoing roll out of the National Broadband Network. Whilst this process is still ongoing and not likely to apply to the subject lands for a significant period of time, given the scope of the works to be provided and the extent of infrastructure and



public domain works proposed it is suggested that provision for the installation of this utility be provided within any services pits.

Waste

Any forthcoming detailed design must ensure that that the entire precinct is capable of being adequately serviced by Council's waste vehicles. With this consideration in mind, care must be taken to ensure that adequate road side collection points are provided for all super lots and that the road network is capable of being adequately navigated by waste vehicles.

In addition to the above, it is noted that the subject site is of a substantial size and will cater for approximately 3000 dwellings on site. It is recommended that the proponents consider the possibility of including the conversion of waste to energy within the precinct.



Attachment 1

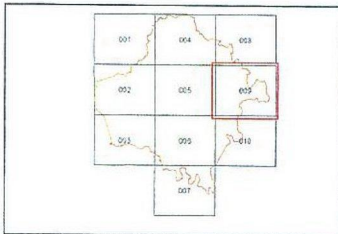
Maximum Building Height (m)

J	9.5	Refer to Cl 4.3 (2A) in respect of R2 Low Density Residential
K	10.0	
L	11.5	
M1	12.0	
M2	12.5	
N1	13.0	
N2	14.0	
O1	15.0	
O2	15.5	
O3	16.0	
P	18.5	
Q	19.0	
R1	21.5	
R2	22.0	
S1	23.0	
S2	24.0	
T1	26.0	
T2	27.5	
U1	30.0	
U2	30.5	
U3	33.0	
U4	33.5	
V	37.0	
W	44.5	
RL		RL Controls
		Refer to Clause 4.3(2C) in respect of R2 Low Density Residential.
		Refer to Clause 4.3(2A) .

Not all codes might be included on this sheet

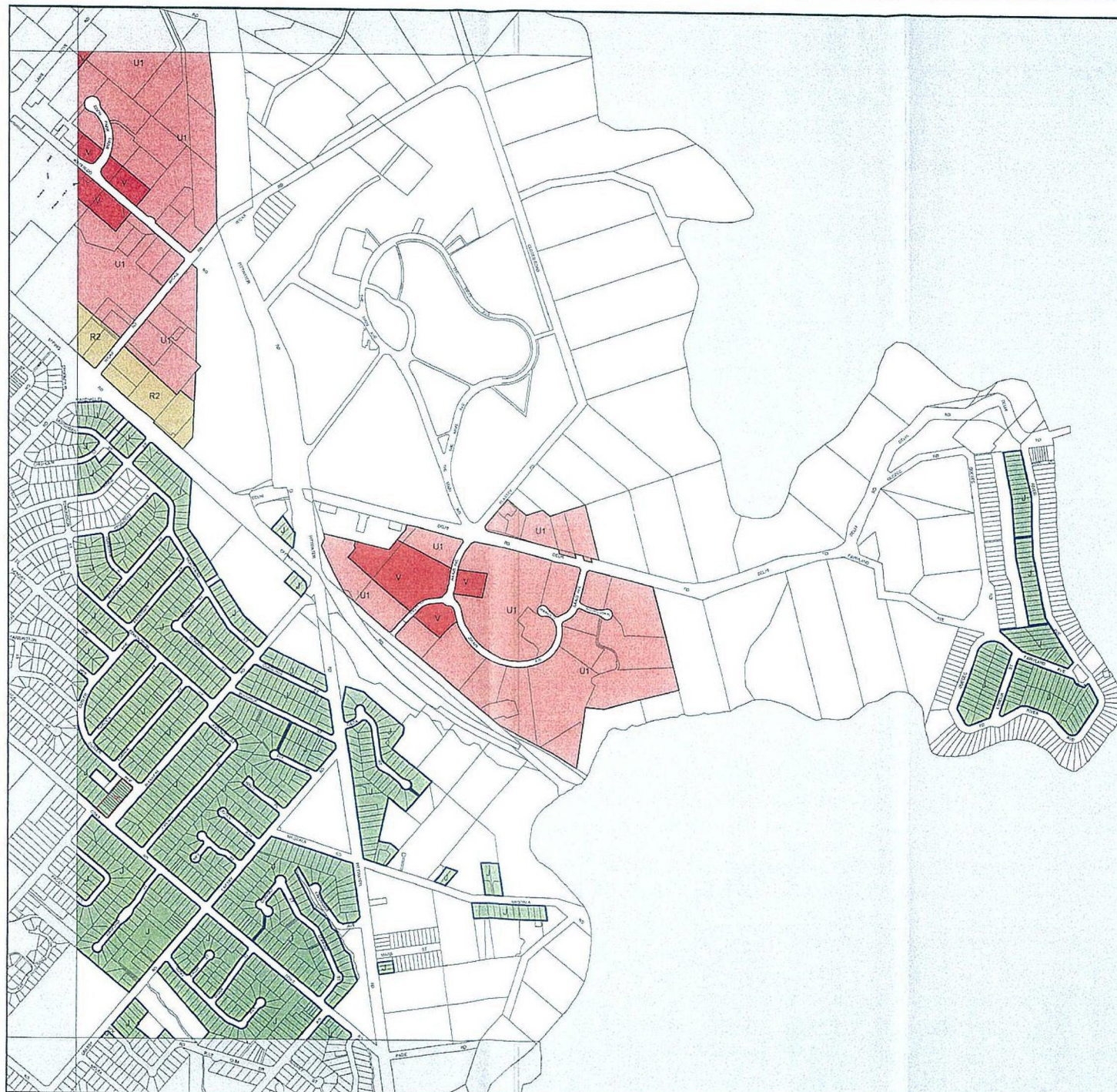
Cadastre

 Cadastre 23/12/2010 © City of Ryde



Projection GDA 1994
MGA Zone 56

Map identification number:
6700_COM_HOB_010_009_20101223



Attachment 2



Attachment

3

Macquarie Park Road 38 Assessment Technical Note

1.0 BACKGROUND

The Macquarie Park Traffic Study identified the need and benefits of a proposed new road connection between Delhi Road and Epping Road, as shown in Figure 1. This road has been identified in the report as Road 38.

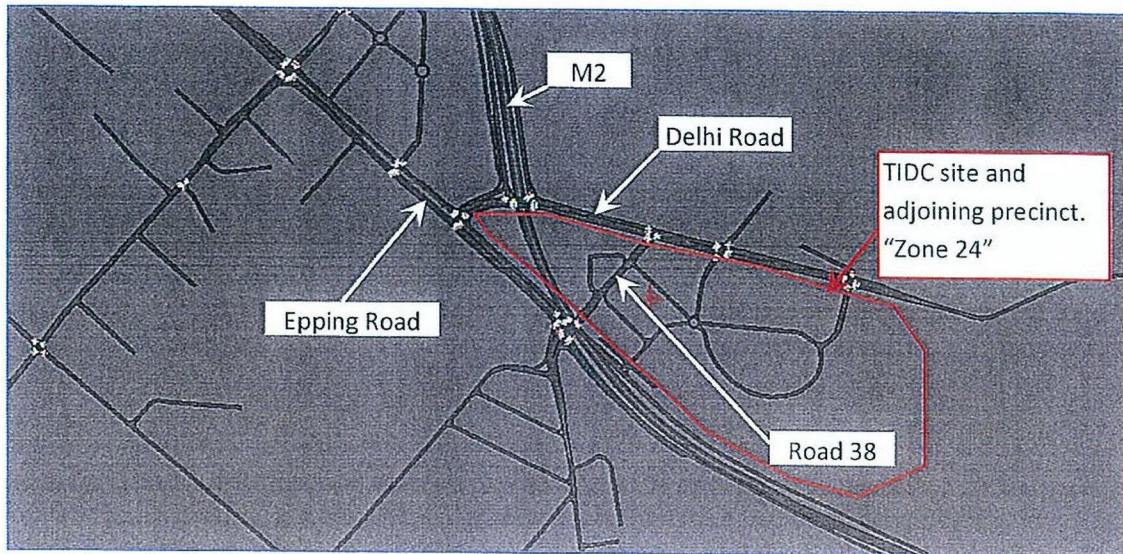


Figure 1: Road 38 Location

A further request has been made to demonstrate and confirm the need for Road 38. This technical note summarised the assessment of Road 38 using the Supplementary Option 4 model network from the Macquarie Park Traffic Study which is the option which most closely reflects the recommended road infrastructure improvements for Macquarie Park. A further model network has been created which removes the connection of Road 38 into the Pittwater Road/Epping Road signals, whilst reducing the configuration of the Road 38/Delhi Road intersection to a form which better reflects an intersection appropriate for property access (as opposed to through road access).

2.0 COMPARISON OF OPERATIONAL PERFORMANCE (WITH AND WITHOUT ROAD 38)

The TIDC site and the adjoining sites in this "precinct" are represented by Zone 24 in the Paramics model. At full development, this area generates approximately 2,100 vehicle trips in each of the morning and afternoon peak hours.

In the morning peak, Road 38 serves the following purposes:

- as an access to for the high volumes of traffic entering the TIDC site (and adjoining precinct);
- as a "bypass" of the Delhi Road/M2 interchange area for traffic which is not accessing the interchange; and
- for traffic leaving the M2 at Delhi Road and heading eastbound to Epping Road or southbound to Pittwater Road so that they do not have to pass through the less direct and congested Delhi Road/Epping Road intersection.

The primary need for Road 38 is, however, shown in the modelling to be in the afternoon peak, serving the following key purposes:

- as an outlet for the high volumes of traffic leaving the TIDC site (and adjoining precinct);

- to reduce the traffic demand through the Delhi Road/M2 interchange area; and
- to provide direct access from Epping Road and Pittwater Road from the south and east into the precinct, rather than traffic using alternative, congested routes.

Figure 2 shows the congestion levels in the 2031 morning peak with full development of the precinct for with and without Road 38 in place. The removal of Road 38 results in a much heavier demand for right turns from Epping Road into Delhi Road, filling out the available dual lane pocket space. The traffic destined for Zone 24 also fills out the available pocket length for right turn into the western most signalised access to the TIDC site off Delhi Road. This in turn queues out into Delhi Road, affecting the ability for M2 southbound off ramp traffic to clear and then queuing back to the M2. Whilst additional right turn pockets at the Zone 24 access intersection may improve the situation at this location, it is unlikely that the filling of the right turn pockets from Epping Road into Delhi Road would be as easy to solve, as these are already quite long lanes.

Figure 3 shows traffic queues in the vicinity of Zone 28 with and without Road 38 in the afternoon peak. This figure clearly demonstrates that without Road 38, there is insufficient exit capacity for traffic leaving the precinct. This figure also shows (as expected) that traffic leaving the precinct to travel east (via Epping Road) and south (via Pittwater Road) will increase queue lengths at the Delhi/Epping and Pittwater/Epping intersections.

Also, as shown in Figure 4, with no Road 38 all traffic leaving the precinct destined for the south and west needs to pass through the Delhi Road/M2 interchange further congesting this area rather than using the less congested Epping Road.

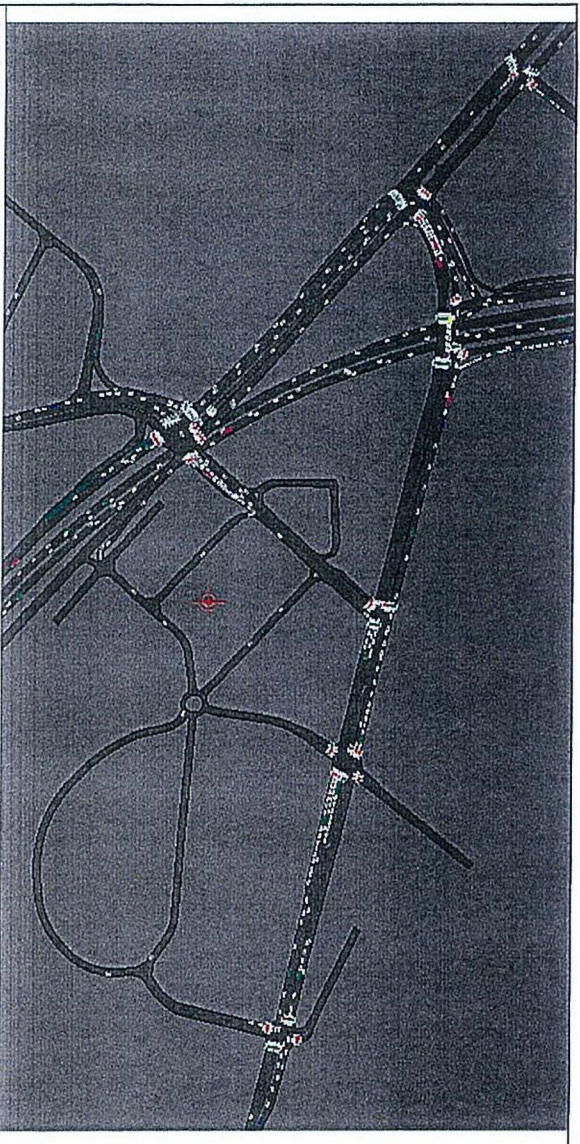
A further issue that exists is that removing Road 38 significantly increases the need for the westbound to northbound grade-separated right turn from Epping Road to the M2. This is because the two lane "at grade" right turn is full (over-full) due to the extra traffic destined for Zone 24 from Epping Road and Pittwater Road when Road 38 is not in place. If this grade separated right turn is not provided, the existing two lane right turn pocket would block back out onto Epping Road and back through the Pittwater Road intersection.

It is therefore implied that the implementation of the grade separated right turn could therefore be delayed/deferred if Road 38 is introduced when the Zone 24 precinct is developed/re-developed.

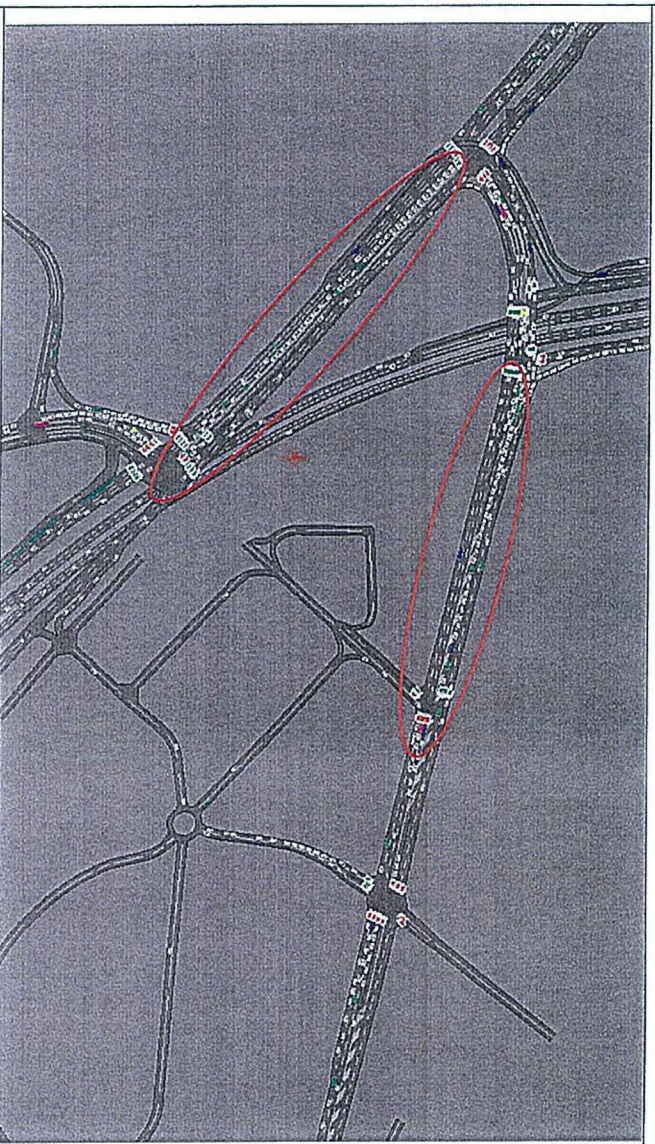
3.0 CONCLUSIONS

Road 38 is considered to be an important link in the future road network for Macquarie Park because it:

- provides a more direct route from Pittwater Road into zone 24 and to Delhi Road in the AM peak rather than travelling via the congested Epping Road/Delhi Road intersection and the M2/Delhi Road interchange;
- allows for uncongested egress from the TIDC site (and adjoining sites) in the PM peak;
- reduces queue lengths at the Delhi Road approach to Epping Road intersection and the Epping Road right turn pocket into Pittwater Road;
- is likely to defer the need for the grade separated right turn from Epping Road to the M2; and
- reduces the traffic demand passing through the M2/Delhi Road interchange, allowing more of the capacity of this interchange to be preserved for traffic directly associated with the M2.

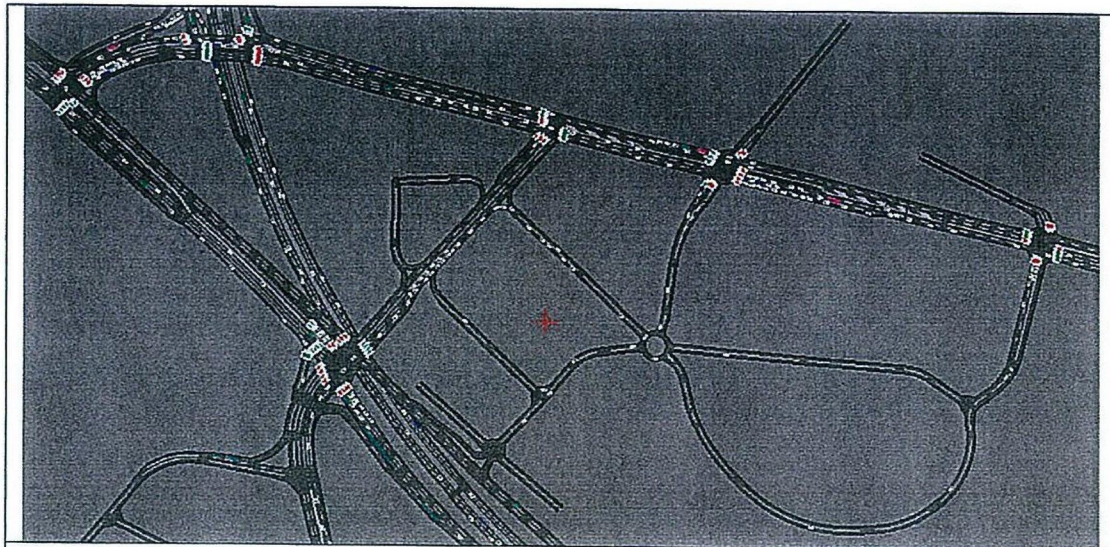


2031 AM Peak Congestion – with Road 38 (8:00AM)

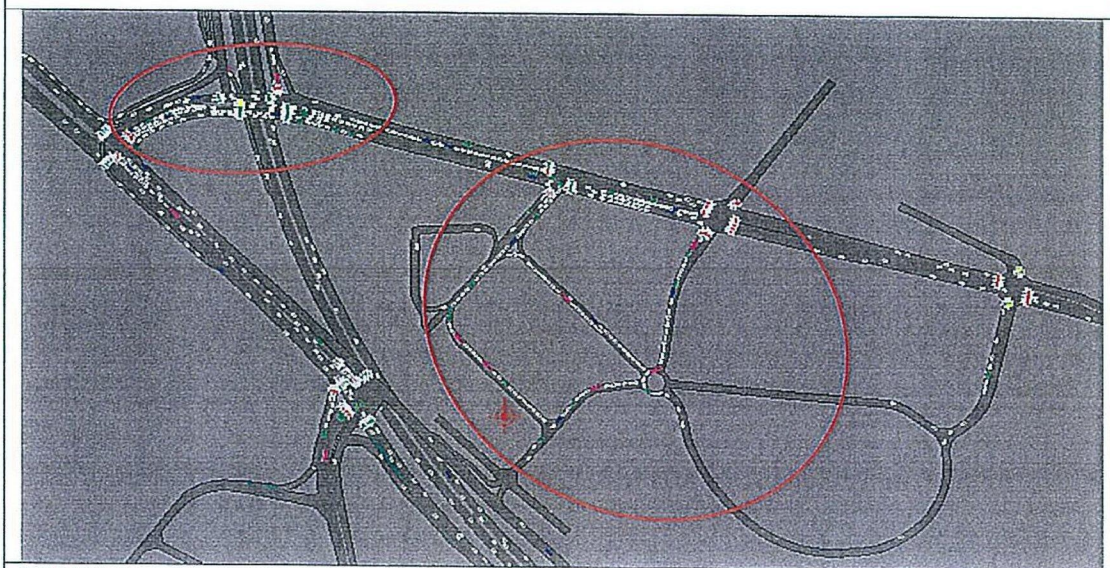


2031 PM Peak Congestion – No Road 38 (8:00 AM)

Figure 2: Congestion Effects, with/without Road 38, AM Peak



2031 PM Peak Congestion – with Road 38 (5:30PM)



2031 PM Peak Congestion – No Road 38 (5:30 PM)

Figure 3: Congestion Effects, with/without Road 38, PM Peak

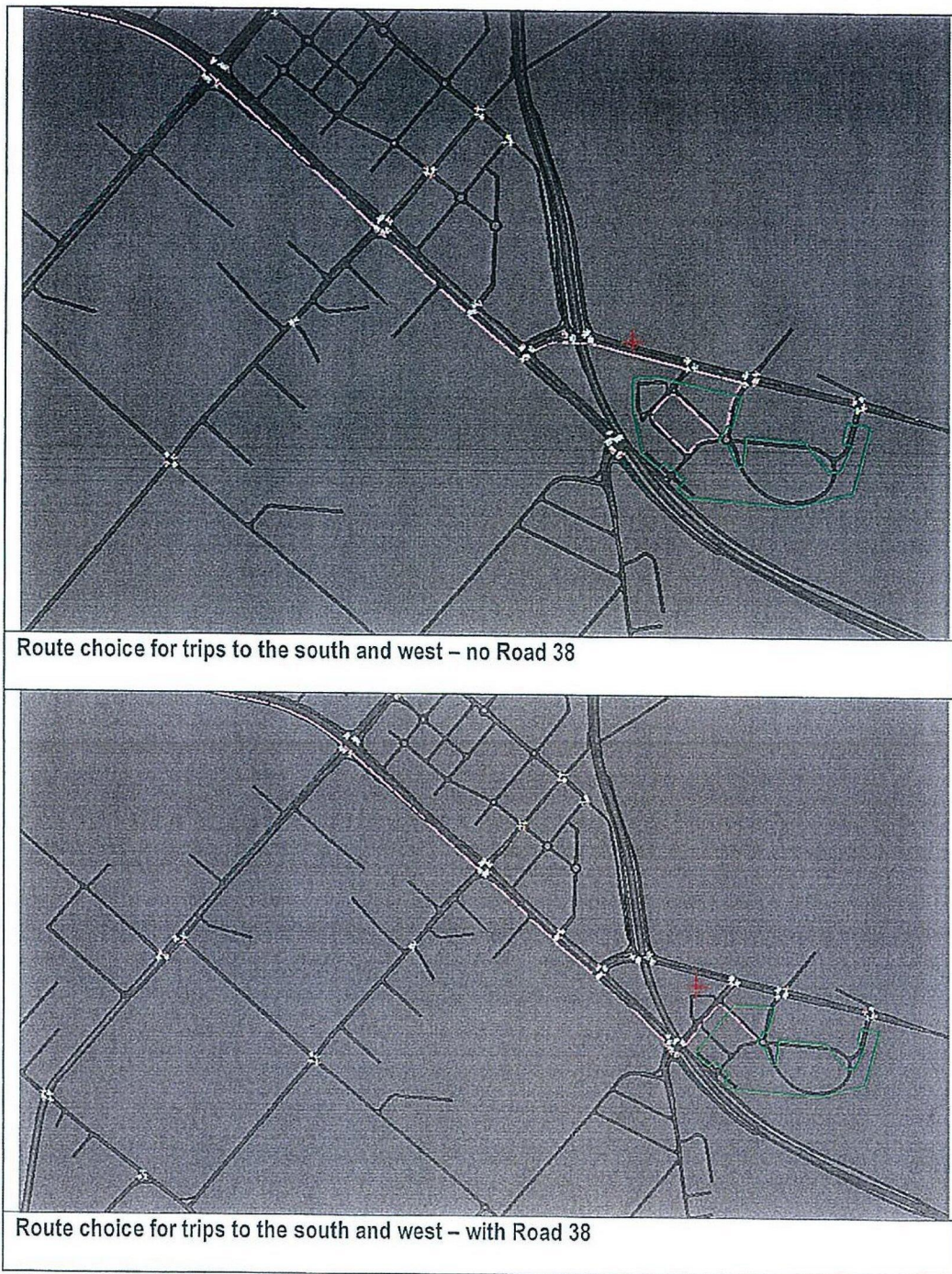


Figure 4: Route Choice with/without Road 38