Pitt Street Waterfront Precinct Rezoning

Phase 1 - Transport Review

Greater Taree City Council

31 October 2007

Pitt Street Waterfront Precinct Rezoning

Prepared for

Greater Taree City Council

Prepared by

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A	27/08/2007	Draft Report	Robin Jackson Principal	Original Signed
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Executive Summary

Maunsell has been commissioned by Greater Taree City Council to prepare a Traffic and Transport Assessment for the proposed rezoning of the Pitt Street Waterfront Precinct.

The site identified for re-development is located east of Taree city centre and comprises mostly of the former dairy factory and pasture land with a small number of commercial, industrial and residential lands.

The existing cycle facilities within Taree were observed to be limited to a small area adjacent to the Taree city centre. Although a bike plan encompassing a wider cycle network has been prepared by the Greater Taree City Council to encompass a wider network, these were not evident on site. However, the Council's bike plan identifies the study area for possible bike paths with opportunities to provide shared facilities along the edge of the Manning River.

Pedestrian facilities in Taree are generally concentrated within the locality of Taree city centre as well as along the main roads within Taree. Outside of the town centre, pedestrian facilities were observed to be limited and typical of regional townships as pedestrian traffic can be quite low.

The disused rail facility within the study area was examined for possible reuse as a passenger service line. The facility was originally installed for the purpose of transporting milk from a dairy factory, therefore enabling the line to cater for passenger services will require substantial works to upgrade the rail facilities. A rail service would obviously benefit the immediate community, however initial assessment has shown that the catchments area is minimal and the cost of implementing and maintaining a rail service may not be sustainable given the catchment area.

Analysis of the local road network with current traffic flows, using SIDRA Intersections 3.1, has shown that the surrounding intersections currently perform at satisfactory levels with capacity to accommodate additional traffic flows. To further examine the capacity of the load road network and the development impact on the surrounding intersections, different development scenarios consisting of varying levels of residential, commercial, industrial and recreational trips for study area were analysed. Initial results of the analysis indicated that the local network would be able to accommodate the additional traffic generated by the re-development of the study area, however it also identified that the intersection of Commerce Street and Victoria Street will operate near capacity and will require remedial measures if traffic is to be increased.

1.0 Introduction

1.1 Background

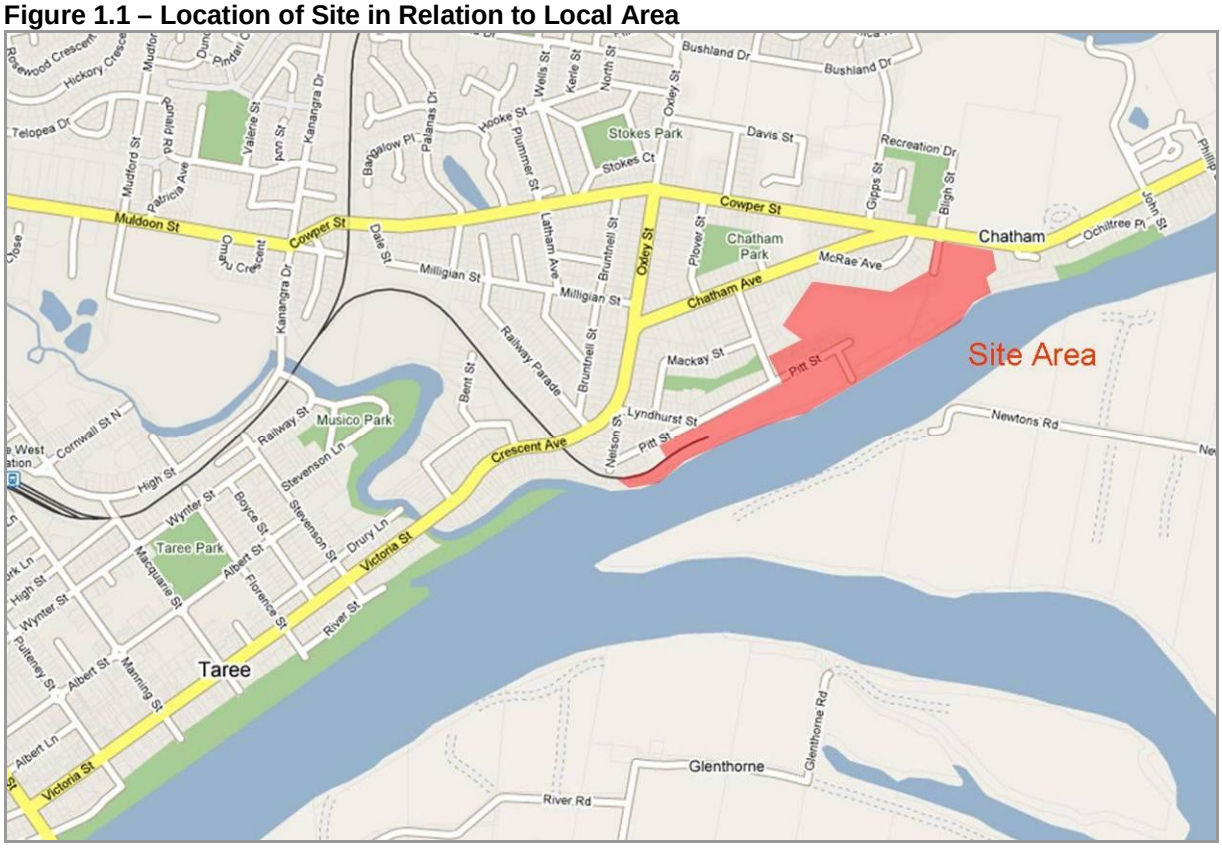
The recent sale of the former Dairy Factory at Pitt Street, Chatham and the subsequent cease of factory operations present opportunities to develop a strategic plan for developments within this important 20ha site.

The site is positioned at a strategically significant waterfront location and is a major opportunity to provide employment, residential, tourism and perhaps commercial facilities for the people of Taree. The site is large when considered against existing land uses in Taree and can be used to create a vibrant waterfront precinct that integrates into the surrounding urban fabric.

1.2 The Study Area

The site is positioned within the suburb of Chatham, located east of Taree and bounded by Crescent Avenue, Chatham Avenue and Manning River Drive, as shown in **Figure 1.1**. Prior to the completion of the Taree Bypass, these roads were formerly part of the Pacific Highway. Locally, Pitt Street, Pioneer Street, Lyndhurst Street and Nelson Street provide access to Crescent Avenue and Chatham Avenue.

Figure 1.1 – Location of Site in Relation to Local Area



Source: Google Maps (2007)

The site is accessible from Lyndhurst Street to the west, Pioneer Street towards the centre of the site and Bligh Street to the east. There are currently no connections through the site.

Located adjacent to the precinct are mostly single dwelling residential properties and a school along the boundary of Chatham Avenue. The precinct itself comprises mainly of pasture land with industrial buildings located along the river's edge.

Also located within the precinct are a small number of residential properties fronting onto Pitt Street and a retail business located at the intersection of Manning River Drive and Bligh Street.

As the majority of the site was previously used as grazing grounds, vehicle access into the precinct is limited. A rail spur line previously utilised by the dairy factory is located along the western boundary of the study area. However, this rail line has not been in service in recent times and was only utilised by the dairy factory prior to the factory transporting its produce by trucks.

1.3 Report Purpose and Scope

With the development opportunities in mind, the purpose of this report is to:

- consider the existing capacity of the surrounding transport networks;
- review existing documentation and confirm the opportunities and constraints that face the development;
- consider the likely traffic generation and potential impacts of a range of development scenarios;
- consider the re-use of the existing rail spur; and
- provide recommendations regarding the ability of the precinct to support the residential, tourism, industrial and/or marina land uses.

2.0 Planning Context

2.1 Draft Mid-North Coast Regional Strategy (2007)

The Draft Mid-North Coast Regional Strategy was prepared by NSW Department of Planning in recognition of the rate of growth within NSW mid-north coast. Department of Planning forecasts that within 25 years, the region's population would increase by 91,000 people. In order to accommodate this increase, the draft strategy has recognised the regional significance of Taree and its land and infrastructure capacities to accommodate significant industrial and residential growth.

The draft strategy is supportive of further residential development, including medium and higher density developments and supportive of developments of taller buildings around the Taree town centre to promote affordability and bring tourism to the area.

2.2 City Centre Study (1991)

The Taree City Centre Study was produced by Purdon Associates Pty Ltd in 1991 to assist Council prepare a management plan and development strategy for the Taree City Centre.

The study examined the existing developments and functions within the Taree City Centre, within the areas surrounding Victoria Street, Albert Street and Manning Street in Taree. The study did not extend to the Pitt Street Precinct. The City Centre Study provides guidelines to encourage and control developments within the Taree Centre in order to achieve the identified objectives.

The following extracts are applicable to this project:

- *"Taree City Centre should continue to fulfil the role of a sub-regional centre serving much the same catchment as at present. The Centre should retain at least the current share or retail and commercial floorspace.*
- *Provision of retail floorspace, both for the catchment and tourists, should be concentrated in the City Centre with the exception of suburban retail centres required to meet local shopping needs of Greater Taree residents.*
- *"Pedestrian Access - It is recommended that Council assesses the standard of pedestrian access from other areas adjacent to the City Centre and upgrade as required."*

2.3 Taree CBD Foreshore Management Plan (2000)

The Taree CBD Foreshore Management Plan was prepared by Webb, McKeown & Associates Pty Ltd to analyse and formulate a management plan for the Taree CBD foreshore area.

It recognised that the foreshore is a popular area for recreational uses during weekends and holidays with facilities such as boat ramps, wharves and various water based sports clubs located along the Manning River.

The Taree CBD Foreshore Management Plan is mainly focussed on the area surrounding the Taree CBD. However, some of the general plans that are applicable to the study area include:

- Formalising a waterfront pedestrian and bicycle pathway along the length of the foreshore;
- Lighting along the foreshore;
- Water contact with stepped or sloping banks;
- Placement of wharves; and
- Placement of jetties/boardwalks.

2.4 Summary

The regional planning context recommends residential and tourism growth in Taree, which is supportive of the preliminary development proposals for the Pitt Street Precinct. It is likely that the proposed developments will help to achieve the longer term growth requirements of the region and hence should be supported by the NSW Government.

Locally, the site offers the potential to support Taree City Centre but care needs to be taken to ensure that the site complements and integrates with the City Centre in terms of movement connections for pedestrians, cyclists, vehicles and public transport users. The site should not be isolated from the City Centre.

The Foreshore Management Plan identifies an opportunity to expand public access to the waterfront in Taree. As a 'river city', river access is an important characteristic of the site. The river frontage should be capitalised on as movement corridor, both for access to the site and through the site.

The proposed development appears to site well in terms of local planning policy. However, transport improvements will be required to integrate the site into it's surrounds.

3.0 Precinct Planning

3.1 Overview

At the precinct planning stage, transport requirements must be kept at the strategic level so as to not influence the development outcomes. It is however, essential to establish key transport principles that will act as a framework to support the precinct plan including access requirements, road hierarchy, public transport access and walking and cycling systems.

Council has informed Maunsell that Taree is experiencing a rapid growth in the use of motorised mobility scooters, which do not tend to be accommodated within the existing transport infrastructure. Catering for these vehicles will also be an intrinsic aspect of the precinct planning through the development of wider shared paths.

3.2 Pedestrians and Cyclists

When planning and designing pedestrian and cycle facilities, there are a number of general principles that should be considered and applied. These include:

- ***Permeability*** – pedestrians and cyclists should be able to move conveniently through an area by ensuring that all key origins and destinations are well connected. Large sites, developments and buildings should not present unacceptable barriers to movement.
- ***Priority*** – high priority should be given to pedestrian and cycle movements on key routes, through measures such as short wait times at signalised crossing points.
- ***Continuous*** – pedestrian and cycle routes should be continuous, with well connected foot/cycle paths, crossing facilities and entry points.
- ***High quality*** – pedestrian and cycle facilities should at minimum meet design standards. Footpaths should allow provisions for people with disabilities. Designs should at least meet the standards expressed in Austroads Guide to Traffic Engineering, Part 13: Pedestrians and Part 14: Bicycles.
- ***Integration*** – walking and cycling should be integrated with other modes (particularly bus and train services) through the provision of obvious, safe and convenient pedestrian/cycle access paths to interchange areas, as well as secure cycle storage facilities.
- ***Legibility*** – the local environment should be easy for pedestrians and cyclists to interpret to navigate – street name signs should be clearly visible and provide destinations and distances to key locations.
- ***Capacity*** – pedestrian and cycle paths should be designed to allow ample space for both travelling and stationary pedestrians and cyclists.
- ***Pleasant*** – streetscapes should be designed to high urban design standards that provide interesting pedestrian and cycle routes, free of litter and fear of crime. Appropriate lighting should be provided on all routes. Greater levels of pedestrian and cyclist activity will assist in these regards.

Relating specifically for pedestrian facility design, the following principles should be incorporated into the precinct plan:

- ***Comfort*** – pedestrian paths should be unchallenging and comfortable to travel on. Walking surfaces should be free of obstructions and provide a smooth even surface (with no broken paving).
- ***Crossing facilities*** – appropriate at-grade pedestrian crossing facilities should be provided on desire lines. Consideration should be given to reducing the road width at these locations. Grade separated crossing facilities should be avoided where possible. Pedestrian connectivity across the Crescent Avenue/Chatham Avenue/Manning River Drive corridor will need to be improved to reduce the current severance.

- ***Facilities*** – appropriate facilities should be provided within the footpath area, including regular seating, bins and information/guide signs. Design of facilities should be coordinated with the overall urban design theme and care should be taken when placing facilities to ensure that footpaths are not obstructed.
- ***Access to car parks*** – pedestrian access between car parks and local attractions should be considered to ensure that safe, convenient and obvious routes are provided, including pedestrian routes within car parks.

Likewise, there are specific design principles that relate to cycle facilities, and these should also be incorporated into the precinct plan design:

- ***Segregated facilities*** – for on-road cycle facilities, cycle lanes should generally be provided with clear segregated cycle lanes, advance stop lines and other priority treatments. Particular care should to be taken for areas where cycle lanes and on-street parking are integrated.
- ***Storage Facilities*** – appropriate storage facilities should be provided at all key destinations (including train stations, major bus stops and large developments). Storage facilities should provide for both long and short term storage of cycles and related equipment. Design should be such that storage is not only secure and provides weather protection, but also conveys a sense of high priority for the treatment of cycles and cyclists.
- ***Intersection Treatments*** – appropriate facilities should be provided for cyclists at intersections and at locations where cyclists have to move between on and off-street paths and vice versa to ensure safe and convenient access. These locations are typically the most difficult and confusing areas of the network for both cyclists and other road users.

The following design principles relate well to the design of shared pedestrian/cyclist facilities, such as the potential waterfront route, and should be incorporated into the design of the masterplan:

- ***Separate*** - in general, facilities should be provided separately for pedestrians and cyclists, taking into account the different needs of these two groups, and in particular, vulnerable pedestrians such as those with impaired hearing, sight or walking difficulties. Where facilities are likely to be shared with motorised mobility scooters, wider shared paths (2.5m minimum) must be provided.
- ***Consultation*** - where opportunities for shared off-road routes are identified (such as the waterfront), paths should be carefully planned with wide consultation at an early stage to ensure suitability of the route and the proposed facilities. Once implemented, use of the route should be monitored and changes made if problems arise.

3.3 Access and Street Hierarchy

Guidelines for road network design can be allocated into three main categories:

- Road classification (road hierarchy) – how will traffic move through the precinct and are roads designed to accommodate with function in mind?
- Road capacity – are adequate lanes provided on the streets to accommodate traffic without significant congestion?
- Intersection performance – are delays at intersections acceptable?

Road Classification

The role and function of a road within an urban transport network can be defined in terms of the traffic carry function and urban amenity: as traffic flow increases, amenity decreases and vice versa. Therefore:

- Arterial roads have the least amenity, but the highest traffic carrying capability. They provide an arterial function carrying traffic between urban areas.
- Sub-arterial roads carry traffic within urban areas, typically connecting to arterial roads.
- Collector roads increase amenity at the expense of capacity. These roads provide an intra-urban traffic function.
- Local roads have a high level of urban amenity but relatively low traffic carrying capacity. These roads provide a local function within communities.

The NSW Roads and Traffic Authority has developed guidelines for classification of roads, which considers traffic speeds and typical carrying capacity. **Table 3.1** summarises the RTA functional classification system.

Table 3.1 Functional Classification of Roads

Road Type	Traffic Volume (AADT)	Through Traffic	Inter-Connections	Speed Limit (km/h)
Arterial/Freeway	No limit	Yes	Sub-arterial	70-110
Sub-Arterial	<20,000	Some	Arterial/Collector	60-80
Collector	<5,000	Little	Sub-arterial/Local	40-60
Local	<2,000	No	Collector	40

Source: Updated Guidelines for Functional Classification of Roads in Urban Areas, RTA, 1993

The Crescent Avenue/Chatham Avenue/Manning River Drive corridor provides the sub-arterial function within the study area, with Lyndhurst Street and Pioneer Street currently acting as local roads.

To improve the permeability and accessibility of the precinct, it may be beneficial to provide a connection between Pitt Street and Bligh Street. This would obviously depend on the land use scenarios developed, but would be recommended on the basis of transport planning principles.

However, connecting Pitt Street and Bligh Street may encourage motorists to use the precinct as an alternate route to the Crescent Avenue/Chatham Avenue/Manning River Drive corridor. If this connection is provided, measures to slow traffic and make the alternative route less attractive for through traffic should be considered. These may include streetscaping, changing the alignment of the roads or introducing intersections.

Road Capacity

Level of Service (LoS) is an index of the operational efficiency of a roadway or intersection. The analysis is essential in planning and design of the transport network and can influence the number of lanes provided or the arrangement of a traffic control system under study. As a mid-block measure, LoS is a qualitative measure describing the operational conditions on a road and their perception by a driver. The capacity of urban lanes with interrupted flow is provided in **Table 3.2** for each LoS.

Table 3.2 - Mid-block Level of Service and Capacity

LoS	Description	Hourly flow (vehicles)	
		1 Lane	2 Lanes
A	A condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.	200	900
B	In the zone of stable flow and drivers still have the reasonable freedom to select their desired speed and to manoeuvre within the traffic stream, although the general level of comfort and convenience is a little less than with LoS A.	380	1,400
C	Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.	600	1,800
D	Close to the limit of stable flow and is approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.	900	2,200

LoS	Description	Hourly flow (vehicles)	
		1 Lane	2 Lanes
E	Occurs when traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause break-down.	1,400	2,800

Source: Guide to Traffic Generating Developments, RTA, 1994

It is generally acceptable to provide road capacity at Level of Service D in the peak hour since overprovision of road capacity is not conducive to promoting alternative transport modes to the car.

Intersection Performance

The capacity of an urban road network is controlled by the capacity of the intersections. Average vehicle delay is commonly used to assess the actual performance of intersections, with Level of Service used as an index. A summary of the Level of Service index is shown in **Table 3.3**.

Table 3.3 Level of Service Criteria for Intersections

Level of Service	Average Delay / Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays	At capacity; requires other control mode
F	>70	Roundabouts require other control mode	At capacity; requires other control mode

Source: Guide to Traffic Generating Developments, RTA 1993

Level of Service D is generally accepted by the NSW Roads and Traffic Authority as design constraint. It should also be noted that capacity constraint can be used as a demand management technique and that over-provision of capacity can encourage more car use.

3.4 Cross-Sections

The precinct should comprise of a network and hierarchy of roads which would integrate the study area into the existing adjacent road network. The existing alignment of Pitt Street and Bligh Street present an opportunity to extend the roads further into the precinct.

Footpaths should be provided on all roads, with a general minimum width of 1.2m increasing to 2.4m in areas of higher pedestrian volumes.

On routes likely to be used by motorised mobility scooters, a minimum of 2.5m should be provided. Kerb lips should be avoided as these create an obstacle for motorised wheelchairs.

Traffic lanes on public transport routes should be provided at 3.5m minimum width, with general traffic lanes at 3.0-3.2m.

Access to a marina should consider vehicles with trailers for boat access. Heavy or oversized vehicles may also require access to the site for maritime purposes.

4.0 Opportunities and Constraints

4.1 Pedestrian

Paved footpaths are provided within Taree on the majority of the arterial roads and within the town centre. Current pedestrian access around the Pitt Street Precinct and the residential areas outside of the Taree City Centre tends to be limited to grass verges along the road reserves.

Pedestrian crossings exist at the signalised intersections of Chatham Avenue / Pioneer Street and Chatham Avenue / Cowper Street. However, at the adjacent priority intersections of Lyndhurst Street / Crescent Avenue and Bligh Street / Manning River Drive, there are no existing pedestrian crossing facilities provided.

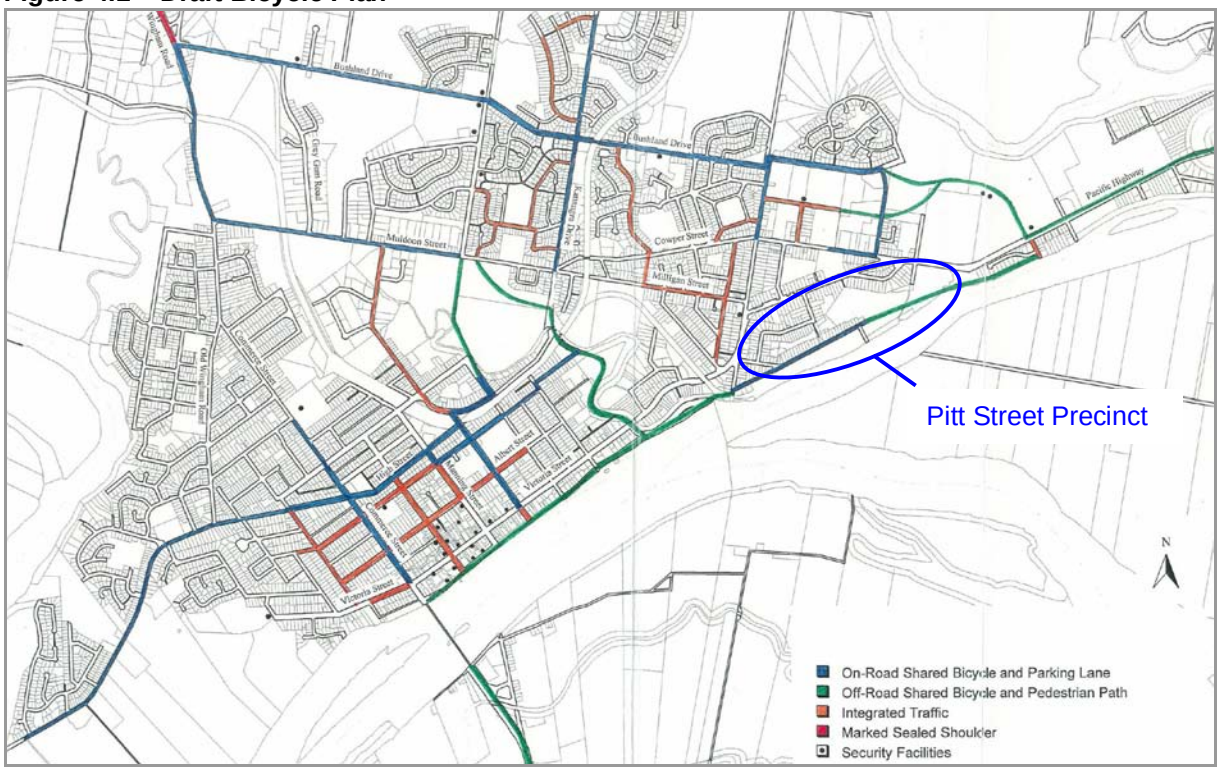
Pedestrian access to the site is severed by the Crescent Avenue/Chatham Avenue/Manning River Drive corridor. Connectivity between Taree City Centre and the site is constrained by the creek and railway.

Opportunities for improved pedestrian accessibility include safe, controlled crossing points within the Crescent Avenue/Chatham Avenue/Manning River Drive corridor, including the Bligh Street intersection and potentially Lyndhurst Street. Improved access along the waterfront to Taree City Centre should also be pursued in line with the principles defined in the Taree CBD Foreshore Management Plan.

4.2 Cycling

Bicycle facilities are currently not evident within the precinct or the surrounding areas. The draft Bicycle Plan for the Greater Taree prepared for Council in 1996 proposed a bicycle route along the Manning River edge between Commerce Street and Manning River Drive. **Figure 4.1** details the proposed bicycle routes within the Greater Taree area.

Figure 4.1 – Draft Bicycle Plan



Source: Greater Taree City Council, 1996

Figure 4.1 indicates opportunities for both on-road and off-road bicycle routes within the Pitt Street Precinct to connect Taree with Chatham.

4.3 Public Transport

Local bus services are provided by Eggins Coach Services to connect Taree with the surrounding localities of Chatham, Taree North, Taree West and Cundletown. Services are not frequent, but are likely to be comparable to the public transport ridership potential or a regional city such as Taree.

School bus services are also provided by other bus operators within the area. While these services are intended for student travel, services are accessible to the public based on the availability seats.

Various companies operating long distance coach services, such as between Sydney and Brisbane, include Taree as a set-down area. These services are common throughout the day with set-down areas distributed around the Taree town centre.

Taree is serviced by up to five CountryLink rail services daily. These services are intended for long distance travel between Brisbane, Sydney, Casino and Kyogle. Apart from the CountryLink services, there are no local or regional rail operations connecting Taree to the surrounding localities.

Public transport should be provided within the Pitt Street precinct to connect to Taree City Centre and station. The services should be direct and as frequent as possible, with high quality bus stops (with weather protection, seating and timetable information) provided at 400m spacings.

Where possible, stops should be provided on both sides of the road close to crossing points to increase legibility of the public transport system for users. Circular routes or routes using different roads for in-bound and out-bound journeys should be avoided.

4.4 Road Conditions

Figures 4.2 – 4.8 show the existing road conditions of the surrounding streets of Pitt Street Precinct. Crescent Avenue, Chatham Avenue and Manning River Drive all previously formed the Pacific Highway and are still characteristic of an arterial road with up to three travel lanes in each direction with intermittent medians. The roads provide access between many of the surrounding localities within Greater Taree and the city centre whilst providing access to the Pacific Highway.

Figure 4.2 - Intersection of Crescent Avenue, Nelson Street & Lyndhurst Street

Figure 4.3 – Lyndhurst Street looking east

Source: Maunsell (2007)

Figure 4.4 – Pitt Street looking west

Figure 4.5 – Pitt Street looking west

Figure 4.6 – Pioneer Street looking north

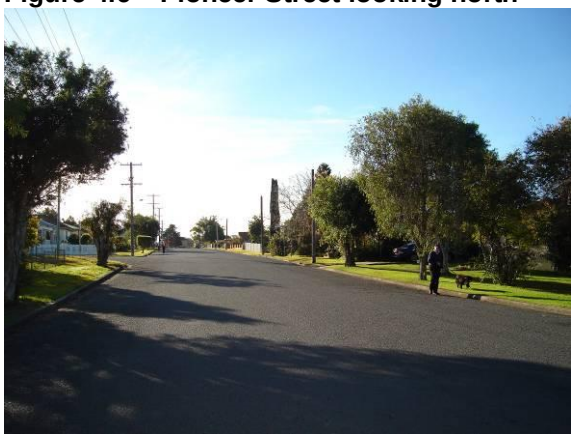


Figure 4.7 – Chatham Street looking west

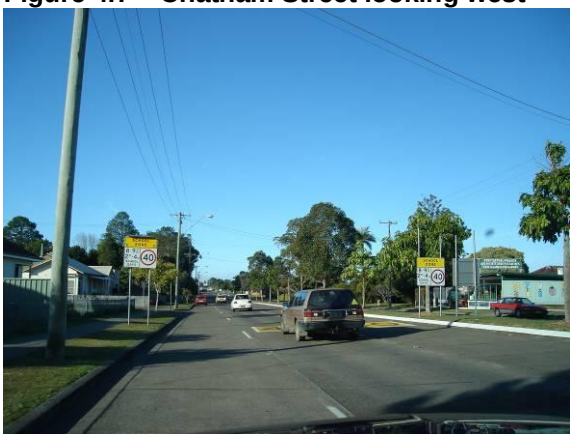


Figure 4.8 – Chatham Street looking east

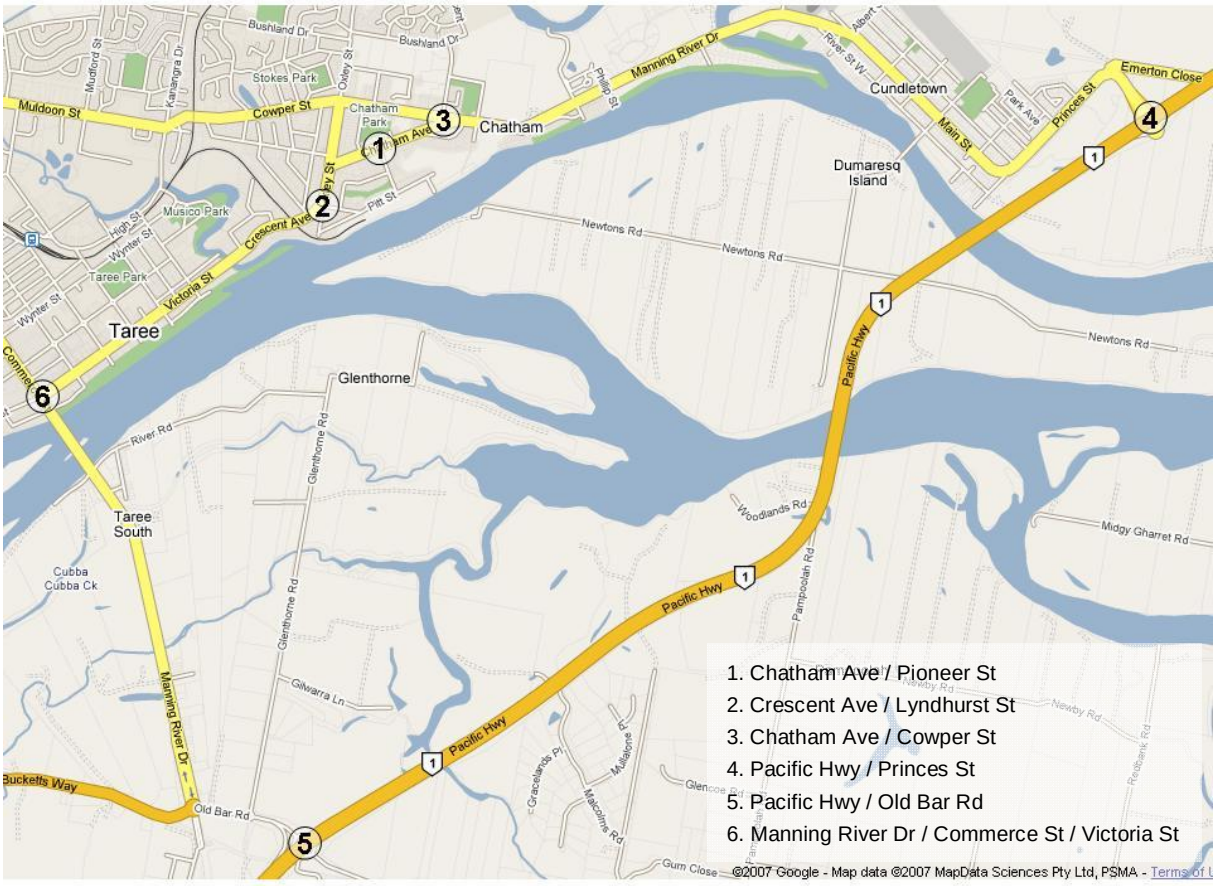
Source: Maunsell (2007)

To identify the current capacity of the local road network, classified turning counts were undertaken at the following six intersections during August 2007, identified on **Figure 4.9**:

- Pacific Highway/Old Bar Road Interchange;
- Manning River Drive/Commerce Street/Victoria Street Signalised Intersection;
- Crescent Avenue & Lyndhurst Street Priority Intersection;
- Chatham Avenue & Pioneer Street Signalised Intersection;
- Chatham Avenue & Cowper Street Signalised Intersection; and
- Pacific Highway/Princes Street Interchange.

The intersection of Chatham Street and Oxley Street was not identified by RTA or Council as a key intersection and was not included in the survey scope at this preliminary stage.

Figure 4.9 – Location of Classified Turning Counts



Source: Google Maps 2007

The performance of the six intersections has been assessed with the aid of SIDRA Intersection 3.1. The results of this analysis, provided at **Table 4.1**, indicate that the intersections currently have some residual capacity during the peak periods. The intersection of Commerce Street and Victoria Street is approaching capacity with some queuing.

Table 4.1 – Intersection Performance Summary, 2007

Intersection		Level of Service*	Existing Average Delay (Seconds)
Chatham Ave & Pioneer St	AM	B	16.7
	PM	A	14.2
Crescent Ave & Lyndhurst St	AM	B	1.4
	PM	A	1.7
Chatham Ave & Cowper St	AM	B	22.0
	PM	B	20.9
Princes St & Pacific Hwy	AM	A	6.5
	PM	A	5.6
Pacific Highway & Old Bar Road	AM	A	5.6
	PM	A	5.6
Commerce St & Victoria St	AM	C	37.6
	PM	C	29.1

Source: Maunsell 2007

* Level of Service based on RTA criteria for intersections

While the street network has some residual capacity, there are a number of issues that will need to be resolved through the precinct planning process. These include:

- safety concerns have been noted at the Lyndhurst Street/Crescent Avenue priority intersection due to the alignment of Nelson Street.
- Restricted movements at the Bligh Street intersection reduce permeability and connectivity across Chatham Avenue.
- Length of turning bays on Chatham Avenue and safety for vehicles turning into and out of the Crescent Avenue/Chatham Avenue/Manning River Drive corridor.

The availability of three access points (Lyndhurst Street, Pioneer Street and Bligh Street) to the site offers the potential to balance traffic loading onto the adjacent transport network rather than concentrating traffic demands at one access point.

4.5 Flood Access

Figure 4.10 illustrates the extent of the 1 in 100 year flood. It indicates that, in such an event, Pitt Street, Lyndhurst Street, Bligh Street and Chatham Avenue will not be affected and safe passage can be provided for evacuation from the precinct.

Figure 4.10 – 1 in 100 Year Flood Extent

Source: Greater Taree City Council

5.0 The Project

5.1 Development Characteristics

The intent of the current landowners of the precinct is for mixed use redevelopment of the site. They wish to seek support for a comprehensive re-development of the area to capitalise on the deep-water frontage along the Manning River whilst possibly retaining and reusing/adapting the existing industrial buildings.

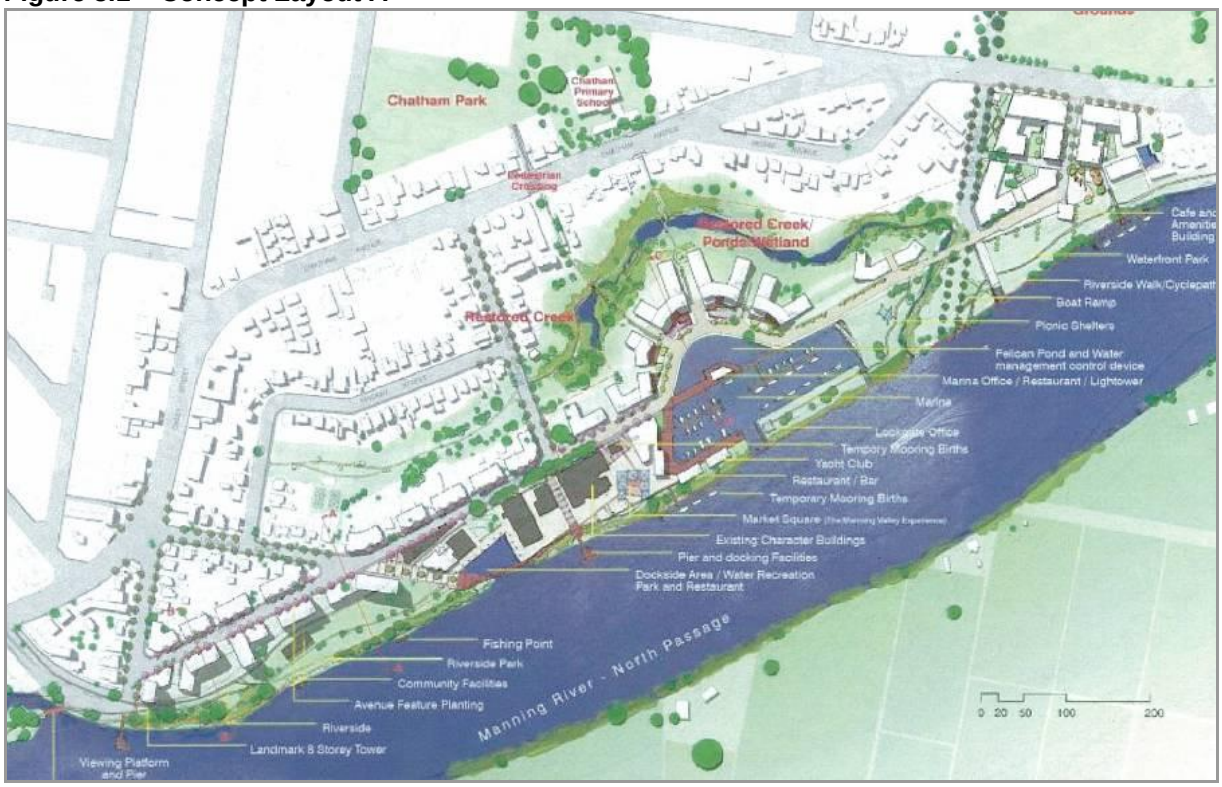
Preliminary options prepared by urban designers have all proposed mixed use developments for the precinct. The common features proposed include marina facilities, residential dwellings, commercial and retail developments within the precinct.

The extent of development is dependant on several factors, one of which is the level of traffic generated by the precinct and the capacity of the surrounding road network in accommodating the additional traffic. Therefore, to assess the permissible level of development, it is necessary to identify and assess the highest trip generation of the precinct whilst the local road network experiences its peak traffic flows.

5.2 Indicative Preliminary Layouts

Figures 5.1 to 5.4 display four possible design layouts for the precinct. All propose to maintain the existing alignment of Pitt Street with varying options for local access roads with varying levels of development of marinas, medium density housing and walkways.

Figure 5.1 – Concept Layout A



Source: Dickson Rothschild, 2007

Figure 5.2 – Concept Layout B

Source: HBO and EMTB, 2007

Figure 5.3 – Concept Layout C

Source: LAB, 2007

Figure 5.4 – Concept Layout D

Source: Suters Architects, 2007

5.3 Potential Trip Generation

At this preliminary stage of assessment, trip rates for the various land uses have been obtained from the Guide to Traffic Generating Developments (RTA, 2002) as summarised at **Table 5.1**. These rates enable the average vehicle trip generation for different scenarios to be estimated.

Table 5.1 – Trip Rates

Development Type	Daily Trip Rate	Peak Hour Trip Rate
Residential (Houses)	9 per dwelling	0.85
Residential (Medium density)	6.5 per dwelling	0.65
Commercial/ Employment	10 per 100m^2	2 per 100m^2 (PM)
Marina	2.7 per berth	-
Industrial	5 per 100m^2	1 per 100 m^2 (AM)

Source: Guide to Traffic Generating Developments, RTA, 2002

The four preliminary concept layouts provide high, medium and low scenarios that can be used to sensitivity test the development impacts. **Table 5.2** summarises the calculation of likely trips based on the trip rates in **Table 5.1**. It has been assumed that multi-dwelling residential land uses would have three levels across the precinct. The actual development yield and hence transport impacts will need to be refined at the rezoning application stage. A sensitivity test has been included as a fifth scenario.

Table 5.2 – Trip Generation

Land Use	Scenario									
	A		B		C		D		Sensitivity	
	Units	Trips	Units	Trips	Units	Trips	Units	Trips	Units	Trips
Residential – houses (lots)	*200*	**170**	*0*	**0**	*20*	**17**	*100*	**85**	*250*	**213**
Medium density residential (units)	*300*	**195**	*500*	**325**	*400*	**195**	*200*	**130**	*250*	**163**
Commercial (m$^{2)}$	*2,500*	**50**	*2,500*	**50**	*2,500*	**50**	*3,000*	**60**	*5,000*	**100**
Marina (berths)	*50*	**135**	*75*	**203**	*100*	**270**	*25*	**68**	*50*	**135**
Industrial (m$^{2)}$	*0*	**0**	*0*	**0**	*0*	**0**	*20,000*	**200**	*20,000*	**200**
Total		**550**		**578**		**532**		**543**		**811**

Source: Maunsell, 2007

6.0 Transport Impacts

6.1 Pedestrians

Pedestrian facilities should be convenient and offer a safe passage through the precinct by connecting to existing pedestrian networks. The concept plans prepared have all indicated an off-road path arrangement along the water's edge to provide a safe and pleasing environment.

Pedestrian paths should be provided along all the roads within the precinct as well as beyond the precinct to connect to any existing pedestrian facilities. In particular, safe passage for pedestrians must be provided across intersections of Crescent Avenue. Permeability across this busy corridor should be improved.

Safe pedestrian connectivity should be provided at key intersections within the surrounds of the precinct where high pedestrian activities are anticipated. Such measures to be investigated should include signalised pedestrian crossings, marked foot crossings, sufficient lighting, tactile markers for the visually impaired, safe buffer zones and kerb ramps. Any proposed signalised intersections should also incorporate pedestrian crossings into the phasing to allow for safe access of pedestrians.

Dependant on vehicle flows, shared zones may be appropriate within the precinct to provide priority for pedestrians in areas near commercial, retail and recreational developments.

6.2 Cycling

The proposed bicycle route through Pitt Street Precinct may be incorporated during the redevelopment of the precinct.

The concept plans prepared for the precinct indicate off-street walkways which may be incorporated as shared pedestrian / cycle paths, therefore the routes would be perceived as a safe environment for cyclists to utilise.

The direct route of the path (provided it is aligned with the river edge) between Crescent Avenue and Manning River Drive, would offer an alternate route to Chatham Avenue for cyclists travelling between Crescent Avenue and Manning River Drive.

6.3 Public Transport

The development would have a positive impact on public transport services, providing the opportunity to enhance services through increased ridership potential. Improving bus services is a key factor in the reduction of reliance on private vehicles and can be achieved by allowing the existing bus operations or new services to access the precinct.

Such services will need designated passenger pick-up / set-down areas. Possible users of the transport service may be commuters and students with destinations to Taree City Centre and surrounding schools.

Bus set-down / pick-up locations should be located in a centrally convenient location within the precinct where it is accessible by the majority of residents.

6.4 Traffic

The morning peak hour is the most onerous in terms of existing transport network performance. Therefore, to analyse a worst-case scenario, the development scenarios have been analysed based on the AM peak period.

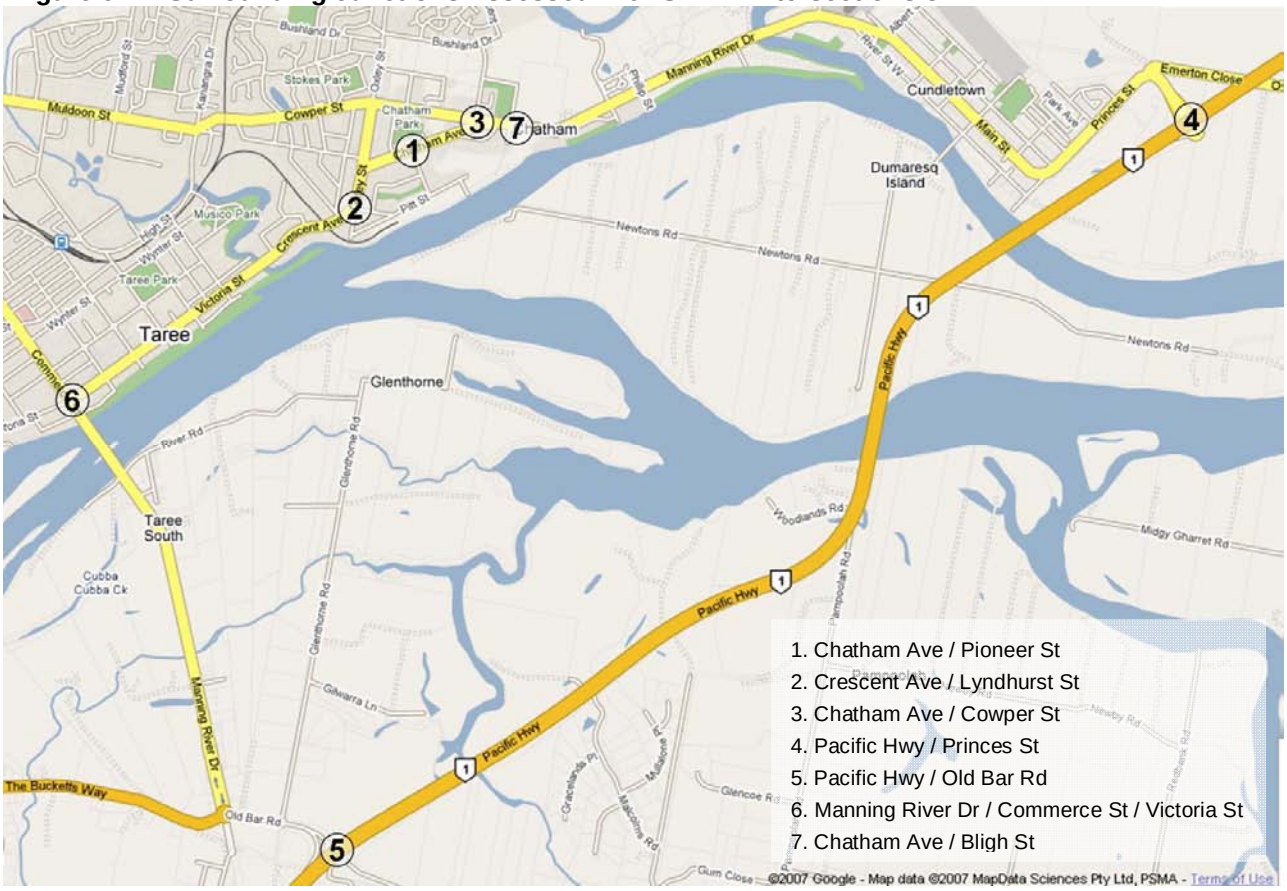
For the purpose of this analysis, the existing peak hour traffic was increased by 5% in anticipation of the growth of traffic within Greater Taree. The current average population growth of Greater Taree is approximately 0.98% per annum[1], therefore a growth factor of 5% is reasonable if it is assumed the precinct is developed within five years.

Furthermore, it has been assumed for AM peak hour, traffic generated by the residential properties exit the precinct during the AM peak hour and traffic generated by the commercial and industrial developments enter the precinct during the peak hour.

Marina facilities and recreational facilities generally have peak traffic occurring during weekends and outside of standard AM and PM peak periods. However, for the purposes of this analysis, it has been assumed that the traffic generated by the Marina would enter the precinct during the AM peak period.

Figure 6.1 displays the location of the intersections examined for possible impact from the development of the precinct. **Table 6.1** provides a summary of the surrounding intersections' performance levels for different development scenarios.

Figure 6.1 – Surrounding Junctions Assessed with SIDRA Intersections 3.1



Source: Google Maps 2007

[1] Annual Bureau of Statistics 2001-2006 Census Data

Table 6.1 – With Development Intersection Performance, 2012

	Base + 5%		Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
Intersections	LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)
Chatham Ave & Pioneer St	B	16.5	B	19.9	B	20.0	B	19.0	B	19.0	B	20.7
Crescent Ave & Lyndhurst St*	B	22.7	C	32.6	C	33.8	C	33.8	C	34.2	C	40.4
Chatham Ave & Cowper St	B	19.4	B	20.4	B	20.1	B	19.6	B	19.6	B	20.0
Princes St & Pacific Hwy*	B	23.4	B	26.7	B	26.3	B	25.2	B	25.2	B	26.9
Pacific Hwy & Old Bar Road	A	5.5	A	5.7	A	5.7	A	5.7	A	5.7	A	5.7
Commerce St & Victoria St	C	37.7	D	43.7	D	43.6	D	43.7	D	44.2	D	46.4
Manning River Dr & Bligh St*	B	24.9	B	21.4	B	21.4	B	21.3	B	21.2	B	21.7

* The average delay for sign controlled intersection is based on the movement with the highest average delay.

* The level of service for sign controlled intersection is based on the critical movement of the intersection.

Table 6.1 reports that the 'Level of Service' (LoS) of the local intersections would be within satisfactory levels during the AM peak period. However, as the traffic generation of the precinct is increased, the intersection of Commerce Street and Victoria Street will reach its capacity, indicating that this intersection may limit the extent of development that can be provided within the precinct.

Further examination has revealed that the current south-bound and east-bound approaches at the intersection of Commerce Street and Victoria Street are already operating at capacity with long delays for both approaches. It was revealed that the delays for these approaches are due to the short turning bay for the right-turn movement into Victoria Street from Commerce Street. Extending this turn-bay would greatly improve the performance and capacity of the intersection.

The probable cost of expanding the turn bay on Commerce Street may be in the order of $270,000 plus costs incurred with possible relocations of service lines, electrical posts, land acquisition, stormwater pipe realignments and bridge adjustments. Costs should be confirmed using local unit costs and the accuracy confirmed through progression of a design.

The outputs shown in **Table 6.1** assume the closure of Nelson Street at the intersection of Crescent Avenue. Nelson Street currently provides access to commercial premise with dual frontages on Crescent Avenue and Nelson Street as well to residential properties located on Nelson Street and Pitt Street.

The current layout of the Crescent Avenue / Lyndhurst Street / Nelson Street intersection requires motorists to observe several opposing movements before attempting to enter Crescent Avenue from either Nelson Street or Lyndhurst Street. This has been noted as a safety concern by Council.

Accident data between 2000 and 2005 indicates that there have been five accidents at this location involving vehicle movements between Crescent Avenue / Nelson Street / Lyndhurst Street. To improve safety and performance at the intersection, it may be necessary to restrict exiting movements at Nelson Street via such treatments as left-entry only or lane closures at the intersection.

Although the existing traffic flows and accident data may not warrant signals at the intersection of Crescent Street and Lyndhurst Street, the anticipated increase in vehicle and pedestrian flows at the intersection may benefit from a signalised intersection.

A signalised intersection not only improves safety for vehicles but also allows greater opportunities for pedestrian connectivity within the surrounding streets. An average cost of implementing signalised intersections at similar locations have been in the order of $150,000. However, this is subject to additional costs incurred from coordination, pedestrian facilities, additional lighting and ongoing maintenance.

6.5 Flooding

Council requires that the proponent demonstrates "*that permanent, fail safe, maintenance free measures are incorporated in the development, to ensure the timely, orderly and safe evacuation of people from the area, should a flood occur*[2]*.*"

In the event of a 1 in 100 year flood, access to the site would be maintained via Pitt Street and Bligh Street. However, the existing pasture land would be affected by such a flood event.

Therefore to satisfy Council's requirement for a '*permanent, fail safe, maintenance free measures incorporated in the development to ensure that timely, orderly and safe evacuation of people from the area'* during a flood event imposes the requirement for all proposed built developments within the flood prone zone to be developed to withstand the 1 in 100 year flood.

The condition also constrains any internal roads designed within the zone to be constructed above the flood levels to ensure a safe flood evacuation route. Thus the preliminary options previously prepared will need to ensure that the proposed developments are constructed above the flood levels and all properties are accessible to an internal flood evacuation route.

6.6 Construction Traffic Impacts

A significant area of the precinct is positioned below acceptable flood clearance levels, therefore it is expected that high volumes of heavy vehicles would be generated to transport fill during the precinct's development stages. As such, a detailed Construction Management Plan would need to be formalised once a design plan for the precinct has been established and an estimate of the construction traffic volumes are formalised.

As internal roads within the study area branch from adjacent arterial roads to provide direct access to the precinct, construction vehicle movements within surrounding local streets would be minimal. Furthermore, the alignments Pitt Street, Bligh Street and Pioneer Street may allow for three separate access locations onto the site during construction stages, thus distributing the construction traffic within the surrounding intersections.

The precinct's proximity to the arterial roads of Crescent Avenue, Chatham Avenue and Manning River Drive implies that, dependant on the origination, transportation of construction materials would have minimal impact on Greater Taree's surrounding local roads as there is no need for construction vehicles to traverse through local traffic areas.

To assess the construction vehicles' impact on the surrounding intersections, sensitivity tests of various heavy vehicle flows during the AM peak were examined with SIDRA and are summarised in **Table 6.2**. The construction program and process is unknown, therefore the construction vehicles have been assumed as sensitivity tests from 0.5 vehicles per minute to 1.2 vehicles per minute.

[2] Greater Taree City Council, 1987, Interim Flood Management Policy

Table 6.2 – Summary of Construction Period Sensitivity Tests

		Base + 5%		30 heavy vehicles / hour		60 heavy vehicles / hour		90 heavy vehicles / hour	
Intersection		LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)	LoS	Avg Delay (Secs)
Chatham Avenue & Pioneer Street	AM	B	16.5	B	17.0	B	17.6	B	18.0
Crescent Avenue & Lyndhurst Street*	AM	B	22.7	B	24.9	C	37.2	F	80.0
Chatham Avenue & Cowper Street	AM	B	19.4	B	19.5	B	19.6	B	19.8
Princes Street & Pacific Highway*	AM	B	23.4	B	23.9	B	24.6	B	25.2
Pacific Highway & Old Bar Road	AM	A	5.5	A	5.5	A	5.6	A	6.6
Commerce Street & Victoria Street	AM	C	37.7	C	39.9	C	40.2	D	42.5
Manning River Drive & Bligh Street*	AM	B	24.9	B	28.2	C	35.8	D	47.1

* The average delay for sign controlled intersection is based on the movement with the highest average delay.

* The level of service for sign controlled intersection is based on the critical movement of the intersection.

Table 6.2 indicates that the surrounding intersections would perform within satisfactory levels with up to 60 vehicles (representing 60 entries and 60 exits) during the AM peak hour. It is also observed that with increases of up to 90 heavy vehicles, the intersection of Crescent Avenue and Lyndhurst Street will fail to accommodate the anticipated volumes.

The main impacts of construction will be amenity impacts, noise, dust and pedestrian safety. These issues would need to be addressed through a construction traffic management plan and cannot be identified or confirmed at this preliminary stage.

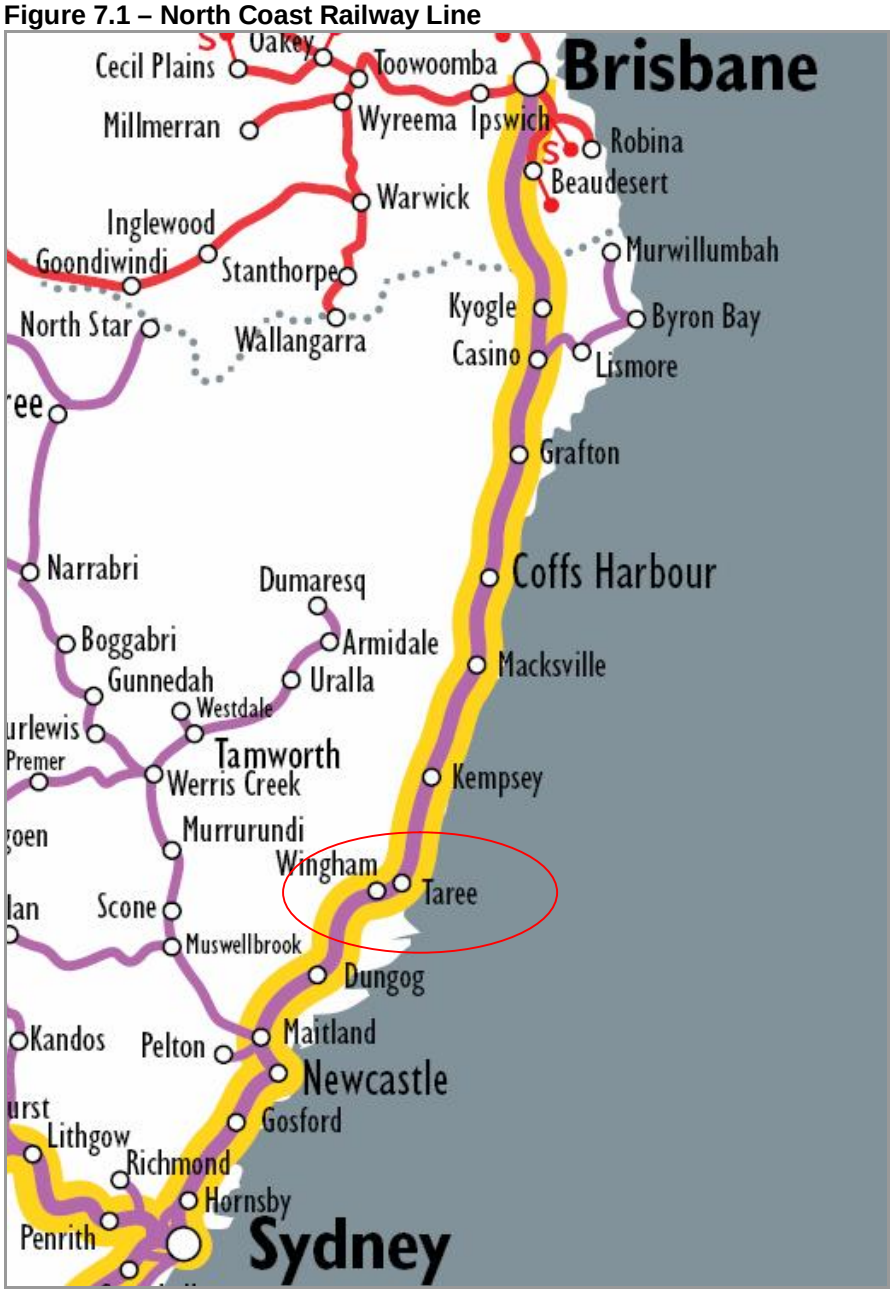
7.0 Rail Feasibility

7.1 Introduction

The existence of the rail siding facilities within precinct has raised the feasibility of introducing passenger services from the existing rail service to Taree. As the rail facility has not been in use in recent times and was previously installed to transport freight, operational issues, infrastructure requirements and the likely order of costs need to be assessed.

For the purpose of the analysis, it has been assumed that passenger train services to the precinct would link to areas south of Taree including Sydney and Newcastle, as shown in **Figure 7.1**.

Figure 7.1 – North Coast Railway Line



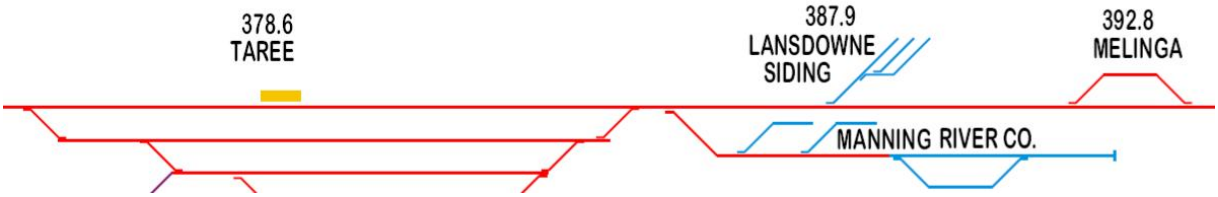
Source: Australian Railway Association website http://www.ara.net.au/

7.2 Existing Track Configuration

The section of track leading into the precinct is the Manning River Rail Siding (spur line) located off the North Coast Railway Line between Sydney and Brisbane. The spur line forms a junction with the North Coast Line immediately north of Taree and is located approximately 380km from Sydney.

According to Australian Rail Track Corporation (ARTC) operational documentation, the siding terminates approximately 3.2km north of Taree railway station and is itself approximately 2km long. The diagram below illustrates the schematic layout of the existing sidings with Sydney shown to the left of **Figure 7.2**.

Figure 7.2 – North Coast Railway Line



Source: ARTC, 2007

7.3 Operational Issues

The ARTC working timetable (published 5 August 2007) confirms that the existing spur line has been decommissioned and there are no trains that currently access the line. The line was originally installed to facilitate transport of goods for three separate industrial operations located within the precinct. Since the decommissioning, the industrial operators have chosen to transport freight by road vehicles and ceased utilisation of the rail lines.

Currently, Taree station is accessed by the following CountryLink services:

- Sydney to Casino XPT (arrives at Taree 12:36pm);
- Sydney to Grafton XPT (arrives at Taree 5:11pm);
- Sydney to Brisbane XPT (arrives at Taree 9:42pm);
- Casino to Sydney XPT (Overnight service departs Taree at 1:42am);
- Grafton to Sydney XPT (departs Taree at 11:07am); and
- Brisbane to Sydney XPT (departs Taree at 4:30pm).

The layout of the existing train line from Taree to the Pitt Street Precinct would result in passenger train services using shuttle service to transport passengers to and from the precinct to Taree Station. The alternative of designating the Pitt Street precinct station as part of the North Coast Railway line would involve diverting the existing train services to the precinct and back-tracking of the rail service to realign with the main railway line.

7.4 Infrastructure Requirements

Re-commissioning the rail line and converting the rail line for passenger train services would require the following rail infrastructure works to be completed:

- Track upgrading works – Re-sleepering, new rail and additional ballast;
- Junction upgrading works – Upgrading of the existing junction with the North Coast Line;
- New platform at the Pitt Street Precinct – Construction of a new terminating platform at the end of the spur line;

- Station facilities – Installation and construction of new station facilities including car parking, services, passenger amenities, staff amenities, ticketing facilities, security and communications equipment;
- Level crossing upgrading – Level crossings will need to be either upgraded or rationalised to manage the new services; and
- Signalling works – re-signalling of the junction with the North Cost Line.

Some basic assumptions have been made regarding the required infrastructure, these include:

- Track class to be upgraded to suit passenger services (Class 1);
- All works will be within the existing corridor;
- No new earthworks will be undertaken;
- Track geometry will remain unchanged;
- No bridges or structure will be modified;
- Maintenance responsibility for the overbridges will remain with the RTA/ local council;
- Level crossings will be rationalised from two down to one (i.e. removal of access road to the dairy effluent pump station) and be fully protected with lights, bells and boom gates;
- Platform to be a basic 20m structure to allow for one car trains to terminate;
- Infrastructure along the existing spur line will be rationalised (i.e. removal of redundant turnouts and sidings);
- The line will be for passenger use only, no freight will operate on the line; and
- No change has been assumed at the existing Taree Station.

7.5 Probable Cost

The likely costs associated with the introduction of new passenger services onto the existing spur line include the following components:

1) Infrastructure costs – Infrastructure costs comprising of the items previously listed including track infrastructure, station infrastructure and amenities. This is likely to incur a cost of between $9-13 Million depending of the condition of the existing infrastructure and the adopted configuration.
2) Rolling stock (passenger train vehicles) – Additional rolling stock may need to be acquired should passenger services be introduced on the upgraded line. Single car unit may cost in the order of $5-7Million[3] which would include maintenance for a specified period.
3) Maintenance Costs – Maintenance costs include both routine maintenance (including track walk inspections and minor maintenance works) and major periodic maintenance. The overall maintenance costs will vary depending on the frequency of trains and the loads that are carried. For the section of renewed track with infrequent passenger trains it is estimated that the maintenance costs may be in the order of $50,000 - $100,000 per annum.
4) Operational Costs – Operational costs includes staff (eg. drivers, station staff, operational staff) and network access fees charged by ARTC. Without any detailed concepts the estimated preliminary operational costs on the new route would be approximately $2-3M per annum.

7.6 Potential Effects

Introduction of a regular rail service to the precinct will benefit those residing within the rail catchment travel between the site, the town centre and the wider area. Aside from the obvious benefit for passenger transportation, a rail service would reduce the demand for parking and reduce the volume traffic within the town centre.

[3] Figures based on the estimated cost of the recently procured Hunter Rail Cars (see http://www.rtsa.com.au/events/conferences/core/2004/final-paper-07-duncan.pdf)

As Taree City Centre is located in relatively close proximity to the study area, a train station within the precinct is unlikely to be utilised by car/train mode-sharing commuters but rather by those residing within walking distance of the station. Therefore, it is unlikely that there would be a high demand for commuter parking within the precinct.

Dependant on the types of developments proposed within the precinct a rail service may attract visitors from adjacent townships, accessible to existing rail services, to further promote commercial, retail and recreational developments proposed to be installed within the study area.

Re-introducing rail services to the existing line is likely to generate noise levels over a longer length of time than compared to its previous uses as a goods line, since there would be higher numbers of trains travelling throughout the day. As such, those most likely to be affected by noise levels would be properties located adjacent to the rail line near Beeton Parade, Bent Street, Crescent Avenue, Railway Parade, Lyndhurst Street, Pitt Street and properties located near the Taree train station.

Under the current road conditions, a level crossing is located at the junction of the rail line and Macquarie Street between High Street and Whitbread Street. The proposed passenger service is likely to be incorporated into this level crossing. Therefore, it is a possibility that increase is train movements over the level crossing may delay the traffic movements in Taree City Centre.

7.7 Rail Usage

Figure 7.3 illustrates the likely catchment for a station at Pitt Street. The figure illustrates an 800 metre radius walk distance from the station but assumes that areas to the west of the rail spur (Beeton Parade and Bent Street) would be more likely to walk directly to Taree town centre rather than utilise the train service from Pitt Street since the distance to Taree nearer than to the Pitt Street station. Pedestrian severance caused by Crescent Avenue/Chatham Avenue has been discounted for this task.

Figure 7.3 – Pitt Street Station Catchment

Source: Maunsell, 2007

The estimated catchment of the station has been estimated using typical residential densities and Census data, as shown in **Table 7.1**.

Table 7.1 – Estimated catchment population, excluding waterfront development

Zone	Land Use	Number of Lots/ Area (ha)	Population/ Lot or Employees / Hectare	Total Population
2a	Residential	450	2.41*	1,085
3a	Business General	1.7	28**	48
3b	Business Automotive and Tourist	2.5	28**	70
4	Industrial	34.1	28**	955
Total				2,157

* Source: 2001 Census: average population of households, Taree

** Source: Guide to Traffic Generating Developments (RTA, 2002)

The low volume of passengers predicted to utilise the rail service from Pitt Street does not appear to warrant the cost of introducing a passenger rail service. On this basis, the passenger rail service between Taree and Pitt Street precinct is not considered feasible and is not recommended.

8.0 Ability of the Site to Support Development

8.1 Transport Impacts

The site currently has good opportunities for connectivity with the adjacent road network, being served by three roads at the western end, centre and eastern end of the site. The current road network surrounding the site performs well during the morning and evening peak periods, with all intersections performing at Level of Service C or better. Although both peaks are very consistent, the morning peak period is slightly worse.

General analysis of possible scenarios for development has shown that the vehicle traffic generated by redevelopment of the precinct can be accommodated within the local road network without mitigation measures. However, the analysis has shown that traffic near the Taree town centre may be affected if the development scenarios increase considerably, requiring intersection treatment works to be carried out at the intersection of Commerce Street and Victoria Street.

The majority of the land within the precinct is prone to a 1 in 100 year flood levels, any proposed development will need to be accessible to a flood evacuation route by direct access to either Pitt Street or Manning River Drive.

With appropriate planning, the redevelopment of the precinct provides an opportunity to provide pedestrian / bicycle friendly environment with residential and recreations faculties in close proximity to the Taree town-centre to further enhance Taree as a tourist destination.

8.2 Rail Feasibility

A review of rail feasibility has identified that the site cannot viably support the introduction of passenger services on the existing spur line. The costs of providing the necessary infrastructure would not be re-couped by the likely patronage.

The rail corridor, therefore presents an opportunity for alternate uses such as a walking trail or shared path.

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Richard Pamplin - Manager Environmental and Strategic Planning
Greater Taree City Council
PO Box 482 TAREE NSW 2430

3 September 2009

Dear Richard

RE: Adequacy of the Phase 1 Transport Review report submitted in support of the Preliminary Assessment of the Pitt Street, Taree Waterfront Precinct Concept Plan

The transport assessment entitled 'Pitt Street Waterfront Precinct Rezoning Phase 1 – Transport Review' (Maunsell AECOM, 31 October 2007) was originally prepared in support of the *Preliminary Assessment of the Pitt Street, Taree Waterfront Precinct Concept Plan* dated 26 February 2008.

The transport assessment has been reviewed in detail to determine:

1) Whether the scope and findings adequately address the issues presented by the Local Area Plan (LAP) / Masterplan (provided by email on 14 July 2009); and
2) Whether any findings in the assessment are superseded by the LAP/Masterplan.

Table 1 below outlines any additional issues identified as a result of the transport assessment review and how these issues have been, or may be addressed through the planning process.

Table 1: Issues/Recommendations Identified for the LAP / Masterplan

Issue	Recommendation
DGR 6.1: *Prepare a Traffic Impact Study in accordance with Table 2.1 of the RTA's Guide to Traffic Generating Developments to address matters, including the following:* • *The capacity of the road network to safely and efficiently cater for the additional traffic generated;* • *Access to and within the site;* • *Servicing and parking arrangements;* • *Intersection site distances;* • *Connectivity to existing developments;* • *Impact on public transport (including school bus routes);* • *Provision of access for pedestrians and cyclists to, through and within the site; and* • *Identify suitable mitigation measures, if required, to ensure the efficient functioning*	The Phase 1 Transport Review was a traffic and transport assessment prepared for the purpose of re-zoning the Figtrees on the Manning site. The review identified the opportunities and constraints for: • Pedestrians; • Cyclists; • Public Transport; and • Existing road network. The Transport Review analysed four development scenarios for Figtrees on the Manning and assessed the capacity of the adjacent road network for each of the development scenarios. The internal road layouts, land uses and floor space areas originally assessed as part of the

of the network	Transport Review differ from the Local Area Plan (LAP) / Master Plan. However, the forecast trip generation of the site is similar to the sensitivity assessment undertaken as part of the Transport Review. Therefore, the findings of the Transport Review in relation to the capacity of the road network to accommodate the current LAP/ Masterplan remains valid. Other specific details identified by the DGR, such as staging of the development and construction traffic impact assessment, were not addressed.
DGR 6.2: *Address the proposal's public infrastructure requirements, including a pedestrian cycle bridge over Browns Creek, pedestrian and cycle links through the site, road connection between Bligh and Pitt Street, and the treatment of the land/waterway interface. Address the construction sequencing of those facilities and Council's long term maintenance responsibilities.*	The Transport Review identified current constraints of the existing infrastructure as well as potential opportunities to improve accessibility within the area. The Transport Review did not identify specific infrastructure requirements, construction staging or maintenance arrangements. These issues should be addressed by the applicant and Council as part of the Voluntary Payment Agreement.
DGR 6.3: *Protect existing public access to and along the foreshore and provide new opportunities for controlled public access. Consider access for the disabled, where applicable.*	The Transport Review identified opportunities to enhance accessibility between foreshore and the town centre of Taree. It also assessed the development scenarios' capabilities in providing access to the waterfront. The LAC / Master Plan suggest boardwalks, jetties, viewing platforms and river pool/stage along the waterfront to improve public access to the waterfront.
The land uses identified in the 'Traffic Generation Assessment' of the LAP / Master Plan differs from the Transport Review. Also, the Traffic Generation Assessment does not reflect the suggested development lot yields shown for each of the Master Plan precincts	Although the development lot yields differ between the assessments undertaken by the Transport Review and the current LAP / Masterplan, the forecast trips generated by the site are similar and the findings of the Transport Review remain valid for the current LAP / Masterplan.

Yours faithfully

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AECOM