Coastal Major Road Network Infrastructure Charges Plan

FORMING PART OF THE NOOSA PLAN
FEBRUARY 2006

This Infrastructure Charges Plan comprises part of the Planning Scheme for the Shire of Noosa and was first adopted by Council under Section 6.1.6 of the *Integrated Planning Act*: in accordance with the conditions of approval issued by the Minister for Local Government and Planning dated 18 May 2004 and 3 June 2004 as follows:

(i) On 10/06/2004 to apply to "exempt and self-assessable" development having effect from 18/06/2004; and

(ii) On 14/10/2004 to apply to " assessable" development having effect from 22/10/2004.

At the time of adoption, the Planning Scheme comprised:

- The Strategic Plan [gazetted 05/09/1997 under the *Local Government (Planning & Environment) Act*];
- The Schedule to the Planning Scheme (adopted 04/06/1999 under the *Integrated Planning Act*);
- The zoning maps (originally gazetted 04/05/1985 under the *Local Government Act*);
- The regulatory maps (originally gazetted 04/05/1985 under the *Local Government Act*); and
- Noosa Hill Development Control Plan [gazetted 21/09/1991 under the *Local Government (Planning & Environment) Act*];
- Cooroy Development Control Plan [gazetted 05/06/1992 under the *Local Government (Planning & Environment) Act*];
- Marcus Development Control Plan [gazetted 05/05/1995 under the *Local Government (Planning & Environment) Act*]; and
- Noosa North Shore Development Control Plan [gazetted 09/06/1995 under the *Local Government (Planning & Environment) Act*].

The plan has also been adopted as part of The Noosa Plan: Choosing Futures process. Supporting information in the plan will support a planning scheme that is consistent with the requirements of the *Integrated Planning Act*.

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Project Type:	Infrastructure
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Report	H:\Planning Scheme\Icps\CRMICP-The Noosa Plan_20060202.Doc
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TABLES, MAPS & FIGURES

ATTACHMENTS

1. INTRODUCTION

Based on the *Shire of Noosa Strategic Plan* (1997) and its supporting studies, further road infrastructure will be needed in the coastal area of the Shire. In order to fund this infrastructure, the need for which arises from increased resident and visitor populations and associated development, an infrastructure charges plan is necessary to ensure the equitable distribution of costs between the existing and future populations and development. This approach is amplified in Section 6.

This plan is to be known as the *Coastal Major Road Network Infrastructure Charges Plan* (CMRNICP). The plan has been developed to ensure that road infrastructure in the coastal area of the Shire is appropriate having regard to:

- The major road network indicated on the Strategic Plan for the coastal part of the Shire;
- An agreement between the State Government (Main Roads) and Noosa Council involving funding for some parts of the coastal major road network[a];
- The projected levels of population for which provision is made under the Strategic Plan;
- The levels of development necessary to service the population for which provision is made under the Strategic Plan; and
- The levels of service desired by the community and defined by the Strategic Plan and its supporting information.

The approach of the CMRNICP is based on the *Shire of Noosa Strategic Plan* (1997), which with its Planning Study, identified that future roadworks improvements:

- Were not necessary to overcome existing deficiencies in the network associated with traffic generated by existing population; but
- Will be necessary to accommodate traffic generated by future population and development increases.

Figure 1.1 provides an overview of the approach of the CMRNICP, which in summary is as follows:

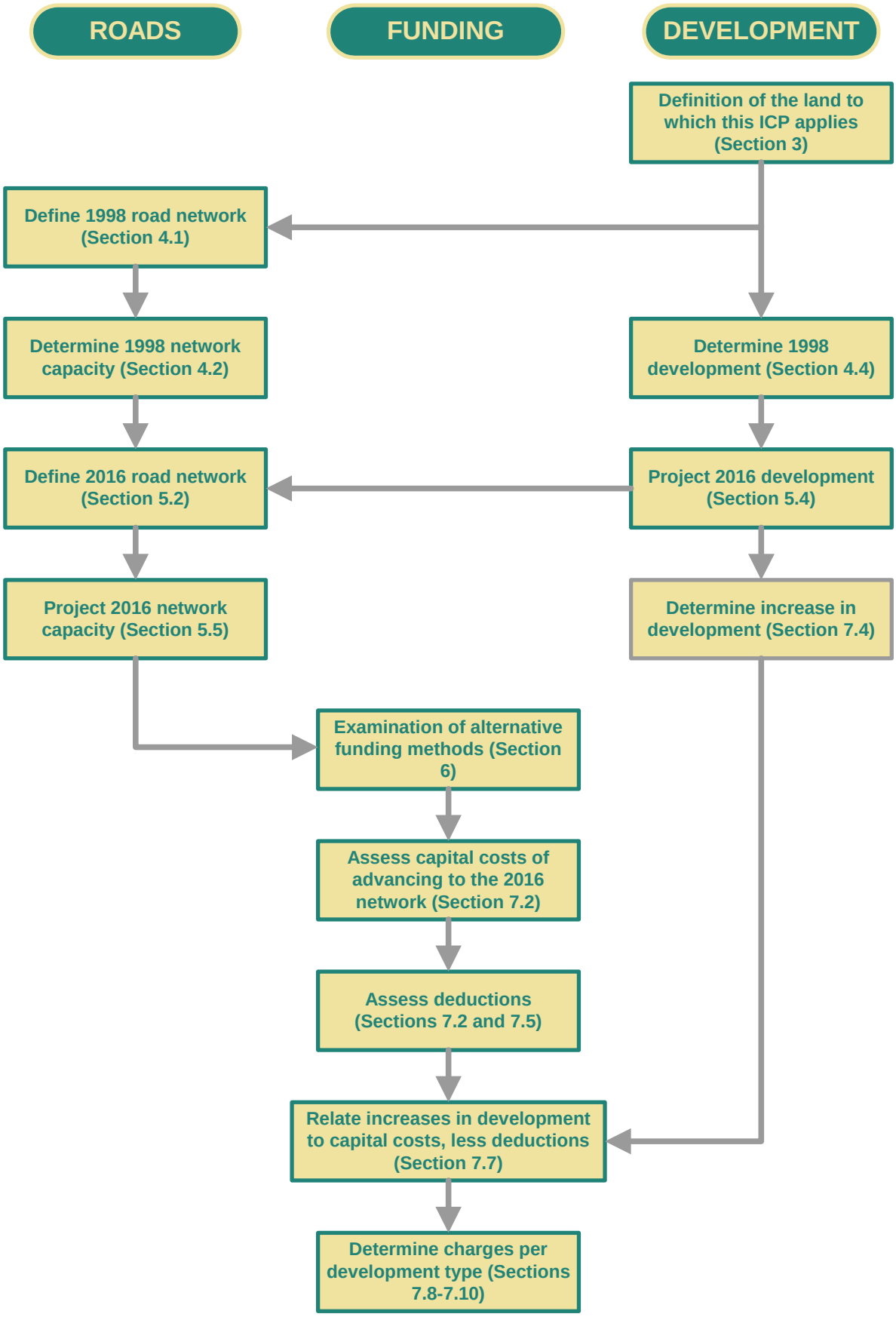
- Identify the existing road network, the existing population, the existing development levels and the existing major traffic generators in 1998 (Section 4).
- Identify the proposed future road network and forecast the future population, the future development levels and the future major traffic generators at 2016 (Section 5).
- Estimate the cost of advancing the existing network to the future road network less any appropriate deductions (Section 7).
- Relate the cost of providing the future network to the future increases in population and development (Section 7).

Sections 2-7 of this ICP substantially deal with the preparation of the plan. In order to ascertain the likely charges that will arise on development the following should be consulted:

- Table 11.1 dealing with non-residential development;
- Table 11.2 dealing with residential development; and
- The discussion in Sections 7.8, 7.9 and 7.10.

[a] See the definition de-maining agreement in Section 2.1 on page 5.

FIGURE 1.1 APPROACH OF THE CMRNICP



2. INTERPRETATION

2.1 DEFINITIONS & GLOSSARY

The following definitions and acronyms will assist in interpreting the CMRNICP. Where a term is not defined below or elsewhere within the Planning Scheme, but is defined in the *Integrated Planning Act* (IPA), then the term has the meaning ascribed to it by the IPA.

ABS Australian Bureau of Statistics

Coastal area The area defined on Map 3.1 (page 8) comprising the coastal area for the purposes of the CMRNICP.

Coastal major road network or ***CMRN*** The major road network in the coastal area of the Shire, to which the CMRNICP refers[a]. The term also includes the intersections with roads that may not form part of the major road network.

CMRNICP The coastal major road network infrastructure charges plan i.e. this plan.

Degrees of saturation The potential for congestion and delays expressed as a simple ratio between the forecast traffic volumes and calculated traffic capacity for a particular road or intersection. Where the degree of saturation approaches 1.00, high congestion and high delays can be expected[b].

De-maining agreement An agreement between the State of Queensland and Noosa Council dated April 2000 and effective from 1st July 1998 relating to responsibility for construction, maintenance and funding of part of the major road network in the coastal area of Noosa Shire[c].

DMR Department of Main Roads

ICP Infrastructure charges plan as defined by the IPA.

Level of service The general performance of a road or road network often expressed in ranges of A to F where:

- Level of Service A indicates free flowing conditions, low degrees of saturation and no delays; and
- Level of Service F indicates high degrees of saturation, unstable operating conditions and long delays[d].

Major road network The network of roads depicted on the Strategic Plan maps, as the *major road network* and *potential part of the major road network*.

SCoTS Sunshine Coast Transport Study - A study undertaken by Queensland Transport.

Strategic Plan Refers to the *Shire of Strategic Plan* gazetted on 05/09/1997.

Trip A journey between an origin and a destination (see discussion at Section 7.2).

Trip end The origin or destination of a trip, with each trip having two trip ends (see discussion at Section 7.2).

2.2 OTHER ASPECTS TO ASSIST INTERPRETATION

2.2.1 Mapping

Mapping contained in the CMRNICP is at a relatively coarse scale, being reproductions of original data stored in a geographic information system. The mapping assists with interpretation, however many maps contain limited labelling. For more detailed analysis of the CMRNICP the following should be consulted:

- Map 4.1 on page 9 which contains more comprehensive labelling;
- Map 5.2 on page 18[e];
- The Strategic Plan;
- The references contained at Appendix A: References on page 36; and
- Table 9.1 and Table 9.2 on page 37 and on page 40 respectively. All mapping undertaken in the CMRNICP is based on these tables.

2.2.2 Projections

Residential development projections in the CMRNICP may vary to those associated with water supply and sewerage headworks contributions. Water supply and sewerage relies upon piped infrastructure with each element having a finite location. With potential variability in flows and rates and type of development, it is preferable to maximise piped infrastructure capacity.

While the CMRNICP relies on development commitments made under the Strategic Plan, traffic flows over the infrastructure elements are derived from best estimates, rather than the potential maximum development. As a consequence, the CMRNICP assumes development outcomes that may be marginally lower than those associated with water supply and sewerage headworks contributions.

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[a] The coastal part of the Shire referred to in this infrastructure charges plan is indicated in Map 3.1. The specific roads which form part of this network are addressed in Section 5.2. The roads comprising the coastal major road network vary over time.

[b] Further discussion on the concept of degrees of saturation may be found in *Transport & Road Networking in Noosa Shire* (Sections 2.1 and 5.3-5.4) and also within *Guide to Traffic Engineering Practice: Part 2 - Roadway Capacity*.

[c] See Section 2.2.7 on page 6 for discussion about the role and effect of the de-maining agreement.

[d] Further discussion on the concept of levels of service may be found in *Transport & Road Networking in Noosa Shire* (Sections 2.2 and 5.3-5.4).

[e] Map 5.2 is reproduced at an A3 scale at the rear of hard copy documents.

The Strategic Plan refers to a life in the order of 7-10 years[a], i.e. around 2007. Slower rates of growth in the early years now suggest that the development potential provided in the Strategic Plan will be reached by around 2010, however a lower level of natural growth is expected to occur after that time[b].

Traffic projections and network analyses made within *Coastal Area Traffic & Transport to 2016*[c] are designed around a horizon year of 2016. Consistent with this and the population projections made in *Demographic Influences in Noosa Shire to 2016*, the CMRNICP is based on a horizon year of 2016.

2.2.3 Normal Traffic vs. Peak Holiday Traffic

In tourist destinations such as Noosa Shire, it is particularly necessary to define the basis for traffic systems designs because of the relatively large differences between normal traffic and peak holiday traffic. Normal traffic refers to traffic that occurs on weekdays in non-holiday periods i.e. traffic generated by the resident population, plus the off-peak visitor population, normal business operations, etc.[d]

Peak holiday traffic refers to annual peak traffic volumes, recorded during peak holiday periods i.e. for up to 20% of the year. Peak holiday traffic volumes are much higher on some parts of the network**.** Design traffic volumes in the CMRNICP are typical weekday traffic volumes in an average week i.e. normal traffic volumes.

For traffic systems to operate with tolerable congestion levels during peak holiday periods (Level of Service E), it is necessary to design for the network to operate in the Levels of Service B-C range with intersections having a relatively low degree of saturation [0.7 at unsignalised (give way) intersections and roundabouts].

2.2.4 Values

All construction and funding estimates used in the CMRNICP have been calculated using 2000 dollars, which have then been indexed back to 1998 dollars.

2.2.5 Rounding

The tables contained in the CMRNICP are derived from spreadsheet information and extensive databases. For presentation purposes many tables show limited decimal places, with appropriate rounding being used. As a consequence, some columns or rows of data do not add exactly to the total figures.

2.2.6 Footnotes

Footnotes within this plan are intended for guidance and do not form part of the CMRNICP.

[a] Refer to Section 1 of the Strategic Plan.

[b] Refer to projections made within *Demographic Influences in Noosa Shire to 2016* [SGS Economics & Planning (2002)].

[c] Beard Traffic Engineering (2002).

[d] For further discussion on this aspect, refer to sections 2.3, 2.4 and 3.3 of *Transport & Road Networking in Noosa Shire*.

2.2.7 Role & Effect of De-Maining Agreement

An agreement was struck between the State of Queensland and Noosa Council in April 2000. The agreement involves the relinquishment of Department of Main Roads (DMR) control generally over roads with speed limits of less than 100 kilometres per hour in the coastal area of Noosa Shire. The agreement deals with responsibility for construction, maintenance and funding of those roads. The agreement is effective from 1st July 1998.

Considerations associated with responsibility for construction, maintenance and funding of the roads included:

a. Compensation for maintenance costs;

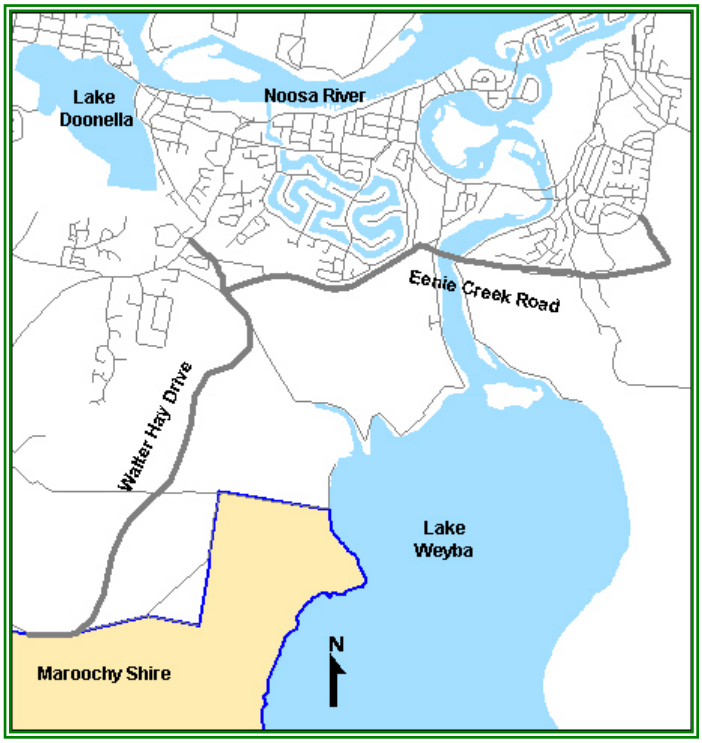
b. Compensation for a number of capital improvements to bring sections of DMR roads to an acceptable standard;

c. DMR responsibility to fund reasonable costs for the planning, design, land acquisition and construction of:

- Eenie Creek Road between Walter Hay Drive and Cooyar Street; and
- Walter Hay Drive between Emu Mountain Road and Eumundi Road

as two-way two-lane roads by June 2004. These roads are indicated in Map 2.1.

MAP 2.1 ROADS FUNDED BY DMR



Works associated with the de-maining agreement are included in the CMRNICP in order to:

- Show the complete major road network; and
- Document the extent to which the State Government has contributed to that network.

No change to the contribution rates occur if the roads listed in 2.2.7c above are included in or excluded from the scope of works.

2.2.8 Overview of Funding Associated with the CMRNCIP

In 1998$, the CMRNICP totals $88.2M in infrastructure works and financing, administration and preparation costs, with Table 2.1 identifying the source of its funding. The funding sources include:

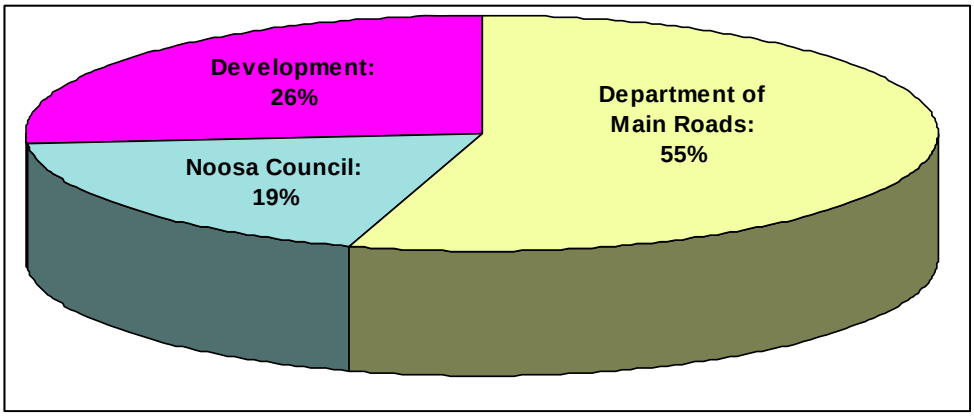
- $48.4M from the de-maining agreement;
- $16.5M from Noosa Council comprising a contribution from existing development; and
- $23.3M from future development.

These figures are shown graphically in Figure 2.1.

TABLE 2.1 SOURCE OF FUNDING FOR THE CMRNCIP

SOURCE	ITEM	COST	SUB-TOTAL	%
Department of Main Roads:	De-maining agreement	$48,409,330	$48,409,330	54.9%
Noosa Council	Contributions received from prior approvals	$1,138,000		1.3%
Noosa Council:	Proportion of costs that cannot be recovered	$7,026,785		8.0%
Noosa Council:	Apportionment of forgone (1998-2002) income	$8,373,880	$16,538,665	9.5%
Development:	Future development contributions	$23,303,017	$23,303,017	26.4%
TOTAL		**$88,251,012**	**$88,251,012**	**100.0%**

FIGURE 2.1 SOURCE OF FUNDING FOR THE CMRNCIP



3. LAND TO WHICH THE CMRNICP APPLIES

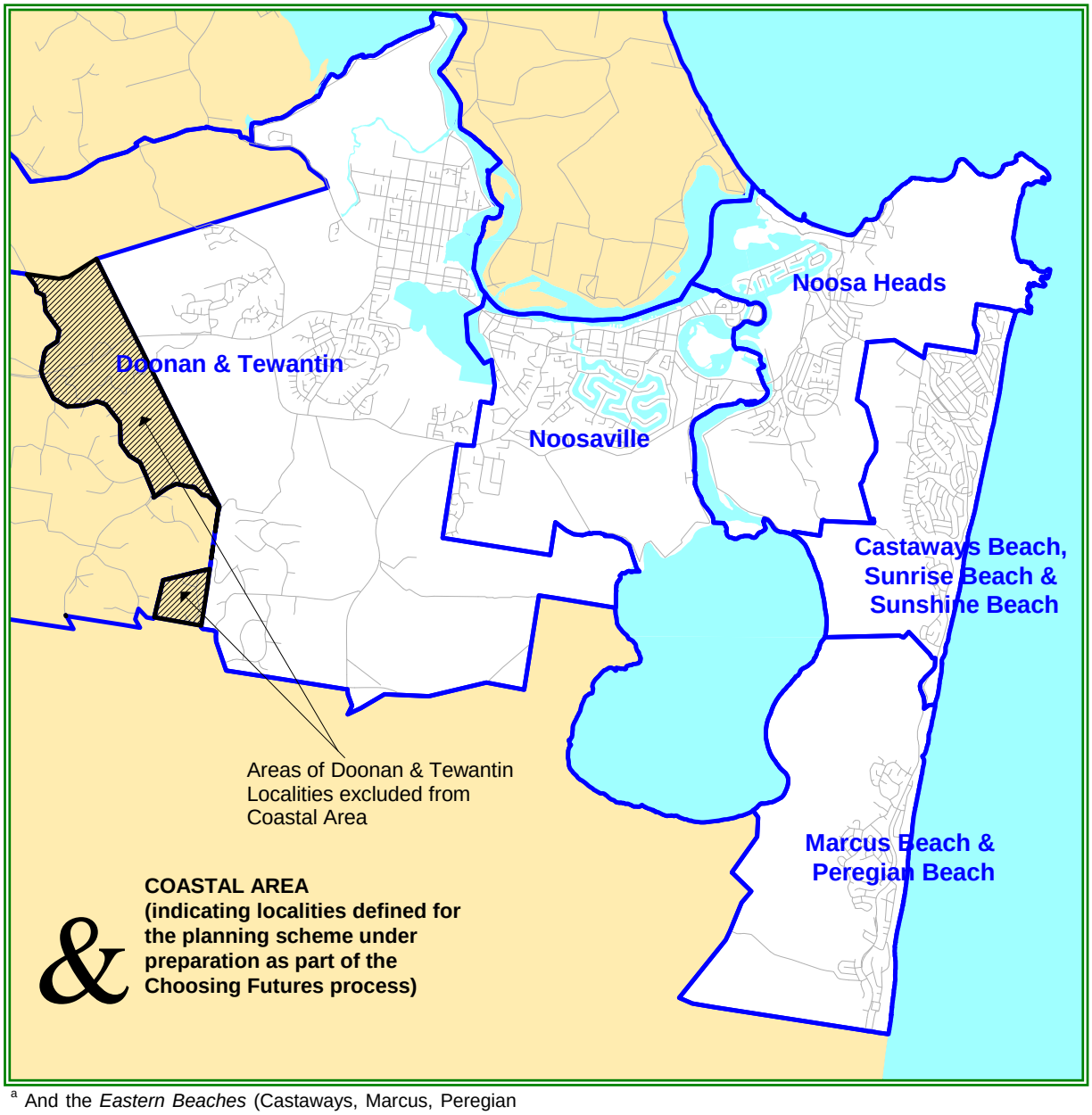
The CMRNICP applies to the coastal area of the Shire that is indicated in Map 3.1. This area generally coincides with the localities of:

- Castaways Beach, Sunrise Beach & Sunshine Beach;
- Doonan & Tewantin;
- Marcus Beach & Peregian Beach;
- Noosa Heads;
- Noosaville[a].

In the western part of the Doonan & Tewantin Locality, rural settlement areas that have primary access via Sunrise Road or Tinbeerwah Road to Cooroy-Noosa Road or Eumundi Road are excluded. Adjustments have been made for the levels of population and development in this area and for those areas that are part of the Cooroy Mountain, Lake Macdonald & Tinbeerwah Locality.

Infrastructure charges under this plan are only applicable to development that lies within the defined coastal area.

MAP 3.1 COASTAL AREA FOR THE PURPOSES OF THE CMRNICP



[a] And the *Eastern Beaches* (Castaways, Marcus, Peregian Sunrise and Sunshine Beaches), *Noosa Heads/Noosaville* and *Tewantin Localities* as defined in the Strategic Plan.

4. 1998 COASTAL MAJOR ROAD NETWORK & DEVELOPMENT

In this section consideration is given to the 1998 coastal major road network.

4.1 IDENTIFICATION OF THE 1998 NETWORK

Roads serving as the 1998 coastal major road network are depicted in Map 4.1.

MAP 4.1 ROADS SERVING AS THE 1998 COASTAL MAJOR ROAD NETWORK

4.2 CAPACITY OF 1998 NETWORK

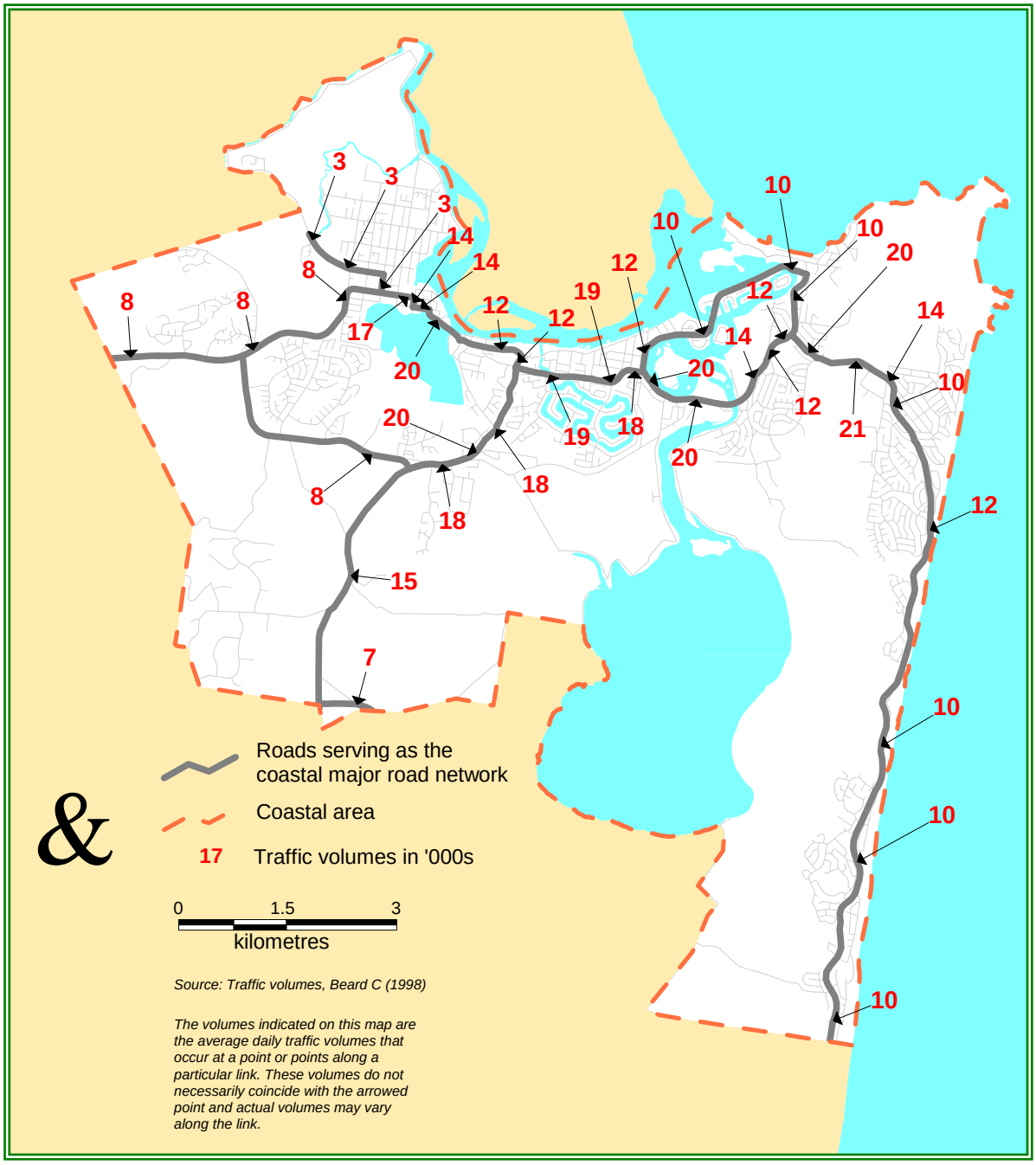
In April 1998, operations on the coastal major road network were systematically reviewed in the following key respects:

- **Inventory** - The coastal area major road network as indicated on Map 4.1 was inventoried. Basic cross section types and intersection configurations were recorded.

- **Volume/capacity comparisons** - Weekday traffic volumes on the coastal area major road network in April 1998 were recorded, some of which are indicated on Map 4.2[a].

These estimates are based on programmes of traffic counts undertaken by the DMR and Noosa Council. The volumes indicated on Map 4.2 are the average daily traffic volumes that occur at a point or points along a particular link. These volumes do not necessarily coincide with the arrowed point and actual volumes may vary along the link.

MAP 4.2 ESTIMATED AVERAGE DAILY TRAFFIC VOLUMES ON THE 1998 COASTAL MAJOR ROAD NETWORK



[a] Map 4.2 indicates a limited number of volumes across the network. For more information on traffic volumes in March 1998, refer to Table 9.1 at page 37.

The weekday traffic volumes were compared with traffic capacities calculated from the network inventory data.

- **Network performance** - All elements of the 1998 coastal major road network were inspected during weekday morning and evening peak periods to ensure that there were no intersections or roads that were experiencing excessive queue formation.

The planning study *Transport & Road Networking in Noosa Shire*[a] projected existing and future traffic levels for the road network in the Shire. Significantly, it found that the road network that was in place would be adequate for the needs of the existing community and coped well with normal traffic loads.

The April 1998 review of the coastal major road network confirmed that there were no elements in the network that were inadequate to accommodate traffic volumes generated by typical off-peak resident and visitor populations. All roads and intersections were operating at Level of Service D or better as described in Section 5.3 of *Transport & Road Networking in Noosa Shire*. As a consequence, it was concluded that future road system upgrading anticipated in the Strategic Plan is required to accommodate traffic generated by future development, rather than existing development.

4.3 Characteristics of the Existing Network

The report *Transport & Road Networking in Noosa Shire* also identified that a number of features of the traffic planning in Noosa Shire were of significance to the Shire's character and lifestyle[b]. These included:

- Maintaining low stress levels in the use of the road system.
- Avoidance of significant traffic delays.
- Excluding the use of traffic lights.
- Maintenance of a predominantly two-way two-lane road network.

Whilst some sections of the 1998 coastal major road network operated at a Level of Service B or better, the majority of the sections operated at Level of Service C, leaving little capacity for increased traffic operating at the same level of service.

4.4 Existing Development

In this section, estimates of the existing levels of development are made for the coastal area. Discussion focuses on the dominant traffic generators, using:

- Residential development, with estimates of the level of development in existence in April 1998.
- Employment-based development, with estimates of the level of employment across different sectors in April 1998.
- Educational institutions, with estimates of the numbers of students per household in April 1998.

Recreation is not sieved as a separate development type as:

- A significant component of recreation is derived from day-trippers.
- The off-peak mid-week traffic levels include a component of traffic generated by recreational users.
- Day-trippers will often make use of commercial development for the purchase of items such as food and petrol.
- Peak recreational use does not always coincide with other peaks e.g. peaks in recreational use occur on weekends.
- Lower levels of service are accepted for peak holiday periods.

Calculations in later sections exclude charging of a component of external traffic movements through the coastal area and some recreational movements.

4.4.1 Dominant Traffic Generators

Excluding accommodation for residents and visitors, the dominant traffic generators in the coastal area are:

a. The commercial areas that support Castaways Beach, Peregian Beach, Marcus Beach, Sunrise Beach, Sunshine Beach, Noosa Heads, Noosaville and Tewantin;

b. The industrial estate at Noosaville;

c. The schools throughout the coastal area; and

d. Open space features that support recreational use located throughout the coastal area, e.g. beaches, river and lake system, National Parks, etc.

Map 4.3 on page 12 identifies many of the dominant traffic generators in existence in 1998 as listed above. Note that the mapping source for Map 4.3 is the Strategic Plan and as a consequence:

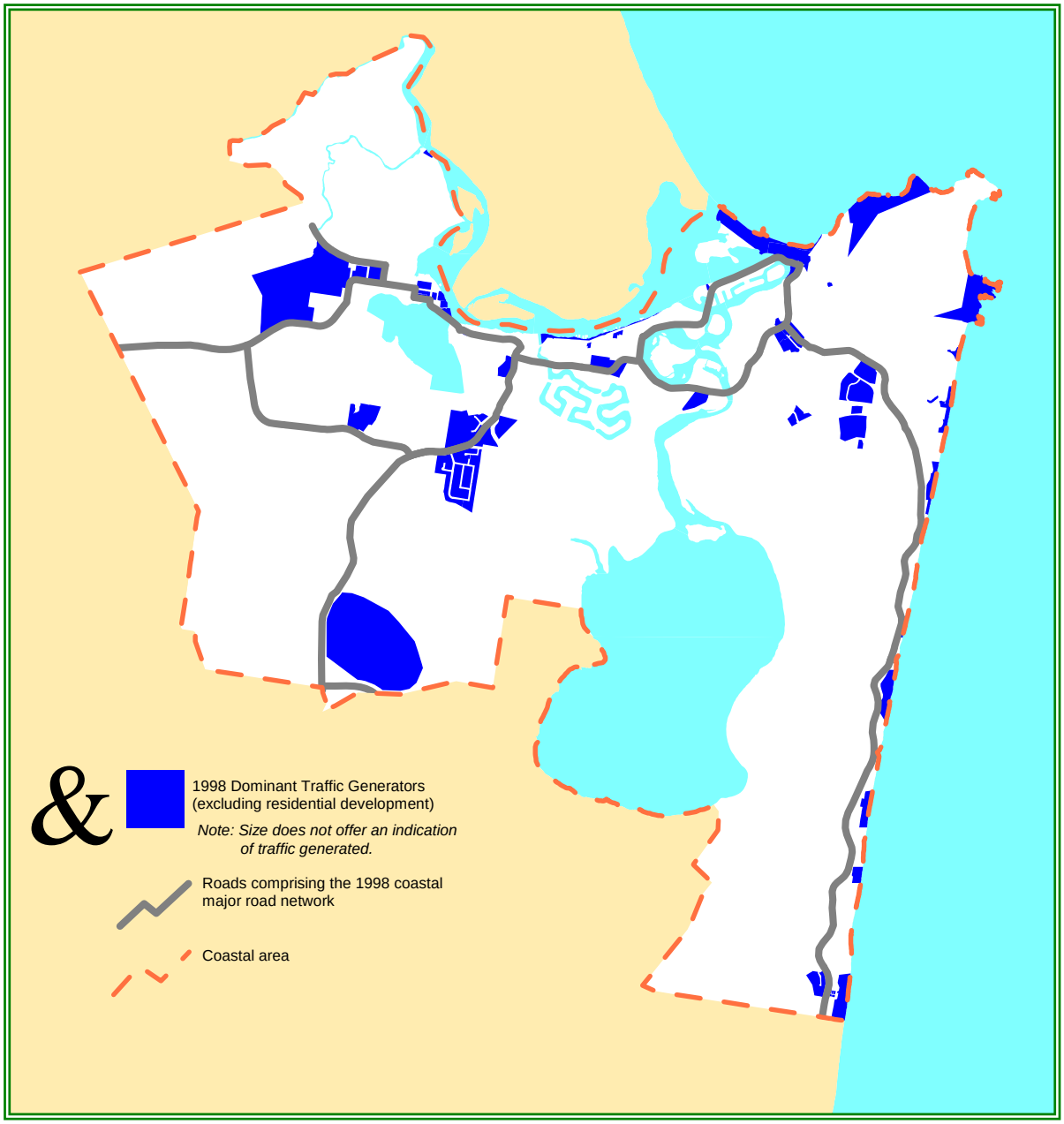
- The size of the particular object does not offer any indication of the volume of traffic generated.
- There are many more access points to the recreation resources in the coastal part of the Shire than indicated in the mapping[c].

[a] Beard C, Black G & Summers P (1996).

[b] Refer to Sections 5.1-5.4 and 11 of *Transport & Road Networking in Noosa Shire.*

[c] Further information relating to individual elements indicated on Map 4.3 may be obtained from the Strategic Plan.

MAP 4.3 1998 DOMINANT TRAFFIC GENERATORS (EXCLUDING RESIDENTIAL DEVELOPMENT)



4.4.2 Residential Development

The coastal area of the Shire lies in essentially a linear form that follows the coastal dune system in the east (Peregian Beach, Marcus Beach, Castaways Beach, Sunrise Beach and Sunshine Beach), then the river system in the centre (Noosa Heads, Noosaville and Tewantin) and then is flanked by the sub-coastal escarpment in the west (Doonan and Tewantin). This area (identified in Map 3.1 on page 8) supports all significant coastal urban residential development in the Shire, with that development occurring along most of the length of the linear form. Consequently, most trips in the coastal area make use of some part of the coastal major road network.

To a substantial extent, the coastal part of the Shire operates as a single catchment area in traffic terms, with residents and visitors accessing many facilities located across the linear form of the urban area.

Table 4.1 below provides estimates of the population contained within the coastal area, based on:

- An estimate of the resident population in the coastal area on the night of the 1996 Census based on ABS data[a].
- An estimate of the resident population in the coastal area on the 30/03/1998 (about a 9.4% increase over the 1996 ABS estimate).

TABLE 4.1 1996-98 POPULATION

LOCALITY	1996 ESTIMATED RESIDENT POPULATION	1998 ESTIMATED RESIDENT POPULATION
Castaways Beach, Sunrise Beach & Sunshine Beach	5,143	5,629
Doonan & Tewantin	8,587	9,399
Marcus Beach & Peregian Beach	2,803	3,068
Noosa Heads	4,493	4,918
Noosaville	4,137	4,528
TOTAL	**25,163**	**27,541**

TABLE 4.2 1996-98 DWELLING STRUCTURE

LOCALITY	1996 CENSUS DWELLINGS	1998 ESTIMATED DWELLINGS
Dwelling houses	7,703	8,208
Units and other forms of accommodation	5,480	6,135
TOTAL	**13,183**	**14,343**

Table 4.2 above identifies the dwelling structure in the coastal area on the night of the 1996 Census as derived from Census information. The data includes vacant dwellings.

Table 4.2 also provides estimates of the dwelling structure to April 1998. These estimates are based on the 1996 Census and have regard to building approvals and commencements to April 1998.

4.4.3 Employment-Based Development

Table 4.3 provides estimates of employment by sector for the coastal area of the Shire. This information is based on the Strategic Plan planning study component, *Economics, Employment & Industry in Noosa Shire*[b]. This study relied on 1992 Australian Bureau of Statistics data with the 1998 data extrapolated forward from 1992.

4.4.4 Educational Institutions

Educational institutions are also a significant generator. Another Planning Study component of the Strategic Plan, *Schools & Population in Noosa Shire*[c] provided estimates of students per household. Table 4.4 below uses one its outcomes, which was based on 1991 Census data. Using the same methodology and 1996 Census information, Table 4.4 also indicates the same data for 1996. Given the little change in the data between 1991 and 1996 it is not expected that there would have been any significant shift in 1998.

TABLE 4.4 1991-96 STUDENTS PER HOUSEHOLD IN THE COASTAL AREA OF THE SHIRE

STUDENTS PER HOUSEHOLD	1991	1996
Primary	0.25	0.24
Secondary	0.13	0.13

TABLE 4.3 1992-98 EMPLOYMENT

SECTOR	1992		1998		COMMERCIAL INTENSITY
	No. Employed	%	No. Employed	%	
Agriculture (inc. Mining & Utilities)	261	2.9%	299	2.9%	Low intensity
Community Services	843	9.5%	1,191	11.5%	Moderate intensity
Construction	1,089	12.3%	1,140	11.0%	Moderate intensity
Entertainment	131	1.5%	181	1.8%	High intensity
Finance, Public Administration & Defence	1,758	19.8%	2,003	19.3%	Moderate intensity
Manufacturing	588	6.6%	758	7.3%	Low intensity
Other Services	799	9.0%	599	5.8%	Moderate intensity
Restaurant	1,135	12.8%	1,168	11.3%	High intensity
Retail	1,404	15.8%	1,756	17.0%	High intensity
Transport, Storage & Communications	301	3.4%	452	4.4%	Low intensity
Wholesale	550	6.2%	808	7.8%	Low intensity
TOTAL	**8,859**	**100.0%**	**10,355**	**100.0%**	

[a] 2001 Census data had not been released at the time of completion of this plan.

[b] Sunshine Coast Economic Development Board (1995).

[c] Summers P (1995).

5. 2016 COASTAL MAJOR ROAD NETWORK & DEVELOPMENT

The Strategic Plan predominantly controls the coastal major road network and the anticipated development within the coastal area of the Shire. For traffic purposes, the Strategic Plan relies on two components of its Planning Study:

- *Phases 1 & 2 - Community Consultation Reports*[a] that documented the community's views on transportation and the nature of the road system sought in various localities through the Shire.
- *Transport & Road Networking in Noosa Shire* that analysed the existing and proposed road networks in the context of various population scenarios.

Based on the findings of these studies, the Strategic Plan defines a road network that will assist in maintaining and achieving traffic environments that are sought by residents of and visitors to the Shire[b]. The approach has been reinforced by the findings of a more recent planning study *Coastal Area Traffic & Transport to 2016*.

In this section, the proposed coastal major road network and development potential in the coastal area are considered. In addition, the implications of traffic on the character and lifestyle sought for the Shire are considered.

5.1 TRAFFIC IMPLICATIONS FOR CHARACTER & LIFESTYLE

Transport & Road Networking in Noosa Shire and *Coastal Area Traffic & Transport to 2016* prepared findings and made recommendations for the future[c]. The Strategic Plan uses the findings and recommendations as the foundation for identification of a road network in the coastal area of Shire to achieve defined characteristics on that network. These characteristics which are described in *Transport & Road Networking in Noosa Shire* and *Coastal Area Traffic & Transport to 2016* and have been considered in Section 4.3, in combination with the Strategic Plan's target utility characteristics for roads, provide guidance for the standards to be used on the proposed coastal major road network.

Urban road standard design guidelines were also identified for Noosa Shire in *Transport & Road Networking in Noosa Shire* and *Coastal Area Traffic & Transport to 2016*. These guidelines are based on achieving levels of service that are consistent with the character and lifestyle sought by visitors and residents[d]. The guidelines were updated as a part of *Coastal Area Traffic & Transport to 2016* and are reproduced in Table 5.1. The road network associated with the Strategic Plan relies on achieving the defined standards.

TABLE 5.1 URBAN ROAD STANDARD DESIGN GUIDELINES FOR NOOSA SHIRE

TYPE OF ROAD	DESIRABLE MAXIMUM STANDARD
Two-way two-lane road	16,000-20,000 vehicles per day
Four lane divided road	35,000-40,000 vehicles per day
Unsignalised T-junction	Degree of saturation of 0.70 Intersecting flows of 16,000 vehicles per day and 4,000 vehicles per day
Single lane roundabout	Degree of saturation of 0.70 Intersecting flows of 16,000 vehicles per day and 8,000 vehicles per day
Two-lane roundabout	Degree of saturation of 0.70 Intersecting flows of 35,000 vehicles per day and 16,000 vehicles per day
Large two-lane roundabout (with separate left turn lanes)	Degree of saturation of 0.70 Intersecting flows of 40,000 vehicles per day and 16,000 vehicles per day

[a] Patey S; Knight B & Summers, P (1995).

[b] The Strategic Plan also includes significant information on the future road network and its environment. Transport Strategic Aims are defined in section 27.10 of the Strategic Plan (section 7.10 of a locality document), while Locality Objectives and Implementation Criteria are defined for each locality (refer to the last section of the locality components of the Strategic Plan). The latter components also contain tables which reference the major road network and their *target utility characteristics*.

[c] Refer to Sections 5 and 11 of *Transport & Road Networking in Noosa Shire*.

[d] Refer to Table 5.2 of *Transport & Road Networking in Noosa Shire* and to Section 27.10 of the Strategic Plan (or Section 7.10 of a locality document).

In combination, the results of the above considerations are:

- **Design Standards:** As a general principle, Austroads (1988) has been used to set basic design standards for work included in the CMRNICP. Pavements have been designed with a design life of 20 years and the anticipated number of equivalent standard axles over its design life. Traffic volumes on the 2016 major road network are generally consistent with those applying to the 1998 network.
- **Service Standards:** Section 2.2.3 sets out the normal traffic vs. peak holiday traffic criteria that form the basis of the transport considerations in the 1997 Strategic Plan and within current transport planning. During peak periods, Noosa's community accepts a lower stanard of service than defined in Austroads (1988), provided that the normal standard applies in the non-peak periods.

  The community has required that the road network operate without the need for traffic lights and past transport planning practice and forecast volumes for the future suggest that a roundabout-based road network will operate efficiently in this environment.
- **Improved Standards through Choice:** The road network addressed by the CMRNICP involves minor improvements in levels of service through increased route choice, however the primary basis for those improvements arises from works funded by the de-maining agreement, rather than through works funded directly under the CMRNICP.

Because of the significant differences in traffic volumes that occur between normal traffic and peak holiday period traffic circumstances and due to the growth in both resident and visitor traffic volumes in normal circumstances to 2016, the upgraded network funded by the CMRNICP provides no nett improvement to the overall level of service over the 1998 network.

5.2 IDENTIFICATION OF 2016 NETWORK

Map 5.1 on page 16 indicates the *Major Road Network* and the *Potential Part of the Major Road Network* as defined by the Strategic Plan for the coastal area, with adjustments made to the eastern parts of Eenie Creek Road (Reef Street to Heathland Drive). Only those new elements of the network are labelled (refer to Map 4.1 on page 9 for other road names).

While the CMRNICP is largely based on the network of roads depicted in the Strategic Plan, there is variation to that network for the following reasons:

- Since completion of the Strategic Plan and as a consequence of the analyses conducted as part of the CMRNICP, the network has been reviewed.
- The revised population scenarios flowing from the Strategic Plan and subsequent Planning Scheme amendments.
- The funding and construction of some roads in the coastal area remains the responsibility of the State Government.
- Construction of roads consistent with the Strategic Plan and as indicated in Map 5.1 represents a final product, being the network that would be in existence towards the end of the life of that plan. The Strategic Plan mapping does not include interim roads that will form a temporary part of the coastal major road network, pending completion of all roads indicated on the Strategic Plan[a].

Table 5.2 identifies the variations to those roads that are shown on Map 5.1. The list:

- Excludes those roads that remain the responsibility of the State Government - shown ~~thus~~; and
- Includes roads that would be used as part of the coastal major road network during the staged development of that network - shown **thus**.

The roads identified in Table 5.2 are also shown on Map 5.2 on page 18. These roads comprise the coastal major road network for which charges are to be applied under this plan. The roads are referred to collectively as the *coastal major road network* or CMRN. Also indicated on Map 5.2 are intersections requiring significant upgrading as part of the CMRN.

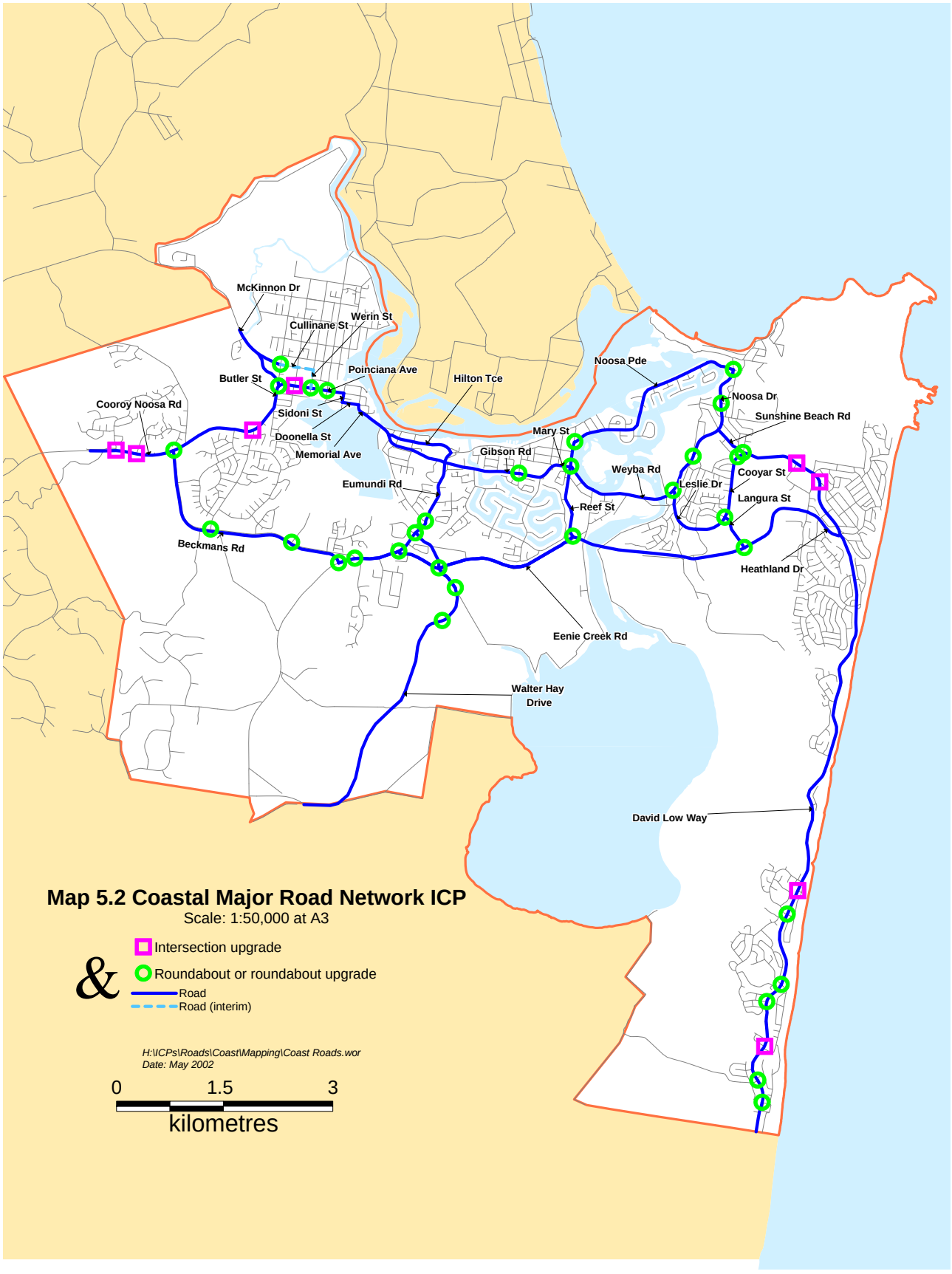
[a] For instance, Cullinane Street and Werin Street in 1998 served as part of the coastal major road network. After Butler Street is extended between Poinciana Avenue and M^{c}Kinnon Drive, Cullinane Street and Werin Street would no longer form part of the coastal major road network.

MAP 5.1 MAJOR ROAD NETWORK - STRATEGIC PLAN (WITH ADJUSTED EENIE CREEK ROAD LOCATION)

TABLE 5.2 COASTAL MAJOR ROAD NETWORK

ROADS IDENTIFIED ON THE CMRN	REASON FOR CHANGE
Beckmans Road	
Butler Street	
Cooroy-Noosa Road	
Cooyar Street	Interim part of the network, but greater long term role in by-passing Noosa Junction
Cullinane Street	Interim part of the network
David Low Way (including Sunshine Beach Road)	
Doonella Street	
Eenie Creek Road	
~~Emu Mountain Road~~	State Government road
~~Eumundi Road (Beckmans Rd-Emu Mountain Rd)~~	State Government road
Eumundi Road **(Beckmans Rd-Hilton Terrace)**	Noosa Council takes responsibility for part
Gibson Road	
Hilton Terrace	
Langura Street	Interim part of the network, but greater long term role in by-passing Noosa Junction
Leslie Drive	Interim part of the network, but greater long term role in by-passing Noosa Junction
Mary Street	
M^{c}Kinnon Drive	
Memorial Avenue	
Noosa Drive	
Noosa Parade	
~~Noosa Springs Drive~~	
Poinciana Avenue	
Reef Street	
Sidoni Street	
Walter Hay Drive (new road between Emu Mountain Road and Eumundi Road/Venture Drive)	
Werin Street	Interim part of the network
Weyba Road	

MAP 5.2 COASTAL MAJOR ROAD NETWORK FOR THE PURPOSES OF THIS INFRASTRUCTURE CHARGES PLAN



The network of roads and intersections to be constructed or upgraded comprises:

a. New roads and bridges;
b. New roundabouts;
c. New intersections associated with new roads;
d. Pavement widenings;
e. Intersections upgraded to roundabouts or larger roundabouts; and
f. Intersections upgraded to protected right-hand turns.

A complete list of the roads and intersections, and their estimated upgrading costs and construction timing is contained in Section 9. The construction standards and estimates for roads and intersections indicated on Map 5.2 are contained in *Cost Estimates for Future Road Infrastructure*[a].

5.3 ANTICIPATED 2016 DEVELOPMENT

In this section, projections of the levels of development are made for the coastal area for 2016. Consideration is given to:

- The dominant traffic generators;
- Residential development, with estimates of the anticipated level of development to 2016;
- Employment-based development, with estimates of the anticipated level of employment across different sectors to 2016; and
- Educational institutions, with estimates of the numbers of students per household to 2016.

Recreation has not been separately sieved as a separate development type (refer to the discussion at Section 4.4 on page 11).

5.3.1 Dominant Traffic Generators

Map 4.3 on page 12 identified the traffic generators in existence in 1998. Once again excluding consideration of residential development, those generators indicated in Map 4.3 will largely remain, however there will also be new generators. Growth in traffic associated with the existing generators will be consistent with growth in population in the coastal part of the Shire.

Excluding residential development, the dominant traffic generators in 2016 are indicated on Map 5.3 on page 20. The most significant new generators will be:

- The Shire Business Centre, which is specifically indicated on Map 5.3.
- The hospital at Goodchap Street.
- The TAFE facility at Cooroy-Noosa Road.
- Schools in Tewantin.
- The aquatic centre and associated facilities at Ben Lexcen Drive.
- Potential community service sites that currently have no commitments for development.

5.3.2 Residential Development

In Section 4.4.2, urban residential development in the coastal area was identified as a linear form following the coastal dunes and river system. No major change to that form is projected under the Strategic Plan. Population growth within the coastal area will be predominantly within the existing urban residential fabric.

Table 5.3 below indicates the population projections for 2016. Table 5.3 is based on projections contained within the Strategic Plan, but also includes the results of more recent forecasts, *Population Capacity in the Coastal Area of Noosa Shire*[b] and *Demographic Influences in Noosa Shire to 2016*.[c] These planning studies project population capacity using the:

- Strategic Plan outcomes and following 1997 amendments to the Schedule to the Planning Scheme;
- 1996 Census results; and
- 1996 Census collection districts as the foundation for the projections.

TABLE 5.3 POPULATION PROJECTIONS TO 2016

LOCALITY	2016 ESTIMATED RESIDENT POPULATION (from *Demographic Influences in Noosa Shire to 2016*)
Castaways Beach, Sunrise Beach & Sunshine Beach	7,231
Doonan & Tewantin	14,347
Marcus Beach & Peregian Beach	3,931
Noosa Heads	6,959
Noosaville	9,908
TOTAL	**42,376**

Population Capacity in the Coastal Area of Noosa Shire also projected dwelling structure in the coastal area of the Shire. These projections are contained in Table 5.4.

TABLE 5.4 2016 DWELLING STRUCTURE

LOCALITY	2016 PROJECTED DWELLINGS	INCREASE 1998-2016	%AGE INCREASE 1998-2016
Dwelling houses	12,283	4,074	39.6%
Units and other forms of accommodation	12,349	6,215	60.4%
TOTAL	**24,632**	**10,289**	**100.0%**

[a] Callaghan L & Toth L (2002).

[b] Summers P (2001).

[c] SGS Economics & Planning (2002).

5.3.3 Employment-Based Development

Table 5.5 on page 21 projects 2016 employment by sector from data in *Economics, Employment & Industry in Noosa Shire* and *Demographic Influences in Noosa Shire to 2016* and trip generation proportions from the Sunshine Coast Transport Study (SCoTS).

Table 5.5 also includes a classification of the particular development type with which the employment is associated. By using the classification system, Table 5.6 indicates the employment distribution between high, moderate and low intensity commercial development categories. These distributions will be used In Section 7 as an indicator of the proportions of trip generation associated with commercial development.

MAP 5.3 2016 TRAFFIC GENERATORS (EXCLUDING RESIDENTIAL DEVELOPMENT)

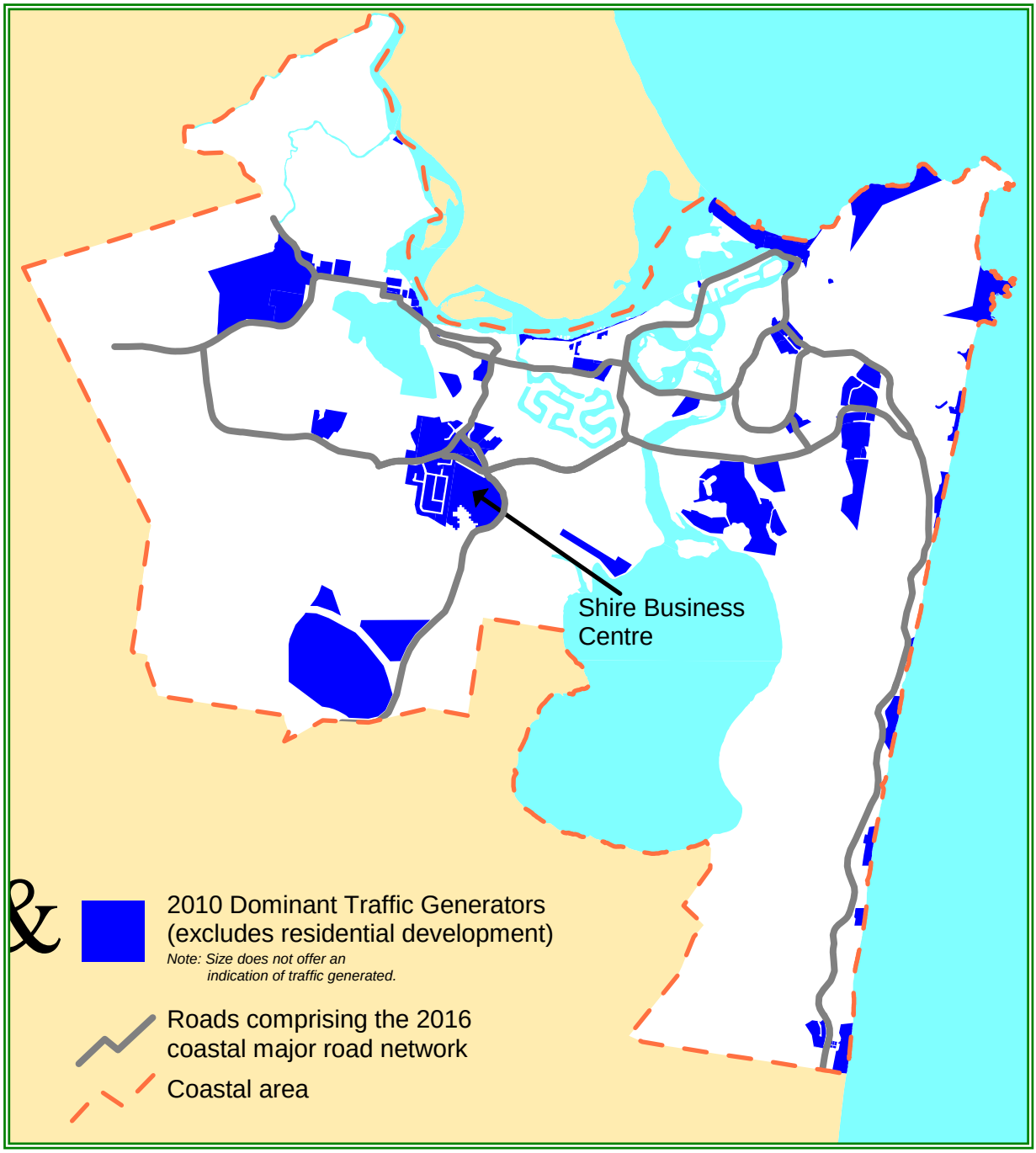


TABLE 5.5 2016 EMPLOYMENT

SECTOR	2016		CLASSIFICATION OF EMPLOYMENT CATEGORY *(in terms of commerical development trip generation)*
	No. Employed	%	
Agriculture (inc. Mining & Utilities)	387	2.5%	Low intensity
Community Services	2,418	15.8%	Moderate intensity
Construction	1,210	7.9%	Moderate intensity
Entertainment	352	2.3%	High intensity
Finance, Public Administration & Defence	2,555	16.7%	Moderate intensity
Manufacturing	1,262	8.3%	Low intensity
Other Services	309	2.0%	Moderate intensity
Restaurant	1,194	7.8%	High intensity
Retail	2,742	18.0%	High intensity
Transport, Storage & Communications	1,050	6.9%	Low intensity
Wholesale	1,787	11.7%	Low intensity
TOTAL	**15,266**	**100.0%**	

Source (Classification of Employment Category): Beard, C 1998

TABLE 5.6 COMMERCIAL DEVELOPMENT EMPLOYMENT BY TRIP GENERATION INTENSITY, 1998-2016

CATEGORY	1998	%	2016	%
High intensity commercial development	3,105	30.0%	4,288	28.1%
Moderate intensity commercial development	4,933	47.6%	6,492	42.5%
Low intensity commercial development	2,317	22.4%	4,486	29.4%
TOTAL	**10,355**	**100.0%**	**15,266**	**100.0%**

The Strategic Plan provides a significant level of detail on floor space projected for the Shire Business Centre site. The Strategic Plan also calls for a master plan to be prepared to guide development on the site. The first stage of a master plan has been completed *Shire Business Centre Master Plan: Stage 1 - Concepts.* By relating:

- The figures from these documents to the intent of the Strategic Plan for the various commercial designations in the coastal area of the Shire; and
- Considering the figures in the context of previous floor space[a] surveys and the report *Business & Retail Development in Noosa Shire*,

floor space projections may be derived for the coastal area of the Shire. Table 5.7 on page 22 indicates the outcomes, with total commercial development floor space estimated at 142,500m^2 at 2016.

[a] In this ICP floor space figures for commercial development are based on the Schedule to the Planning Scheme's defined term *total use area*.

TABLE 5.7 2016 COMMERCIAL DEVELOPMENT FLOOR SPACE ESTIMATES

CATEGORY	CLASSIFICATION OF DEVELOPMENT TYPE *(in terms of trip generation)*	FLOORSPACE GROWTH - SHIRE BUSINESS CENTRE SITE *(m^2 - Source: Shire Business Centre Master Plan: Stage 1 - Concepts)*	ESTIMATED %AGE OF COASTAL AREA FLOORSPACE GROWTH *(m^2)*	ESTIMATED FLOORSPACE GROWTH - BALANCE COASTAL AREA *(m^2)*	ESTIMATED %AGE OF COASTAL AREA FLOORSPACE GROWTH *(m^2)*	ESTIMATED FLOORSPACE GROWTH - COASTAL AREA *(m^2)*
Retail	High intensity	17,500	75%	5,833	25%	23,333
Homemaker/ showroom	Moderate intensity	7,000	50%	7,000	50%	14,000
Commercial and administrative office	Moderate intensity	10,000	60%	6,667	40%	16,667
Business	Low intensity	37,700	60%	25,133	40%	62,833
Community and other employment activities	Moderate intensity	23,100	90%	2,567	10%	25,667
TOTALS		**95,300**		**47,200**		**142,500**

5.3.4 Educational Institutions

The Planning Study component of the Strategic Plan, *Schools & Population in Noosa Shire* also provides estimates of students per household for the year 2011. It is not expected that there will be significant variation in the number of students per household between 2011 and 2016. Table 5.8 below then estimates the number of students per household for 2016. The resulting projected increase in student numbers 1998-2016 can then be estimated as shown in Table 5.9.

TABLE 5.8 2016 STUDENTS PER HOUSEHOLD IN THE COASTAL AREA OF THE SHIRE

STUDENTS PER HOUSEHOLD	2016
Primary	0.25
Secondary	0.13

5.4 TRAFFIC VOLUMES ON THE PROPOSED NETWORK

The estimated average daily traffic volumes along the coastal major road network at 2016 are indicated on Map 5.4 (on page 23). The traffic volumes indicated on Map 5.4 are the average daily volumes that occur at a point or points along a particular link. These volumes do not necessarily coincide with the arrowed point and actual volumes may vary along the link.

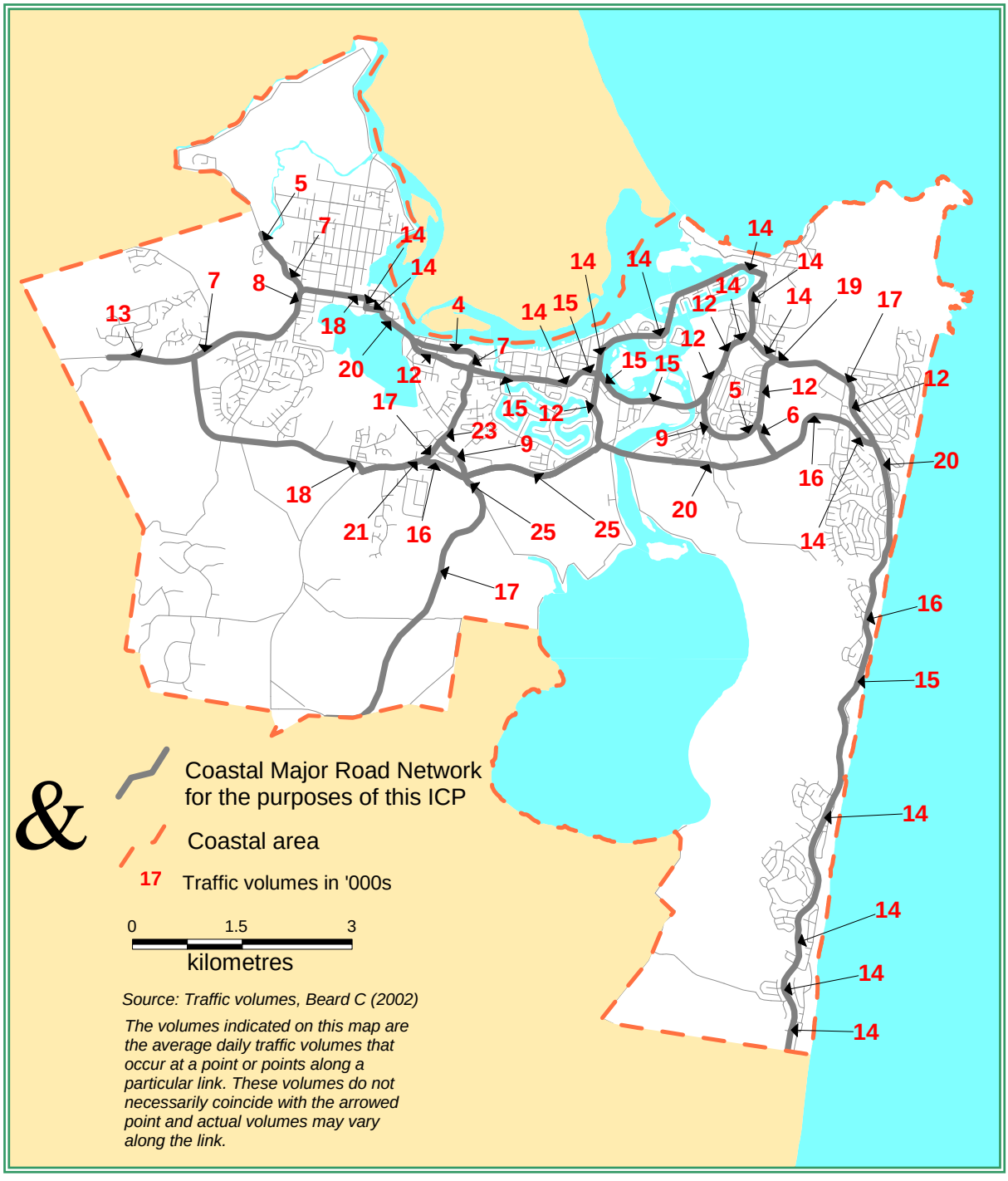
As for the 1998 year, the coastal area of the Shire will continue to operate as a single catchment area in traffic terms, with residents and visitors accessing many facilities located across its linear form.

Setting aside the peak demands, the Strategic Plan and its supporting information found that the need for the significant upgrading of the coastal road network arises from future population and is not required by the levels of population and associated development in existence in 1998.

TABLE 5.9 PROJECTED STUDENT INCREASE 1998-2016 IN THE COASTAL AREA OF THE SHIRE

LOCALITY	DWELLING INCREASE 1998-2016 (from Table 5.4)	DWELLING OCCUPANCY (from 1996 census)	PROJECTED HOUSEHOLD INCREASE (dwelling increase x occupancy)	STUDENTS PER HOUSEHOLD (from Tables 4.4 & 5.8)		STUDENT INCREASE 1998-2016
				Primary (0.25)	Secondary (0.13)	
Dwelling houses	4,074	87.3%	3,559	890	462	1,352
Units and other forms of accommodation	6,215	74.8%	4,646	1,162	604	1,766
TOTAL	**10,289**		8,205			**3,118**

MAP 5.4 2016 PROJECTED AVERAGE DAILY TRAFFIC VOLUMES OVER THE 2016 COASTAL MAJOR ROAD NETWORK



Source: Traffic volumes, Beard C (2002)

The volumes indicated on this map are the average daily traffic volumes that occur at a point or points along a particular link. These volumes do not necessarily coincide with the arrowed point and actual volumes may vary along the link.

6. EVALUATION OF ALTERNATIVE METHODS OF FUNDING

The coastal major road network requires significant upgrading in order to cater for future growth. There are five principal alternatives to funding the construction of the coastal major road network:

- Through general rates revenue;
- Through the declaration of a benefited area and levying of a special rate over the benefited area;
- Through reliance on State funding;
- Through charges levied via an ICP; or
- A combination of the above alternatives.

6.1 RATES REVENUE

Reliance on rate revenue to fund road construction and upgrading in the coastal area of the Shire would bring with it significant inequities. The population and levels of development in April 1998 were adequately serviced by road infrastructure as indicated in Section 4.2. The level of infrastructure in place at that time has been largely paid for by through rates, specific requirements on development and previous borrowings for specific works. As new roadworks are necessary to service the new levels of population and development, funding for those works should be substantially met by new development.

6.2 BENEFITED AREA SCHEME

To a substantial extent, the coastal area of the Shire will function as a single benefited area as a consequence of the proposed road network improvements. Whether by diversion or direct generation, all development, irrespective of its location, but based on its traffic generation potential, will impact to a similar extent on the need for network improvements. Therefore, there would be no significant difference between a benefited area approach and an ICP approach described in Section 6.5, except that all those within the benefited area would pay the benefit rather than those generating the need for the increased service.

6.3 STATE FUNDING OF STATE ROADS

Through agreement with the DMR, Noosa Council took control of many of the original State-controlled roads in the coastal area of the Shire in 1998. The negotiations have led to agreed contributions towards Noosa Council's capital works programmes and maintenance programmes. As a consequence, no further contributions are expected from the State for the upgrading of roads in the coastal area, save for those roads still under the DMR control.

The CMRNICP takes into consideration the contributions that have been agreed with the State Government[a].

6.4 FEDERAL & STATE GRANTS

From time to time, Federal and State Governments operate grants schemes from which, on successful application, Local Governments may draw funds. These are not reliable sources of funds and cannot be depended on to fund the network necessary to cater for future development in the coastal area.

6.5 INFRASTRUCTURE CHARGES PLAN

The IPA indicates that an ICP is a part of the planning scheme that:

a. identifies development infrastructure items making up a network of development infrastructure items; and

b. states the desired standard of service for the network having regard to user benefits and environmental effects of the network; and

c. evaluates alternative ways of funding the items.

Based on the considerations made in Sections 4 and 5 of the CMRNICP and the discussion in this Sections 6.1-6.3, an infrastructure charges plan is considered the appropriate method of achieving funding.

[a] These sums are referenced in Section 7.1.

7. DEVELOPING THE CHARGING REGIME

Within this section other factors on which the charging regime is based are discussed. In summary, this assessment is based on:

- Calculating the increase in the number of vehicle trips on the coastal major road network that will occur as a consequence of anticipated development between 1998 and 2016.
- Determining trip generation rates for trips made on the coastal major road network for different land use types.
- Estimating the cost of network upgrading necessary to accommodate the traffic generated by development in 2016.
- Determining which of the trips (or trip ends) are relevant for the purpose of levying ICP charges and consequently, what proportion of total road network upgrading costs should be derived from ICP charges.
- Determining equitable contribution rates for different land use types based on individual trip generation rates relative to estimated total trip generation and the road network upgrading cost that should be derived from ICP charges.

In addition, consideration is given to the cost of upgrading the road network to cater for the future growth in the coastal area consistent with design standards defined in Table 5.1. This cost is then related to the future development scenarios derived from residential development, employment-based development and educational institutions.

7.1 COST POTENTIALLY CAPABLE OF BEING FUNDED THROUGH THE CMRNICP

Construction estimates have been prepared for roads and intersections depicted on Map 5.2. Full documentation of the estimates is provided in *Cost Estimates for Future Road Infrastructure*.

Each of the elements of the major road network are addressed in Table 9.1 on page 37 or Table 9.2 on page 40[a]. These tables provide information on the nature of the planned infrastructure, the timing of its provision and the costs in 2000 dollars (and indexed back to 1998). Table 7.1 provides a summary of the costs:

- Less contributions that will be made by the State Government towards the network depicted in Map 5.2.
- Less development contributions held by Council towards the upgrading of the coastal major road network.

TABLE 7.1 CAPITAL COST OF CONSTRUCTION, LESS DEDUCTIONS

ITEM	CONSTRUCTION COST (1998$)
Roads	$68,599,575
Intersections	$16,596,990
Sub-Total	**$85,196,565**
Less contributions from the State Government towards the CMRN	-$48,409,330
Less development roadworks contributions held by Council towards the CMRN	-$1,138,000
TOTAL	**$35,649,235**

To the capital cost associated with construction of the coastal major road network is the cost associated with preparing, financing and administering the CMRNICP. The total costs that are potentially recoverable through the CMRNICP are then indicated in Table 7.2.

TABLE 7.2 COST POTENTIALLY RECOVERABLE THROUGH THE CMRNICP

ITEM	COST (1998$)
Construction capital cost, less State Government contributions	$35,649,235
Cost of preparing the CMRNICP	$98,846
Cost of administering the CMRNICP	$894,367
Cost of financing the CMRNICP	$2,061,234
TOTAL	**$38,703,682**

The financing costs indicated in Table 7.2 are determined by calculating the interest on the difference between the predicted cash flow received from all sources for the CMRNICP and the cash flow of total costs incurred. Details of this calculation and a graph showing cash flows are attached in Appendix C: Contributions & Financing on page 41. All costs have been calculated in 1998 dollars.

7.2 DISTINCTION BETWEEN TRIPS & TRIP ENDS

For subsequent sections, important distinctions are made between the terms *trips* and *trip ends*. These distinctions arise from the method by which the ScoTS has quantified its data, rather than from methodology used in the CMRNICP.

Figure 7.1 on page 26 indicates the circumstances where:

- A trip is a journey between an origin and a destination.
- A trip end is the origin or destination of a trip, with each trip having two trip ends[b].

[a] Table 9.1 and Table 9.2 are summarised by year of planned construction in Appendix E: Summary by on page 47.

[b] It is also important to understand that the term end means an origin or destination of a trip (and not just the destination).

FIGURE 7.1 TRIPS & TRIP ENDS

Therefore a typical journey to work in the morning and return in the afternoon indicated in Figure 7.2 below then comprises:

- 2 trips; and
- 4 trip ends.

FIGURE 7.2 JOURNEYS BETWEEN HOME & WORK[a]

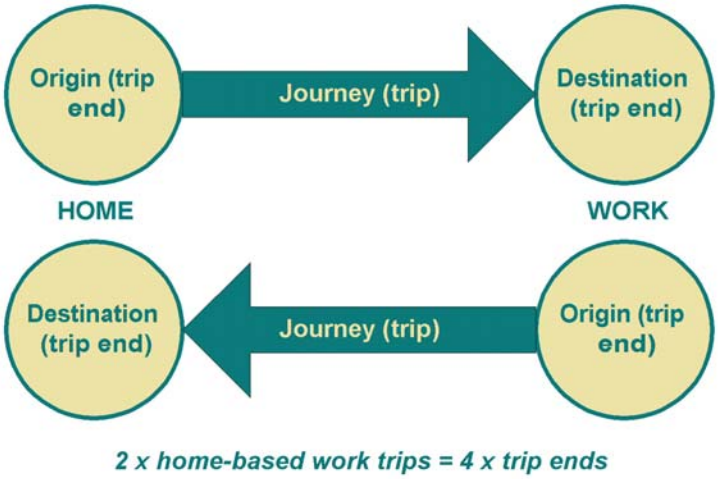
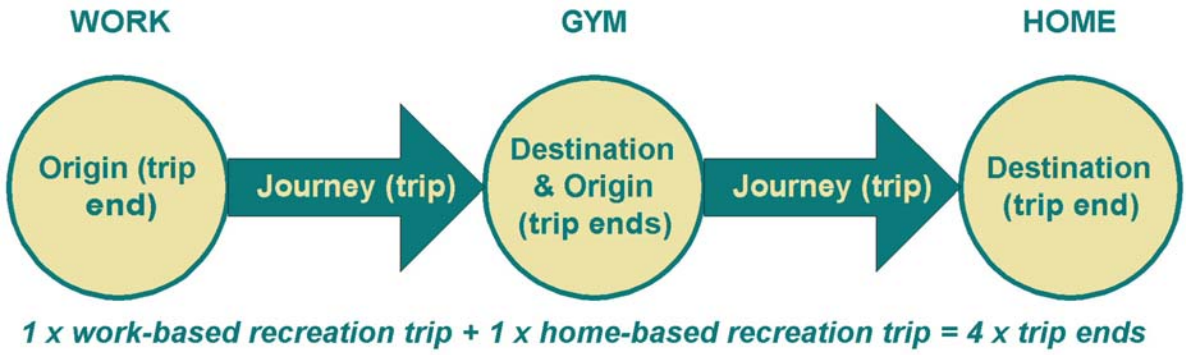


Figure 7.3 indicates journeys from work to a place of recreation and from there to home, where the SCoTS data treats this as two trips, with four trip ends.

FIGURE 7.3 TWO JOURNEY TRIPS



[a] It is also important to understand that in the SCoTS data the term *based* does not necessarily refer to the origin of a trip.

7.3 TRIP GENERATION & TRIP END GENERATION RATES, 1998-2016

Traffic in the coastal area of the Shire can be categorised according to:

- its origins and destinations (trip ends); and
- whether or not it involves use of the coastal major road network.

Figure 7.4 and Table 7.3 illustrate the circumstances.

FIGURE 7.4 ORIGINS & DESTINATIONS IN THE COASTAL AREA

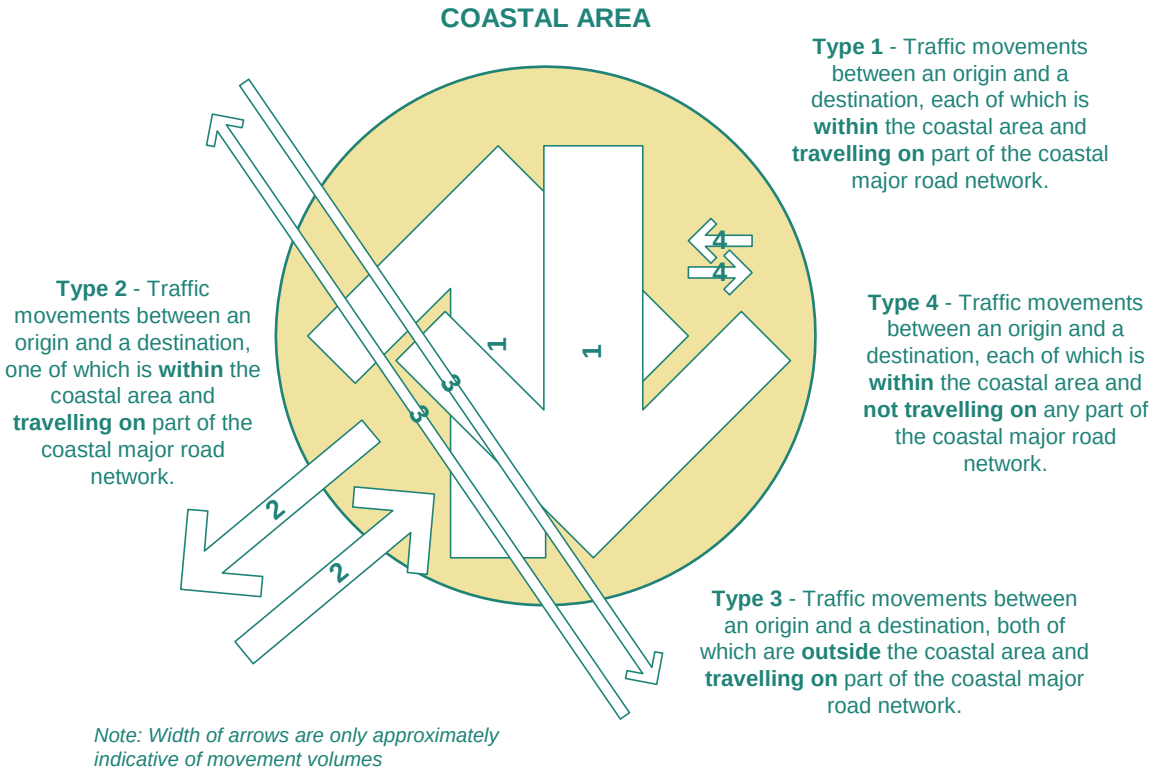


TABLE 7.3 TRIP TYPES IN THE COASTAL AREA

TYPE	DESCRIPTION
Type 1	Traffic movements between an origin and a destination, each of which is **within** the coastal area and **travelling on** part of the coastal major road network.
Type 2	Traffic movements between an origin and a destination, one of which is **within** the coastal area (this includes trips made by coastal area residents and non-residents across the coastal area boundary) and **travelling on** part of the coastal major road network.
Type 3	Traffic movements between an origin and a destination, both of which are **outside** the coastal area (through traffic that is non-resident and non-visitor) and **travelling on** part of the coastal major road network.
Type 4	Traffic movements between an origin and a destination, each of which is **within** the coastal area but **not travelling on** any part of the coastal major road network.

The significance of these categories is that the CMRNICP may only levy an infrastructure charge in respect of development that generates traffic that uses the infrastructure. Therefore if traffic:

- is not related to development within the coastal area of the Shire; or
- does not make use of the coastal major road network

it is not appropriate that development charges be levied. So using the types of traffic referred to in Table 7.3:

- For Type 1 movements, charges for both trip ends may be levied;
- For Type 2 movements, charges for only one end may be levied;
- For Type 3, no charges may be levied (as there is no related development in the coastal area); and
- For Type 4, no charges may be levied (as the trips do not use the coastal major road network).

Based on data prepared for SCoTS, Table 7.4 on page 29 indicates a matrix of vehicle trip origins and destinations associated with the Sunshine Coast for the years 1992 and 2011. Data relevant to the trips within the Noosa Shire coastal area is indicated in ***italics and bold typeface***. Note that Table 7.4 deals with trips and not trip ends.

Using the data contained in Table 7.4, similar data may be generated for the years 1998 and 2016, Table 7.5. Those trips with both origins and destinations within the coastal area are indicated in ***italics and bold typeface***.

Based on Table 7.5, trip ends for Types 1 and 2 may be determined. Types 3 and 4 trips (those with origins and destinations outside the coastal area, but which traverse the coastal area and those within the coastal area but not using the coastal area major road network) cannot be determined from Table 7.5.

Because of:

- the linear nature of the coastal area;
- the location of most business and employment-related activities on the coastal area major road network;
- the location of the Bruce Highway to the west; and
- the standard of roads providing for north-south traffic movements in the eastern part of the Shire,

the proportion of Types 3 and 4 trips in the coastal area is very low in comparison to Types 1 and 2 trips. Data derived from SCoTS enables better analysis of the types of trips that are made in the coastal areas of the Shire. These trip types will assist in determining the volume of Types 3 and 4 trips.

TABLE 7.4 VEHICLE TRIPS FOR THE SUNSHINE COAST, 1992 & 2011

ORIGINS	DESTINATIONS				
	Sunshine Coast (MSC/CCC)	Non-Sunshine Coast	Noosa Non-Coastal Area	Noosa Coastal Area	TOTALS
1992					
Sunshine Coast (MSC/CCC)	285,263	12,658	2,438	***6,949***	307,309
Non-Sunshine Coast	12,658	3,113,786	1,266	***928***	3,128,639
NSC Non-Coastal Area	2,424	1,266	9,386	***2,932***	16,008
NSC Coastal Area	***6,986***	***928***	***2,943***	***38,135***	48,991
TOTALS	307,332	3,128,639	16,032	48,944	7,001,894
2011					
Sunshine Coast (MSC/CCC)	619,643	30,503	5,700	***20,623***	676,468
Non-Sunshine Coast	30,503	7,217,628	2,020	***2,098***	7,252,249
NSC Non-Coastal Area	5,700	2,020	13,397	***7,113***	28,229
NSC Coastal Area	***20,623***	***2,098***	***7,113***	***85,592***	115,426
TOTALS	676,468	7,252,249	28,229	115,426	16,144,745

*Source: Ove Arup Traffic Engineers for SCoTS. Data relevant to the trips within the Noosa Shire coastal area indicated in **bold and italic typeface.***

TABLE 7.5 TRIPS FOR THE NOOSA SHIRE COASTAL AREA, 1998 & 2016

ORIGINS	DESTINATIONS				
	Sunshine Coast (MSC/CCC)	Non-Sunshine Coast	Noosa Non-Coastal Area	Noosa Coastal Area	% increase 1998 to 2016
1998					
Sunshine Coast (MSC/CCC)				9,769	
Non-Sunshine Coast				1,197	
NSC Non-Coastal Area				3,868	
NSC Coastal Area	9,804	1,197	3,877	49,081	
TOTAL TRIPS				***78,792***	
2016					
Sunshine Coast (MSC/CCC)				27,317	179.6%
Non-Sunshine Coast				2,587	116.1%
NSC Non-Coastal Area				8,935	131.0%
NSC Coastal Area	27,278	2,587	8,925	105,336	114.6%
% increase 1998 to 2016	178.2%	116.1%	130.2%	114.6%	
TOTAL TRIPS				***182,965***	132.2%

*Source: Extrapolated from Table 7.4. Note that figures in **bold and italic typeface** are totals.*

Table 7.6 provides data derived from SCoTS based on the type of trip on the left side of the table. It is of importance to note that these are trips and not traffic volumes. As a single trip may be made on a number of the component roads comprising the coastal major road network, such a trip will produce a vehicle count for each component of the network.

Transportation studies model trip making between zones within a study area based on measurable characteristics of those zone. Typically, a set of different trip types is modeled, so that the identified set of trip types represents all types of trips made within, through, to and from the coastal area. Rarely, do two transportation studies ever use precisely the same definition of individual trip types, although they generally use similar definitions. The trip types shown in Table 7.6 are the trip types which were selected for modeling in the SCoTS study. Most trip types are self-evident.

A "home based work" trip is a trip between a home and a workplace, in either direction. That is, the trip to work and the trip home from work are both "home based work" trips.

Some of the trip type definitions are not so evident. For example, an older student driving to or from university would be a "home based education trip." However, a mother driving a child to school (a trip made primarily to provide a service for a passenger) is classified in this study as a "home based other" trip. Consequently, most of the trips in this data set made to and from schools are classified as "other" trips rather than "education" trips. A trip made between two schools to pick up two different children was classified as an "other based other" trip.

Commercial light, medium and heavy trips are trips made by commercial vehicles or trucks, classified by the size of the truck. For the purposes of the ScoTS study, trip ends at public or community facilities were classified as being ancillary to residential use.

Visitor, external and air travel trips are more likely to have one trip end outside the coastal area. Some work and shopping trips also involve travel outside the study area. Such trips would have one trip end within the coastal area and one trip outside the study area. These are all Type 2 trips.

Few trips are made passing straight through the coastal area, without trip ends inside the area (i.e. both trip ends occur outside the study area), because of the pattern of regional roads in the area and because the coastal area is not a normal route to other destinations. These are Type 4 trips.

These trip categories are important in the transport modeling process because, for example, a predicted increase in the number of households in the coastal area will be modeled as producing a proportional increase in the number of home-based trips. This was the basis in the transport modeling process for converting predicted changes in land usage to trip making and hence to travel demands on the road network.

By using the increase in trips from Table 7.6 the distribution of trips ends between different land use types may also be determined. This is depicted in Table 7.7 on page 31.

TABLE 7.6TOTAL VEHICLE TRIPS BY TYPE, 1998-2016

CATEGORY	TRIPS BY TYPE				
	1998	%	2016	%	Increase in Trips 1998-2016
Home-based work	10,536	13.4%	26,195	14.3%	15,659
Home-based education[a]	195	0.2%	430	0.2%	235
Home-based shopping	13,910	17.7%	33,125	18.1%	19,214
Home-based recreation	6,645	8.4%	13,509	7.4%	6,864
Home-based other	6,380	8.1%	13,963	7.6%	7,584
Work-based shopping	3,196	4.1%	8,397	4.6%	5,201
Work-based other	2,801	3.6%	6,523	3.6%	3,722
Shopping-based shopping	3,487	4.4%	11,321	6.2%	7,834
Shopping-based other	4,168	5.3%	12,362	6.8%	8,193
Other-based other	3,286	4.2%	7,350	4.0%	4,064
Visitor travel	14,143	17.9%	26,024	14.2%	11,881
External travel	289	0.4%	756	0.4%	467
Air travel	387	0.5%	553	0.3%	166
Commercial light travel	5,662	7.2%	13,977	7.6%	8,315
Commercial medium travel	1,577	2.0%	3,834	2.1%	2,256
Commercial heavy travel	2,130	2.7%	4,646	2.5%	2,517
TOTALS	**78,792**	**100.0%**	**182,965**	**100.0%**	**104,173**

Source (trip end allocation factors): Beard, C 1998

[a] Note that the SCoTS data does not classify serve passenger trips within home-based education.

TABLE 7.7 INCREASE IN TOTAL VEHICLE TRIPS BY TYPE & TRIP END ALLOCATION, 1998-2016

CATEGORY	INCREASE IN TRIPS		ESTIMATED TRIP END ALLOCATION FACTORS					ESTIMATED TRIP ENDS				
	1998-2016 (from Table 7.6)		Residential	Educational	Commercial	Types 3 & 4	Total	Residential	Educational	Commercial	Types 3 & 4	Total
Home-based work	15,659		1.1	0.0	0.6	0.3	2.0	17,225	0	9,395	4,698	**31,318**
Home-based education[a]	235		1.0	1.0	0.0	0.0	2.0	235	235	0	0	**471**
Home-based shopping	19,214		1.0	0.0	0.7	0.3	2.0	19,214	0	13,450	5,764	**38,429**
Home-based recreation	6,864		1.2	0.0	0.6	0.2	2.0	8,237	0	4,119	1,373	**13,729**
Home-based other	7,584		1.1	0.6	0.0	0.3	2.0	8,342	4,550	0	2,275	**15,168**
Work-based shopping	5,201		0.4	0.0	1.4	0.2	2.0	2,080	0	7,282	1,040	**10,402**
Work-based other	3,722		0.4	0.4	1.0	0.2	2.0	1,489	1,489	3,722	744	**7,443**
Shopping-based shopping	7,834		0.0	0.0	1.7	0.3	2.0	0	0	13,318	2,350	**15,668**
Shopping-based other	8,193		0.7	0.4	0.8	0.1	2.0	5,735	3,277	6,555	819	**16,387**
Other-based other	4,064		0.7	0.2	1.0	0.1	2.0	2,845	813	4,064	406	**8,128**
Visitor travel	11,881		1.0	0.0	0.2	0.8	2.0	11,881	0	2,376	9,505	**23,762**
External travel	467		0.0	0.0	0.0	2.0	2.0	0	0	0	935	**935**
Air travel	166		1.0	0.0	0.0	1.0	2.0	166	0	0	166	**332**
Commercial light travel	8,315		0.7	0.0	0.8	0.5	2.0	5,820	0	6,652	4,157	**16,630**
Commercial medium travel	2,256		0.4	0.0	0.9	0.7	2.0	903	0	2,031	1,579	**4,513**
Commercial heavy travel	2,517		0.2	0.0	1.0	0.8	2.0	503	0	2,517	2,013	**5,033**
TOTALS	**104,173**							**84,676**	**10,365**	**75,479**	**37,826**	**208,345**
								40.6%	**5.0%**	**36.2%**	**18.2%**	**100.0%**

The SCoTS model did not use trip production and attraction equations which simply and logically relate to land use parameters such as the number of households of different types or the floor area of retail shops. To ensure that this process was simple and transparent, the Estimated Trip End Allocation Factors shown in Table 7.7 are estimates based on typical distributions of trip origins and destinations.

For example, by extrapolation the SCoTS study predicted that between 1998 and 2016, there would be an increase of 15659 in "home based work" trips. 15659 trips have, by definition, 31318 trip ends (two trip ends for each trip). Some trips with the employee's home as one trip end have an office, factory or shop (all classified as commercial) as the other trip end. In other circumstances, workplace locations are in other residential areas and some are outside the coastal area. The allocation factors simply assign the trip ends to the different land use categories in a simple and logical way, based on:

- Traffic engineering experience;
- Knowledge of the coastal area traffic circumstances;
- Forecast changes to those circumstances over time; and
- Liaison with other experienced Queensland traffic engineers.

[a] As indicated in footnote a on page 28, the SCoTS data does not classify serve passenger trips within home-based education, nor are most education trips classified within home-based education. By examining the educational column, it can be seen that SCoTS classifies most education-based trips as home-based other, work-based other and shopping-based other trips.

Therefore, in the case of the "home based work" trips, for example, it was estimated that 9395 of the 31318 "home based work" trips ends were in commercial areas. Slightly more than half of the trip ends (17225) were assigned to residential areas.

This ICP uses the proportional distribution of trip ends from SCoTS, rather than the absolute number of trip ends predicted by SCoTS. Factors influencing this decision have included:

- Confidence in the proportional distribution data derived from the SCoTS;
- Lack of confidence in the absolute traffic volumes projected by ScoTS;
- Confidence in the projections made through Beard, C 1996 and subsequent traffic projection data used in the CMRNICP.

TABLE 7.8 CMRN COSTS ACTUALLY RECOVERABLE THROUGH THIS ICP

CATEGORY	SOURCE	AMOUNT
Total cost recoverable through the CMRNICP	Table 7.2	$38,703,682
Less component for which costs cannot be recovered (Types 3 & 4 trips)	Table 7.7	$7,026,785
TOTAL		**$31,676,897**

TABLE 7.9 PROPORTIONAL DISTRIBUTION OF TOTAL COSTS

DEVELOPMENT TYPE	PROPORTIONAL INCREASE IN TRIP ENDS *(from Table 7.7 in 1998$)*	PROPORTIONAL CONTRIBUTION TO COSTS *(proportional increase in trip ends × total cost from Table 7.8 in 1998$)*
Residential	40.6%	$15,730,077
Educational	5.0%	$1,925,387
Commercial	36.2%	$14,021,433
Trip types for which ICP charges cannot be levied	18.2%	$7,026,785
TOTAL	**100.0%**	**$38,703,682**

Based on Table 7.7 and Table 7.8, the proportional distribution of costs is summarised in Table 7.9 above.

7.4 COSTS RECOVERABLE THROUGH THE CMRNICP

From Table 7.2 on page 25, the potential cost of the network recoverable through the CMRNICP is $38,703,682. This total requires proportional adjustment for those traffic movements that do not have trip ends in the coastal area of the Shire (Types 3 and 4 trips). Table 7.8 above then indicates the total cost recoverable through the CMRNICP.

7.5 COSTS & CONTRIBUTORY RATES ASSOCIATED WITH RESIDENTIAL DEVELOPMENT

Trip ends for units and other forms of accommodation are based on two bedroom units, which are estimated to generate trip ends at a rate of 50% of that attributable to dwelling houses[a].

Taking these rates and having regard to the differing amounts of residential development types from Table 5.4 on page 19 and the costs attributable to residential development from Table 7.9, the contributory rate for dwelling houses is:

$15,730,077÷[4,074+(6,215× 0.5)]	=	$2,190.28

For a two bedroom unit, the rate is half that attributable to dwelling houses i.e. $1,095.14.

Therefore based on the above considerations, the contribution that residential development would make towards the CMRN is indicated in Table 7.10 on page 33.

[a] Source: Accepted traffic engineering standards (Colin Beard).

TABLE 7.10 RESIDENTIAL DEVELOPMENT CONTRIBUTION TOWARDS THE CMRN

RESIDENTIAL CATEGORY	INCREASE IN RESIDENTIAL DEVELOPMENT TYPE *(derived from Table 5.4)*	COST PER CATEGORY *(derived from discussion at Section 7.5 in 1998$)*	CONTRIBUTION TO CMRNICP COSTS *(increase in development type × cost per category in 1998$)*
Dwelling houses	4,074	$2,190.28	$8,924,232
Units and other forms of accommodation	6,215	$1,095.14	$6,805,845
TOTAL			**$15,730,077**

7.6 COSTS & CONTRIBUTORY RATES ASSOCIATED WITH COMMERCIAL DEVELOPMENT

For commercial development, the moderate intensity commercial development is estimated to generate trips at the rate of 40% of that attributable to high intensity commercial development, with low intensity commercial development generating trip ends at 10% of the high intensity rate[a].

Taking these rates and having regard to the differing areas of commercial development types from Table 5.7 on page 22 and the costs attributable to commercial development from Table 7.9 on page 32, the contributory rate for every square metre of high intensity commercial development total use area[a] is:

$14,021,433 ÷ [23,333 + (56,333 × 40%) + (62,833 × 10%)]	=	$268.87

For moderate and low intensity commercial development the rate is 40% and 10% of that attributable to high intensity commercial development respectively i.e. $107.55 and $26.86.

Therefore based on the above considerations, the contribution that commercial development would make towards the CMRN is indicated in Table 7.11.

7.7 COSTS & CONTRIBUTORY RATES ASSOCIATED WITH EDUCATIONAL DEVELOPMENT

Having regard to the projected increase in student numbers from Table 5.9 and the costs attributable to educational development from Table 7.9, the contributory rate for each student is:

$1,925,387 ÷ 3,118	=	$617.50

Therefore based on the above considerations, the contribution that educational development would make towards the CMRN is indicated in Table 7.12.

TABLE 7.11 COMMERCIAL DEVELOPMENT CONTRIBUTION TOWARDS THE CMRN

COMMERCIAL CATEGORY	INCREASE IN COMMERCIAL DEVELOPMENT TYPE *(derived from Table 5.7)*	COST PER SQ. METRE BY CATEGORY *(derived from discussion at Section 7.6 in 1998$)*	CONTIRBUTION TO CMRNICP COSTS *(increase in development type X cost per sq. metre in 1998$)*
High intensity commercial development	23,333	$268.87	$6,273,572
Moderate intensity commercial development	56,333	$107.55	$6,058,478
Low intensity commercial development	62,833	$26.89	$1,689,383
TOTAL			**$14,021,433**

[a] *Total use area* is a term defined in the Schedule to the Planning Scheme.

TABLE 7.12 EDUCATIONAL DEVELOPMENT CONTRIBUTION TOWARDS THE CMRN

EDUCATIONAL CATEGORY	INCREASE IN EDUCATIONAL DEVELOPMENT TYPE *(derived from Table 5.9)*	COST PER CATEGORY *(derived from discussion at Section 7.7 in 1998$)*	CONTRIBUTION TO CMRNICP COSTS *(increase in development type × cost per category in 1998$)*
Educational development	3,118	$617.50	$1,925,387
TOTAL			**$1,925,387**

7.8 METHOD OF CALCULATING THE CHARGE

Appendix D: Schedule of Charges and in particular Table 11.1 on page 44 and Table 11.2 on page 45 now relate the figures derived from Sections 7.5, 7.6 and 7.7 to the land use definitions from the Schedule to the Planning Scheme. The relevant charge is calculated:

a. At the rates depicted in the columns *Relevant Charge* and *Unit* opposite the relevant use; and

b. Adjusted consistent with the Australian Bureau of Statistics Price Index[a] variations calculated from April 1998.

It is noted that Table 11.1 and Table 11.2:

- Have as their reference dates April, 1998; and
- Uses for its rationale of charge distribution, the density provisions drawn from the Schedule to the Planning Scheme, where appropriate[b].

For those uses in Table 11.1 and Table 11.2 where no charges are indicated, either:

a. The relevant charges have or will be captured from residential or commercial development; or

b. It is anticipated that such uses will not occur in the coastal area of the Shire.

7.9 LIABILITY TO PAY CMRNICP CHARGES & THE METHOD AND TIMING OF PAYMENT

7.9.1 Charges for development comprising reconfiguration for dwelling houses and material changes of use for dwelling houses

Subject to Section 7.10 on page 35, charges under this section will be *triggered* by the issue of a development permit, however only one of the two following circumstances will apply:

a. In the case of a development permit (reconfiguration and material change of use of premises) involving an increase in the number of dwelling houses that may be erected on land, the notice of charge[c] will be given following the issue of a development permit for the reconfiguration in accordance with Table 11.1 and Table 11.2. The timing of payment will accord with the relevant provisions of the IPA[d].

b. In the case of a development permit (building works) for a dwelling house, the notice of charge[e] will be given following the issue of a development permit in accordance with Table 11.1 and Table 11.2. The timing of payment will accord with the relevant provisions of the IPA[b].

Wherever possible, the levying of charges will be associated with the development permit for reconfiguration under 7.9.1a, rather than under 7.9.1b.

7.9.2 Charges for development permits that are not related to purposes defined in Section 7.9.1

Subject to Section 7.10 on page 35, charges under this section will be *triggered* by the issue of a development permit (building works or material change of use) for a use defined in Table 11.1 and Table 11.2. The notice of charge and the timing of payment will accord with the relevant provisions of the IPA[f].

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[a] A quarterly figure derived from *Price Index for Materials Used in Building Other than House Building*.

[b] Refer to the definition *population density*, where hypothetical populations are established for unit types, e.g. 1 bedroom - 1.7 persons, 2 bedroom - 2.4 persons, 3 bedroom - 3.3 persons.

[c] Section 5.1.8 of the IPA.

[d] Sections 5.1.9-5.1.10 of the IPA.

[e] Section 5.1.8 of the IPA.

[f] Sections 5.1.8-5.1.10 of the IPA.

7.10 Reduction in Charges

The CMRNICP makes provision for reduction in charges in circumstances where:

a. A material change of use and/or increase of use of premises on other than vacant land is involved.

b. A contribution towards the cost of providing infrastructure defined in Table 9.1 on page 37 or Table 9.2 on page 40 has previously been imposed by way of condition of approval.

c. A contribution towards the cost of providing infrastructure defined in Table 9.1 on page 37 or Table 9.2 on page 40 has previously been paid as part of a staged development.

d. The construction of infrastructure defined in Table 9.1 on page 37 or Table 9.2 on page 40 has previously been imposed by way of condition of approval.

e. The construction of infrastructure defined in Table 9.1 on page 37 or Table 9.2 on page 40 has previously been undertaken as part of a staged development.

In determining the charge that is to be levied, a reduction in the level of charge will normally apply where factors defined in 7.10a-e above exist.

For some forms of development, the combination of circumstances that may apply is broad and may be complex. Where it is believed that CMRNICP charges should be reduced or not levied due to the circumstances defined in 7.10a-e above, development proponents may wish to make application to Council for adjustment of charges. Such applications should be accompanied by relevant histories and payment and construction details.

Apart from the particular circumstances of the application and development, Council will also have regard to whether there was any bring forward component assessed in imposing the condition of approval[a].

[a] For example, the infrastructure to which the contribution is directed whilst servicing the development did not need immediate construction or upgrading as a consequence of the development or the particular stage of the development.

8. APPENDIX A: REFERENCES

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9. APPENDIX B: MAPPING TABLES

The following legend applies to terms used in tables within this section:

1998 (or 2016) Traffic Volume The estimated maximum traffic volume on the particular link at a particular year. The maximum volumes generally occur at key intersections that are usually located at one or either end of the link.

DMR Department of Main Roads responsibility for construction

Estimate Code The code for the construction estimates derived from *Cost Estimates for Future Road Infrastructure*.

Estimated Cost (Apr 1998$) The Estimated Cost (Dec 2000$) of constructing the element of the infrastructure item indexed to 1998$, however where an actual cost is provided in the Estimate Cost column, the estimated cost in 1998$ has been indexed from the actual cost and year of construction based on the following:

YEAR	PRICE INDEX
April 1998	117.0
December 1999	118.9
December 2000	119.1
December 2001	120.1
March 2002	120.7

Estimated Cost (Dec 2000$) The estimated cost of constructing the element of the infrastructure item in 2000$, however where an actual cost is provided in the Estimate Cost column, the cost is actual and based on the year of construction.

Estimated Traffic Volume The estimated maximum traffic volume on the particular link. The maximum volumes generally occur at key intersections that are usually located at one or either end of the link.

Nil Not indicated on the Strategic Plan maps.

Nil (but part of modified Major Road Network) Not indicated on the Strategic Plan maps, but part of a modified coastal major road network through amended alignment or increasing role

Nil (interim) Not indicated on the Strategic Plan maps and an interim part of the coastal major road network

Primary name Primary road names to which the CMRNICP applies. These are mapped at Map 5.2 on page 18. The roads are ordered west to east or north to south as appropriate.

Road (interim) A road required as an interim part of the coastal major road network

Secondary Name Secondary road names defining the extents of the relevant section of primary road.

Strategic Plan designation The designation of a road as it appears on the Strategic Plan.

Type Type of infrastructure, also indicating if it is to be used as an interim part of the network or is under the control of the DMR

Year planned The year that the particular element of the infrastructure item is planned for completion of construction.

TABLE 9.1 ROADS

In Table 9.1 to facilitate identifying the intention for roadworks along the length of a road, primary road names and secondary road names are ordered west to east or north to south as appropriate.

PRIMARY NAME	SECONDARY NAME	TYPE	ESTIMATE CODE	STRATEGIC PLAN DESIGNATION	1998 TRAFFIC VOLUME	2016 TRAFFIC VOLUME	ESTIMATED COST (DEC 2000$)	YEAR PLANNED	ESTIMATED COST (APR 1998$)
Beckmans Road	Cooroy-Noosa Road-Eumundi Road	Road	1515-2001fB	Major Road Network	8,000	18,000	$1,768,479	2005	$1,737,296
Butler Street	Cooroy Noosa Road-Poinciana Avenue	Road		Major Road Network	8,000	8,000	$0		$0
Cooroy Noosa Road	Griffith Avenue-Butler Street	Road	Actual cost	Major Road Network	8,000	13,000	$112,883	2001	$109,970
Cooroy Noosa Road	Speed limit change immediately west of Griffith Avenue-Griffith Avenue	Road (MRD)		Major Road Network	8,000	13,000	$0		$0
Cooyar Street	David Low Way-Langura Street	Road	1395A-2002	Nil (but part of modified Major Road Network)	6,000	12,000	$315,315	2004	$309,755
Cooyar Street	Langura Street-Noosa Springs Drive	Road	1519-2001f	Nil (but part of modified Major Road Network)	6,000	9,000	$99,715	2004	$97,957
Cullinane Street	McKinnon Drive-Werin Street	Road (interim)		Nil	3,000	1,000	$0		$0
David Low Way	Bicentennial Drive-Pacific Avenue	Road		Major Road Network	14,000	17,000	$0		$0
David Low Way	Burgess Creek-Castaways Creek Bridge	Road		Major Road Network	10,000	15,000	$0		$0
David Low Way	Castaways Creek Bridge	Bridge	Actual cost	Major Road Network	10,000	15,000	$768,388	2000	$754,840
David Low Way	Castaways Creek Bridge-Toona Street	Road		Major Road Network	10,000	15,000	$0		$0
David Low Way	Cooyar Street-Bicentennial Drive	Road		Major Road Network	21,000	19,000	$0		$0
David Low Way	Heathland Drive-Burgess Creek	Road	1702-2001f	Major Road Network	12,000	20,000	$174,378	2010	$171,303
David Low Way	Heron Street-Study area boundary	Road	11278-1	Major Road Network	10,000	14,000	$122,128	2002	$119,975
David Low Way	Lowry Street-Podargus Parade	Road	1700-2001f	Major Road Network	10,000	13,000	$178,504	2004	$175,356
David Low Way	Melaleuca Street-Lowry Street	Road		Major Road Network	10,000	13,000	$0		$0
David Low Way	Pacific Avenue-Heathland Drive	Road	Actual cost	Major Road Network	10,000	12,000	$229,689	2000	$225,639
David Low Way	Peregian Esplanade South-Woodland Drive	Road	1696-2001f	Major Road Network	10,000	14,000	$167,188	2003	$164,240
David Low Way	Podargus Parade-Peregian Esplanade South	Road	1698-2001f	Major Road Network	10,000	14,000	$317,334	2003	$311,739
David Low Way	Toona Street-Melaleuca Street	Road	11001-5	Major Road Network	10,000	14,000	$134,965	2006	$132,586
David Low Way	Woodland Drive-Heron Street	Road	11254-1	Major Road Network	10,000	13,000	$453,903	2004	$445,899
Doonella Street	Sidoni Street-Diyan Street	Road		Major Road Network	14,000	14,000	$0		$0
Eenie Creek Road	Eumundi Road-Walter Hay Drive (2 lane)	Road	Actual cost	Potential Part of the Major Road Network	0	16,000	$741,920	2001	$728,838

PRIMARY NAME	SECONDARY NAME	TYPE	ESTIMATE CODE	STRATEGIC PLAN DESIGNATION	1998 TRAFFIC VOLUME	2016 TRAFFIC VOLUME	ESTIMATED COST (DEC 2000$)	YEAR PLANNED	ESTIMATED COST (APR 1998$)
Eenie Creek Road	Eumundi Road-Walter Hay Drive (4 lane)	Road	1489-2001f	Potential Part of the Major Road Network	0	16,000	$1,502,511	2005	$1,476,019
Eenie Creek Road	Langura Street-Heathland Drive	Road	7099-6 Opt1 3c	Potential Part of the Major Road Network	0	16,000	$7,498,471	2005	$7,366,256
Eenie Creek Road	Reef Street-Langura Street (includes roundabout at Reef Street/Eenie Creek Road, Eenie Creek Road/Langura Street and Langura Street/Cooyar Street)	De-mained road	7099-6 Opt1	Potential Part of the Major Road Network	0	20,000	$19,830,675	2004	$19,481,016
Eenie Creek Road	Walter Hay Drive-Reef Street (2 lane, includes roundabout upgrade at Reef Street/Weyba Road/Mary Street and roundabout at Walter Hay Drive)	De-mained road	Actual cost	Potential Part of the Major Road Network	0	25,000	$6,280,209	2001	$6,169,475
Eenie Creek Road	Walter Hay Drive-Reef Street (4 lane)	De-mained road	1491-2001fA	Potential Part of the Major Road Network	0	25,000	$2,526,105	2005	$2,481,564
Emu Mountain Road	Cooroy Noosa Road-Eumundi Road	Road (MRD)		Potential Part of the Major Road Network			$0		$0
Emu Mountain Road	Eumundi Road-Study area boundary	Road (MRD)		Major Road Network	7,000	18,000	$0		$0
Eumundi Road	Eenie Creek Road-Beckmans Road - Stage 1	Road	Actual cost	Major Road Network	18,000	21,000	$369,118	2000	$362,610
Eumundi Road	Eenie Creek Road-Beckmans Road - Stage 2	Road	1382-2001fA	Major Road Network	18,000	19,000	$480,108	2004	$471,643
Eumundi Road	Gibson Road-Venture Drive	Road	Estimate drawn from demaining agreement	Major Road Network	20,000	23,000	$1,542,590	2009	$1,515,391
Eumundi Road	Venture Drive-Eenie Creek Road	Road	Estimate drawn from demaining agreement	Major Road Network	25,000	17,000	$661,110	2002	$649,453
Eumundi Road	Hilton Terrace-Gibson Road	Road		Major Road Network	12,000	7,000	$0		$0
Eumundi Road	Speed limit change immediately west of Beckmans Road-Beckmans Road	Road (MRD)		Major Road Network	13,000	10,000	$0		$0
Gibson Road	Doonella Bridge-Eumundi Road	Road	1498-2001f	Potential Part of the Major Road Network	0	12,000	$2,400,968	2005	$2,358,634
Gibson Road	Eumundi Road-The Cockleshell	Road	1509-2001f	Major Road Network	19,000	15,000	$203,864	2006	$200,270
Gibson Road	The Cockleshell-Mary Street	Road		Major Road Network	19,000	15,000	$0		$0
Heathland Drive	Ben Lexcen Drive-David Low Way	Road		Potential Part of the Major Road Network	0	14,000	$0		$0
Hilton Terrace		Road		Major Road Network	12,000	4,000	$0		$0
Langura Street		Road		Potential Part of the Major Road Network	500	7,000	$0		$0
Leslie Drive	Noosa Drive-Noosa Springs Drive	Road		Nil (but part of modified Major Road Network)	5,000	9,000	$0		$0
Mary Street		Road		Major Road Network	18,000	15,000	$0		$0
McKinnon Drive	Butler Street extension-Cullinane Street	Road		Nil (but part of current Major Road Network)	3,000	5,000	$0		$0
McKinnon Drive	Speed limit change immediately north of Yellowood Cl-Butler Street extension	Road (MRD)		Major Road Network	3,000	5,000	$0		$0
Memorial Avenue		Road		Major Road Network	20,000	20,000	$0		$0
Noosa Drive	Banksia Avenue-Weyba Bridge	Road		Major Road Network	14,000	12,000	$0		$0
Noosa Drive	Coral Tree Avenue-Banksia Avenue	Road	1496-2001f	Major Road Network	10,000	12,000	$93,615	2003	$91,965
Noosa Drive	Noosa Parade-Sunshine Beach Road	Road	Actual cost	Major Road Network	10,000	14,000	$107,827	2001	$105,926
Noosa Drive	Sunshine Beach Road-Coral Tree Avenue	Road		Major Road Network	10,000	14,000	$0		$0
Noosa Parade	Noosa Sound-Hastings Street	Road		Major Road Network	8,000	14,000	$0		$0
Noosa Parade	Weyba Road-Noosa Sound	Road		Major Road Network	8,000	14,000	$0		$0
Poinciana Avenue		Road		Major Road Network	17,000	18,000	$0		$0
Poinciana Avenue	Butler Street-McKinnon Drive	Road	1518-2001f	Major Road Network	0	7,000	$736,237	2005	$723,256
Reef Street		Road		Potential Part of the Major Road Network	0	12,000	$0		$0
Sidoni Street	Poinciana Avenue-Doonella Street	Road		Major Road Network	14,000	14,000	$0		$0
Sunshine Beach Road	Cooyar Street-Noosa Drive	Road		Major Road Network	20,000	14,000	$0		$0
Walter Hay Drive	Eenie Creek Road - Shire Business Centre access (additional 2 lanes)	De-mained road	11103-2001f	Potential Part of the Major Road Network	0	25,000	$367,794	2004	$361,309
Walter Hay Drive	Eenie Creek Road-Emu Mountain Road	De-mained road	11106	Potential Part of the Major Road Network	0	17,000	$18,260,939	2004	$17,938,958

PRIMARY NAME	SECONDARY NAME	TYPE	ESTIMATE CODE	STRATEGIC PLAN DESIGNATION	1998 TRAFFIC VOLUME	2016 TRAFFIC VOLUME	ESTIMATED COST (DEC 2000$)	YEAR PLANNED	ESTIMATED COST (APR 1998$)
Walter Hay Drive	Venture Drive-Eumundi Road-Eenie Creek Road	De-mained road	7099/5-24 (Estimate drawn from demaining agreement)	Potential Part of the Major Road Network	0	9,000	$1,100,000	2002	$1,080,605
Werin Street		Road (interim)		Nil	3,000	1,000	$0		$0
Weyba Road	Lake Weyba Drive-Weyba Bridge	Road	Actual cost	Major Road Network	20,000	15,000	$288,683	2002	$279,834
Weyba Road	Mary Street-Lake Weyba Drive	Road		Major Road Network	20,000	15,000	$0		$0
Weyba Road	Noosa Parade-Mary Street	Road		Major Road Network	12,000	14,000	$0		$0
TOTAL							**$69,835,616**		**$68,599,575**

TABLE 9.2 INTERSECTIONS

In Table 9.2 to facilitate quicker identification of the location of the intersection, the primary road is the more minor and the secondary road is the more major.

PRIMARY NAME	SECONDARY NAME	TYPE	ESTIMATE CODE	ESTIMATED COST (DEC 2000$)	YEAR PLANNED	ESTIMATED COST (APR 1998$)
Banksia Avenue	Noosa Dr	Roundabout	1399-2001f	$644,031	2003	$632,676
Beckmans Road	Cooroy Noosa Road	Roundabout	1500-2001f	$1,083,114	2004	$1,064,016
Beckmans Road	Eumundi Road	Roundabout upgrade	Actual cost	$383,939	2000	$377,169
Beckmans Road	Noosaville Primary School	Roundabout	1517-2001fA	$869,046	2005	$853,723
Beckmans Road	St Andrews Drive	Roundabout	1516-2001fA	$498,264	2004	$489,478
Bicentennial Dr	David Low Way	Intersection upgrade	1513a	$137,507	2006	$135,082
Butler Street	Poinciana Avenue	Roundabout	1493-2001f	$525,370	2005	$516,107
Butler Street	M^{c}Kinnon Dr	Roundabout	1494-2001f	$318,625	2005	$313,007
Carramar Street	Cooroy Noosa Road	Intersection upgrade	1484-2001f	$73,130	2010	$71,840
Cooyar Street	David Low Way & Lanyana Way	Roundabouts	1397A-2002	$1,726,701	2002	$1,696,256
Currawong Cres	David Low Way & Peregian Esplanade South	Intersection upgrade	1697-2001f	$214,729	2010	$210,943
Eenie Creek Road	Walter Hay Dr	Roundabout	Included in Eenie Creek Road (Walter Hay Dr-Reef St)		2001	$0
Eumundi Road	Beckmans Road	Roundabout	1703-2001fA	$1,599,940	2005	$1,571,729
Eumundi Road	Eenie Creek Road	Roundabout	Actual cost	$632,682	2000	$621,526
Eumundi Road	Walter Hay Drive and Venture Drive	Roundabout upgrade	Included in Walter Hay Dr estimates		2002	$0
Goodwin Street	Poinciana Avenue	Intersection upgrade	1485-2001f	$175,532	2010	$172,437
Griffith Avenue	Cooroy Noosa Road	Intersection upgrade	1483-2001f	$79,483	2008	$78,081
Hibiscus Avenue	Noosa Drive	Roundabout	Actual cost	$315,609	1999	$310,566
Langura Street	Cooyar Street	Roundabout	1394-2001f	$590,675	2004	$580,260
Langura Street	Eenie Creek Road	Roundabout	Included in Eenie Creek Road estimates		2004	$0
Leslie Drive	Noosa Drive	Roundabout	Actual cost	$890,837	2000	$875,130
Lowry Street	David Low Way & Peregian Esplanade South	Roundabout	1701-2001f	$562,596	2010	$552,676
Mahogany Drive (south)	David Low Way	Roundabout	Actual cost	$472,734	2000	$464,399
Moorindil Street	Poinciana Avenue	Roundabout	1242-2001f	$309,954	2003	$304,489
Noosa Parade	Noosa Drive	Roundabout upgrade	Actual cost	$59,130	2001	$57,604
Noosa Parade	Weyba Road	Roundabout	Actual cost	$301,535	2000	$296,218
Pacific Avenue	David Low Way	Intersection upgrade	Actual cost	$76,458	2000	$75,110
Podargus Parade	David Low Way	Roundabout	1699-2001f	$445,385	2007	$437,532
Reef Street	Eenie Creek Road	Roundabout	Included in Eenie Creek Road actual costs		2004	$0
Shire Business Centre	Walter Hay Drive (north)	Roundabout	11105-2001f	$1,207,239	2004	$1,009,126
Shire Business Centre	Walter Hay Drive (south)	Roundabout	11104-2001f	$977,042	2004	$959,815
St Andrews Drive	Cooroy Noosa Road	Roundabout	1532-2001	$465,053	2003	$456,853
Thomas Street	Gibson Road	Roundabout	1269-2001f	$352,500	2009	$346,284
Toona Street	David Low Way	Intersection upgrade	11001-6	$119,049	2008	$116,950
Werin Street	Poinciana Avenue	Roundabout	1495-2001f	$258,459	2009	$253,902
Woodland Drive	Ibis Street & David Low Way	Intersection upgrade	1694a	$708,500	2008	$696,007
TOTAL				**$16,894,846**		**$16,596,990**

10. APPENDIX C: CONTRIBUTIONS & FINANCING

10.1 DEVELOPMENT CONTRIBUTIONS

Table 10.1 comprises a list of contributions that have been received by Council towards upgrading of the coastal major road network.

TABLE 10.1 CONTRIBUTIONS RECEIVED TOWARDS THE CMRN

NAME	CONTRIBUTION
Roads	
Beckmans Rd	$20,265
Butler St (Cullinane St to Poinciana Ave)	$20,474
Eenie Creek Rd	$73,480
Road Sub-Total	**$114,219**
Intersections	
Beckmans Rd-Eumundi Rd	$103,400
Leslie Dr-Noosa Dr	$701,100
Thomas St-Gibson Rd	$90,000
Hibiscus Ave-Noosa Dr	$85,000
Hibiscus Ave-Noosa Dr	$44,281
Intersection Sub-Total	**$1,023,781**
TOTAL	**$1,138,000**

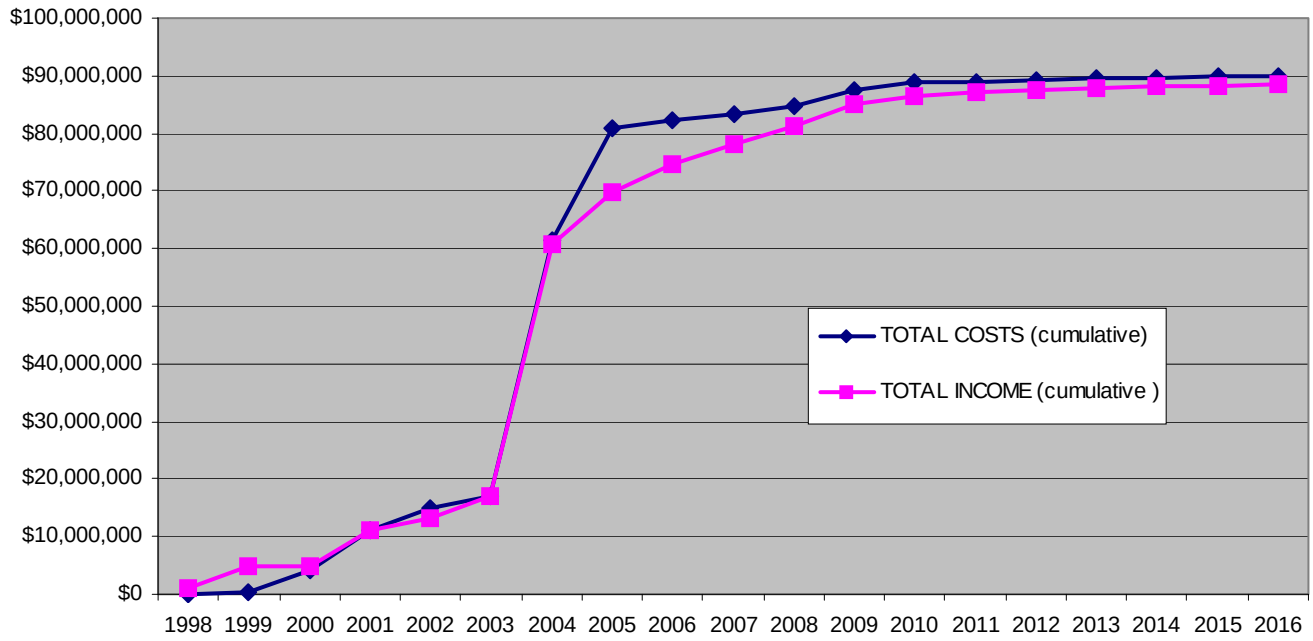
10.2 PROJECTED CASH FLOW

Table 10.2 on page 42 indicates the projected cash flow referenced at Section 7.1. Figure 10.1 on page 43 indicates the projected cash flow graphically.

TABLE 10.2 COASTAL MAJOR ROAD NETWORK PROJECTED CASH FLOW

YEAR	VALUE	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
COSTS																				
Coastal major road network construction costs (cumulative - calculated from forecast year of construction for individual projects)			$310,566	$4,363,206	$11,535,018	$15,361,141	$17,323,102	$60,707,690	$80,105,280	$80,573,218	$81,010,750	$81,901,789	$84,017,366	$85,196,565	$85,196,565	$85,196,565	$85,196,565	$85,196,565	$85,196,565	$85,196,565
ICP administration costs (cumulative, officer costs, administration costs, on-costs and 2002 software purchase)						$44,671	$105,363	$166,056	$226,749	$287,441	$348,134	$408,826	$469,519	$530,211	$590,904	$651,597	$712,289	$772,982	$833,674	$894,367
ICP finance costs [cumulative 8%p.a. - calculated on the difference between total income and total cost as at the end of the previous year (positive - interest paid, negative - interest received)]	8.0%		-$79,590	-$443,386	-$512,075	-$506,072	-$356,374	-$354,141	-$349,252	$498,003	$1,067,345	$1,442,587	$1,652,714	$1,765,181	$1,870,194	$1,946,058	$1,998,863	$2,032,698	$2,052,724	$2,061,234
ICP preparation costs (cumulative)		$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846	$98,846
TOTAL COSTS (cumulative)		**$98,846**	**$329,822**	**$4,018,666**	**$11,121,789**	**$14,998,586**	**$17,170,938**	**$60,618,451**	**$80,081,623**	**$81,457,509**	**$82,525,075**	**$83,852,049**	**$86,238,445**	**$87,590,804**	**$87,756,510**	**$87,893,066**	**$88,006,563**	**$88,101,092**	**$88,181,810**	**$88,251,012**
INCOME																				
Department of Main Roads contributions (cumulative - received initially from Demaining Agreement (1998), balance to be received in same year as individual projects			$3,739,277	$3,739,277	$9,908,752	$10,989,357	$10,989,357	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330	$48,409,330
Noosa Council: Contributions received from prior approvals (cumulative)		$1,093,719	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000	$1,138,000
Noosa Council: Proportion of costs that cannot be recovered (cumulative)	18.2%						$915,679	$2,010,000	$5,543,605	$5,793,402	$5,987,222	$6,228,139	$6,661,397	$6,906,922	$6,937,007	$6,961,799	$6,982,405	$6,999,567	$7,014,221	$7,026,785
Noosa Council: Apportionment of forgone (1998-2002) income						$1,000,000	$2,000,000	$3,000,000	$4,000,000	$5,000,000	$6,000,000	$7,000,000	$8,373,880	$8,373,880	$8,373,880	$8,373,880	$8,373,880	$8,373,880	$8,373,880	$8,373,880
Future development contributions (ICP - cumulative)							$2,100,000	$6,000,000	$10,400,000	$14,000,000	$16,300,000	$18,450,000	$20,250,000	$21,450,000	$21,950,000	$22,350,000	$22,680,000	$22,930,000	$23,140,000	$23,303,017
TOTAL INCOME (cumulative)		**$1,093,719**	**$4,877,277**	**$4,877,277**	**$11,046,752**	**$13,127,356**	**$17,143,036**	**$60,557,330**	**$69,490,935**	**$74,340,732**	**$77,834,552**	**$81,225,469**	**$84,832,607**	**$86,278,132**	**$86,808,217**	**$87,233,009**	**$87,583,615**	**$87,850,777**	**$88,075,431**	**$88,251,012**
RECOVERABLE COSTS																				
Total cost less Department of Main Roads contributions and existing development contributions from prior approvals (cumulative)						$2,871,229	$5,043,582	$11,071,121	$30,534,293	$31,910,179	$32,977,745	$34,304,719	$36,691,115	$38,043,474	$38,209,180	$38,345,736	$38,459,233	$38,553,762	$38,634,480	$38,703,682
Forgone income, estimate 1998-2002 (cumulative)		$1,658,100	$3,974,889	$5,584,100	$6,873,880	$8,373,880														
Future development contributions to total costs (cumulative)	81.8%					$2,349,948	$4,127,902	$9,061,121	$24,990,688	$26,116,777	$26,990,523	$28,076,580	$30,029,718	$31,136,552	$31,272,173	$31,383,937	$31,476,829	$31,554,195	$31,620,258	$31,676,897

FIGURE 10.1 CASH FLOW: TOTAL COSTS & TOTAL INCOME



11. APPENDIX D: SCHEDULE OF CHARGES

TABLE 11.1 NON-RESIDENTIAL DEVELOPMENT

Schedule Land Use Definition	Commercial Employment Category or Educational Category	Relevant Charge (derived from considerations made in Sections 7.6, 7.7 and 7.8 at April, 1998)	Unit *(where tua = total use area)*	Rationale
Bulk garden supplies	Agriculture (inc. Mining & Utilities)	$26.89	per m^2 tua	Low intensity charge
Bulk store	Transport, Storage & Communications	$26.89	per m^2 tua	Low intensity charge
Child care centre	Education	$617.50	per child	Educational charge
Commercial premises	Finance, Public Administration & Defence	$107.55	per m^2 tua	Moderate intensity charge
Commercial services	Retail	$268.87	per m^2 tua	High intensity charge
Display home	Construction	$2,190.28	per house	House charge
Educational establishments	Education	$617.50	per student	Educational charge
Estate sales office	Construction	$107.55	per m^2 tua	Moderate intensity charge
Fast food premises	Retail	$268.87	per m^2 tua	High intensity charge
Function room	Restaurant	$268.87	per m^2 tua	High intensity charge
Funeral parlour	Community Services	$107.55	per m^2 tua	Moderate intensity charge
General industry	Manufacturing	$26.89	per m^2 tua	Low intensity charge
General store	Retail	$268.87	per m^2 tua	High intensity charge
Home-based business (Classes 3 and 4)	Other Services	$26.89	per m^2 tua	Low intensity charge
Hospital	Community Services	$268.87	per bed	Moderate intensity charge
Hotel	Entertainment	$268.87	per m^2 tua	High intensity charge
Indoor entertainment	Entertainment	$107.55	per m^2 tua	Moderate intensity charge
Junk yard	Wholesale	$26.89	per m^2 tua	Low intensity charge
Light industry	Manufacturing	$26.89	per m^2 tua	Low intensity charge
Liquid fuel depot	Transport, Storage & Communications	$26.89	per m^2 tua	Low intensity charge
Marina	Transport, Storage & Communications	$26.89	per m^2 tua	Low intensity charge
Marine industry	Manufacturing	$26.89	per m^2 tua	Low intensity charge
Medical centre	Community Services	$107.55	per m^2 tua	Moderate intensity charge
Nightclub	Entertainment	$268.87	per m^2 tua	High intensity charge
Noxious, offensive or hazardous industry	Manufacturing	$26.89	per m^2 tua	Low intensity charge
Nursery	Retail	$26.89	per m^2 tua	Low intensity charge
Outdoor entertainment	Entertainment	$107.55	per m^2 tua	Moderate intensity charge

Schedule Land Use Definition	Commercial Employment Category or Educational Category	Relevant Charge (derived from considerations made in Sections 7.6, 7.7 and 7.8 at April, 1998)	Unit *(where tua = total use area)*	Rationale
Passenger terminal	Transport, Storage & Communications	$26.89	per m^2 tua	Low intensity charge
Place of worship	Community Services	$107.55	per m^2 tua	Moderate intensity charge
Produce store	Retail	$268.87	per m^2 tua	High intensity charge
Professional office	Finance, Public Administration & Defence	$107.55	per m^2 tua	Moderate intensity charge
Restaurant	Restaurant	$268.87	per m^2 tua	High intensity charge
Service industry	Other Services	$107.55	per m^2 tua	Moderate intensity charge
Service shop	Retail	$268.87	per m^2 tua	High intensity charge
Service station	Retail	$107.55	per m^2 tua	Moderate intensity charge
Shop	Retail	$268.87	per m^2 tua	High intensity charge
Showroom	Retail	$107.55	per m^2 tua	Moderate intensity charge
Sport and recreation	Entertainment	$107.55	per m^2 tua	Moderate intensity charge
Tourist facility	Entertainment	$268.87	per m^2 tua	High intensity charge
Vehicle hire premises	Other Services	$107.55	per m^2 tua	Moderate intensity charge
Vehicle sales premises	Other Services	$107.55	per m^2 tua	Moderate intensity charge
Veterinary surgery	Community Services	$107.55	per m^2 tua	Moderate intensity charge
Warehouse	Wholesale	$26.89	per m^2 tua	Low intensity charge

TABLE 11.2 RESIDENTIAL DEVELOPMENT

Schedule Land Use Definition	Residential Category	Relevant Charge (derived from considerations made in Sections 7.5 and 7.8 at April, 1998)	Unit	Rationale
Accommodation building	Res - Units & Other	$319.42	per single hostel bed for tourist or overnight accommodation	Unit charge × 0.7 ÷ 2.4
		$456.31	per single other hostel bed	Unit charge × 1 ÷ 2.4
		$638.83	per 1 bedroom unit	Unit charge × 1.4 ÷ 2.4
		$1,095.14	per 2 bedroom unit	
		$1,505.81	per 3 or more bedroom unit	Unit charge × 3.3 ÷ 2.4
Aged persons home	Res - Units & Other	$228.15	per bed	Unit charge ÷ 2.4
Bed and breakfast accommodation	Res - Units & Other	$638.83	per guest room	Unit charge × 1.4 ÷ 2.4
Cabin park	Res - Units & Other	$766.60	per cabin	Unit charge × 70%
Camping ground	Res - Units & Other	$766.60	per camp site	Unit charge × 70%
Caravan park	Res - Units & Other	$766.60	per caravan site	Unit charge × 70%

Schedule Land Use Definition	Residential Category	Relevant Charge (derived from considerations made in Sections 7.5 and 7.8 at April, 1998)	Unit	Rationale
Caretaker's residence	Res - House	$2,190.28	per house	
Duplex dwelling	Res - Units & Other	$775.72	per 1 bedroom unit	Unit charge × 1.7 ÷ 2.4
		$1,095.14	per 2 bedroom unit	
		$1,505.81	per 3 or more bedroom unit	Unit charge × 3.3 ÷ 2.4
Dwelling house	Res - House	$2,190.28	per house	
Group housing development	Res - Units & Other	$775.72	per 1 bedroom unit	Unit charge × 1.7 ÷ 2.4
		$1,095.14	per 2 bedroom unit	
		$1,505.81	per 3 or more bedroom unit	Unit charge × 3.3 ÷ 2.4
Host farm	Res - Units & Other	$319.42	per single hostel or dormitory bed	Unit charge × 0.7 ÷ 2.4
Multiple dwelling	Res - Units & Other	$775.72	per 1 bedroom unit	Unit charge × 1.7 ÷ 2.4
		$1,095.14	per 2 bedroom unit	
		$1,505.81	per 3 or more bedroom unit	Unit charge × 3.3 ÷ 2.4
Relative's apartment	Res - Units & Other	$775.72	per unit	Unit charge × 1.7 ÷ 2.4
Relocatable homes park	Res - Units & Other	$1,095.14	per relocatable home	
Retirement community	Res - Units & Other	$387.86	per 1 bedroom unit	Unit charge × 1.7 ÷ 2.4 × 50%
		$547.57	per 2 bedroom unit	Unit charge × 50%
		$752.91	per 3 or more bedroom unit	Unit charge × 3.3 ÷ 2.4 × 50%

12. APPENDIX E: SUMMARY BY YEAR OF PLANNED CONSTRUCTION

TABLE 12.1 SUMMARY BY YEAR OF PLANNED CONSTRUCTION

PRIMARY NAME	SECONDARY NAME	TYPE	ESTIMATED COST (DEC 2000$)	YEAR PLANNED	ESTIMATED COST (APR 1998$)
Hibiscus Avenue	Noosa Drive	Roundabout	$315,609	1999	$310,566
			$315,609	**1999 Total**	**$310,566**
Beckmans Road	Eumundi Road	Roundabout upgrade	$383,939	2000	$377,169
David Low Way	Castaways Creek Bridge	Bridge	$768,388	2000	$754,840
David Low Way	Pacific Avenue-Heathland Drive	Road	$229,689	2000	$225,639
Eumundi Road	Eenie Creek Road	Roundabout	$632,682	2000	$621,526
Eumundi Road	Eenie Creek Road-Beckmans Road - Stage 1	Road	$369,118	2000	$362,610
Leslie Drive	Noosa Drive	Roundabout	$890,837	2000	$875,130
Mahogany Drive (south)	David Low Way	Roundabout	$472,734	2000	$464,399
Noosa Parade	Weyba Road	Roundabout	$301,535	2000	$296,218
Pacific Avenue	David Low Way	Intersection upgrade	$76,458	2000	$75,110
			$4,125,380	**2000 Total**	**$4,052,640**
Cooroy Noosa Road	Griffith Avenue-Butler Street	Road	$112,883	2001	$109,970
Eenie Creek Road	Eumundi Road-Walter Hay Drive (2 lane)	Road	$741,920	2001	$728,838
Eenie Creek Road	Walter Hay Dr	Roundabout	Included in Eenie Creek Road (Walter Hay Dr-Reef St)	2001	$0
Eenie Creek Road	Walter Hay Drive-Reef Street (2 lane, includes roundabout upgrade at Reef Street/Weyba Road/Mary Street and roundabout at Walter Hay Drive)	Road	$6,280,209	2001	$6,169,475
Noosa Drive	Noosa Parade-Sunshine Beach Road	Road	$107,827	2001	$105,926
Noosa Parade	Noosa Drive	Roundabout upgrade	$59,130	2001	$57,604
			$7,301,969	**2001 Total**	**$7,171,812**
David Low Way	Heron Street-Study area boundary	Road	$122,128	2002	$119,975
Eumundi Road	Venture Drive-Eenie Creek Road	Road	$661,110	2002	$649,453
Eumundi Road	Walter Hay Drive and Venture Drive	Roundabout upgrade	Included in Walter Hay Dr estimates	2002	$0
Cooyar Street	David Low Way & Lanyana Way	Roundabouts	$1,726,701	2002	$1,696,256
Walter Hay Drive	Venture Drive-Eumundi Road-Eenie Creek Road	Road	$1,100,000	2002	$1,080,605
Weyba Road	Lake Weyba Drive-Weyba Bridge	Road	$288,683	2002	$279,834
			$3,898,623	**2002 Total**	**$3,826,123**

PRIMARY NAME	SECONDARY NAME	TYPE	ESTIMATED COST (DEC 2000$)	YEAR PLANNED	ESTIMATED COST (APR 1998$)
Banksia Avenue	Noosa Dr	Roundabout	$644,031	2003	$632,676
David Low Way	Peregian Esplanade South-Woodland Drive	Road	$167,188	2003	$164,240
David Low Way	Podargus Parade-Peregian Esplanade South	Road	$317,334	2003	$311,739
Moorindil Street	Poinciana Avenue	Roundabout	$309,954	2003	$304,489
Noosa Drive	Coral Tree Avenue-Banksia Avenue	Road	$93,615	2003	$91,965
St Andrews Drive	Cooroy Noosa Road	Roundabout	$465,053	2003	$456,853
			$1,997,176	**2003 Total**	**$1,961,962**
Beckmans Road	Cooroy Noosa Road	Roundabout	$1,083,114	2004	$1,064,016
Beckmans Road	St Andrews Drive	Roundabout	$498,264	2004	$489,478
Cooyar Street	David Low Way-Langura Street	Road	$315,315	2004	$309,755
Cooyar Street	Langura Street-Noosa Springs Drive	Road	$99,715	2004	$97,957
David Low Way	Lowry Street-Podargus Parade	Road	$178,504	2004	$175,356
David Low Way	Woodland Drive-Heron Street	Road	$453,903	2004	$445,899
Eenie Creek Road	Reef Street-Langura Street (includes roundabout at Reef Street/Eenie Creek Road, Eenie Creek Road/Langura Street and Langura Street/Cooyar Street)	Road	$19,830,675	2004	$19,481,016
Eumundi Road	Eenie Creek Road-Beckmans Road - Stage 2	Road	$480,108	2004	$471,643
Langura Street	Cooyar Street	Roundabout	$590,675	2004	$580,260
Langura Street	Eenie Creek Road	Roundabout	Included in Eenie Creek Road estimates	2004	$0
Reef Street	Eenie Creek Road	Roundabout	Included in Eenie Creek Road actual costs	2004	$0
Shire Business Centre	Walter Hay Drive (north)	Roundabout	$1,027,239	2004	$1,009,126
Shire Business Centre	Walter Hay Drive (south)	Roundabout	$977,042	2004	$959,815
Walter Hay Drive	Eenie Creek Road-Emu Mountain Road	Road	$18,260,939	2004	$17,938,958
Walter Hay Drive	Eenie Creek Road - Shire Business Centre access (additional 2 lanes)	Road	$367,794	2004	$361,309
			$44,163,286	**2004 Total**	**$43,384,588**
Beckmans Road	Cooroy-Noosa Road-Eumundi Road	Road	$1,768,479	2005	$1,737,296
Beckmans Road	Noosaville Primary School	Roundabout	$869,046	2005	$853,723
Butler Street	Poinciana Avenue	Roundabout	$525,370	2005	$516,107
Butler Street	McKinnon Dr	Roundabout	$318,625	2005	$313,007
Eenie Creek Road	Eumundi Road-Walter Hay Drive (4 lane)	Road	$1,502,511	2005	$1,476,019
Eenie Creek Road	Langura Street-Heathland Drive	Road	$7,498,471	2005	$7,366,256
Eenie Creek Road	Walter Hay Drive-Reef Street (4 lane)	Road	$2,526,105	2005	$2,481,564

PRIMARY NAME	SECONDARY NAME	TYPE	ESTIMATED COST (DEC 2000$)	YEAR PLANNED	ESTIMATED COST (APR 1998$)
Eumundi Road	Beckmans Road	Roundabout	$1,599,940	2005	$1,571,729
Gibson Road	Doonella Bridge-Eumundi Road	Road	$2,400,968	2005	$2,358,634
Poinciana Avenue	Butler Street-McKinnon Drive	Road	$736,237	2005	$723,256
			$19,745,752	**2005 Total**	**$19,397,590**
Bicentennial Dr	David Low Way	Intersection upgrade	$137,507	2006	$135,082
David Low Way	Toona Street-Melaleuca Street	Road	$134,965	2006	$132,586
Gibson Road	Eumundi Road-The Cockleshell	Road	$203,864	2006	$200,270
			$476,337	**2006 Total**	**$467,938**
Podargus Parade	David Low Way	Roundabout	$445,385	2007	$437,532
			$445,385	**2007 Total**	**$437,532**
Griffith Avenue	Cooroy Noosa Road	Intersection upgrade	$79,483	2008	$78,081
Toona Street	David Low Way	Intersection upgrade	$119,049	2008	$116,950
Woodland Drive	Ibis Street & David Low Way	Intersection upgrade	$708,500	2008	$696,007
			$907,032	**2008 Total**	**$891,039**
Eumundi Road	Gibson Road-Venture Drive	Road	$1,542,590	2009	$1,515,391
Thomas Street	Gibson Road	Roundabout	$352,500	2009	$346,284
Werin Street	Poinciana Avenue	Roundabout	$258,459	2009	$253,902
			$2,153,549	**2009 Total**	**$2,115,577**
Carramar Street	Cooroy Noosa Road	Intersection upgrade	$73,130	2010	$71,840
Currawong Cres	David Low Way & Peregian Esplanade South	Intersection upgrade	$214,729	2010	$210,943
David Low Way	Heathland Drive-Burgess Creek	Road	$174,378	2010	$171,303
Goodwin Street	Poinciana Avenue	Intersection upgrade	$175,532	2010	$172,437
Lowry Street	David Low Way & Peregian Esplanade South	Roundabout	$562,596	2010	$552,676
			$1,200,365	**2010 Total**	**$1,179,200**
			$86,730,463	**Grand Total**	**$85,196,565**

ATTACHMENT 1 – EQUIVALENT SCHEDULE OF CHARGES APPLYING TO THE NOOSA PLAN – IPA PLANNING SCHEME USE CLASSES AND DEFINITIONS

Method of determining the applicable charge

1. The contribution rate applicable to development (as defined through the Noosa Plan Land Use definitions) will be in accordance with the Schedules of Charges set out in Tables 1, 2, 3 and 4. The relevant charge is calculated—
   a. at the rates depicted in the columns *Relevant Charge* and *Unit* opposite the relevant land use definition; and
   b. Adjusted consistent with the Australian Bureau of Statistics Price Index variations calculated from April 1998.
2. Tables 1, 2, 3 and 4 are based on a reference date of April 1998. They rely on the density provisions of the Noosa Plan where appropriate.
3. For uses not indicated in Tables 1, 2, 3 and 4, the relevant charges—
   a. have or will be captured from residential or non-residential development; or
   b. it is anticipated that such uses will not occur in the coastal area of the Shire.

TABLE 1—SCHEDULE OF CHARGES FOR BUSINESS USES

NOOSA PLAN USE CLASS AND DEFINITION	EMPLOYMENT CATEGORY	RATIONALE	UNIT (where tua = total use area)	Per Capita charges $ / Unit (as at April 1998)
Commercial business				
Type 1 Office	Finance, Public Administration & Defence or Retail or Construction	Moderate intensity charge	per m^2 tua	$107.55
Type 2 Medical	Community Uses	Moderate intensity charge	per m^2 tua	$107.55
Entertainment and dining business				
Type 1 Food & beverages	Restaurant or Retail	High intensity charge	per m^2 tua	$268.87
Type 2 Recreation, amusement and fitness	Entertainment	Moderate intensity charge	per m^2 tua	$107.55
Type 2 (if Tourist facility)	Entertainment	High intensity charge	per m^2 tua	$268.87
Type 3 Bar	Entertainment	High intensity charge	per m^2 tua	$268.87
Home-based business				
Type 1 Limited visibility	N/a	N/a	N/a	N/a
Type 2 Evident	Other Services	Low intensity charge	per m^2 tua	$26.89
Type 3 Significant scale	Other Services	Low intensity charge	per m^2 tua	$26.89
Industrial business				

NOOSA PLAN USE CLASS AND DEFINITION	EMPLOYMENT CATEGORY	RATIONALE	UNIT (where tua = total use area)	Per Capita charges $ / Unit (as at April 1998)
Type 1 Warehouse	Wholesale, Transport, Storage & Communications	Low intensity charge	per m^2 tua	$26.89
Type 2 Production, alteration, repackaging and repairing	Manufacturing or Wholesale	Low intensity charge	per m^2 tua	$26.89
Type 3 Extractive	Agriculture (incl. mining and utilities)	Low intensity charge	per m^2 tua	$26.89
Retail business				
Type 1 Local: and **Type 2 Shop & salon**	Retail	High intensity charge	per m^2 tua	$268.87
Type 3 Landscape and rural	Retail	Moderate intensity charge	per m^2 tua	$107.55
Type 4 Showroom	Retail	Moderate intensity charge	per m^2 tua	$107.55
Type 5 Vehicle uses	Retail, Other services	Moderate intensity charge	per m^2 tua	$107.55
Type 6 Hardware store	Retail	Moderate intensity charge	per m^2 tua	$107.55
Type 7 Garden centre	Retail	Moderate intensity charge	per m^2 tua	$107.55

TABLE 2—SCHEDULE OF CHARGES FOR COMMUNITY USES

NOOSA PLAN USE CLASS AND DEFINITION	EMPLOYMENT CATEGORY	RATIONALE	UNIT (where tua = total use area)	Per Capita charges $ / Unit (as at April 1998)
Education				
Type 1 Childcare **Type 2 School** **Type 3 Adult**; and **Type 4 Information**	Community Services	Education charge	Per child or student	$617.50
Emergency service				
Type 1 Station	N/a	N/a	N/a	N/a
Type 2 Shed	N/a	N/a	N/a	N/a
Open space				
Type 1 Sport and recreation	Entertainment	Moderate intensity charge	per m^2 tua	$107.55
Type 2 Camp ground	N/a	N/a	N/a	N/a

NOOSA PLAN USE CLASS AND DEFINITION	EMPLOYMENT CATEGORY	RATIONALE	UNIT (where tua = total use area)	Per Capita charges $ / Unit (as at April 1998)
Wellbeing				
Type 1 Health	Community Services	Moderate intensity charge	If for animals - per m^2 tua if for people - per bed	$107.55 $268.87
Type 2 Social	Entertainment	Moderate intensity charge	per m^2 tua	$107.55
Type 3 Worship; and **Type 4 Funeral**	Community Services	Moderate intensity charge	per m^2 tua	$107.55

TABLE 3—SCHEDULE OF CHARGES FOR INFRASTRUCTURE USE

NOOSA PLAN USE CLASS AND DEFINITION	EMPLOYMENT CATEGORY	RATIONALE	UNIT (where tua = total use area)	Per Capita charges $ / Unit (as at April 1998)
Service & utility				
Type 1 Depot	Transport, Storage & Communications	Low intensity charge	per m^2 tua	$26.89
Type 2 Installation	Transport, Storage & Communications	Low intensity charge	per m^2 tua	$26.89
Type 3 Tower	Transport, Storage & Communications	Low intensity charge	per m^2 tua	$26.89
Type 4 Treatment, recycling & disposal;	Community Services	Low intensity charge	per m^2 tua	$26.89
Transport				
Type 1 Passenger terminal	Transport, Storage & Communications	Low intensity charge	per m^2 tua	$26.89
Type 2 Carpark	N/a	N/a	N/a	N/a
Type 3 Depot	Transport, Storage & Communications	Low intensity charge	per m^2 tua	$26.89
Type 4 Aeronautical	Transport, Storage & Communications	Moderate intensity charge	per m^2 tua	$107.55
Type 5 Domestic marine	N/a	N/a	N/a	N/a
Type 6 Commercial marine	Transport, Storage & Communications	Low intensity charge	per m^2 tua	$26.89

TABLE 4—SCHEDULE OF CHARGES RESIDENTIAL USES

NOOSA PLAN USE CLASS AND DEFINITION	UNIT	Per capita charges $ / Unit (as at April 1998)
Ancillary dwelling unit	1 bedroom	$ 775.72
	2 bedroom	$1095.14
	3 or more bedroom	$1505.81
Detached house	house	$2190.28
Multiple housing—		
Type 1 Relative or employee	1 bedroom unit	$ 775.72
Type 2 Duplex	1 bedroom unit	$ 775.72
	2 bedroom unit	$1095.14
	3 or more bedroom unit	$1505.81
Type 3 Retirement and special needs—		
a) if an *aged persons home*; or	bed	$ 228.15
b) if otherwise	single hostel bed	$ 319.42
	1 bedroom unit	$ 387.86
	2 bedroom unit	$ 547.57
	3 or more bedroom unit	$ 752.91
Type 4 Conventional	1 bedroom unit	$ 775.72
	2 bedroom unit	$1095.14
	3 or more bedroom unit	$1505.81
	Detached house (i.e. within a group title development)	$ 2190.28
Type 5 Relocatable	accommodation or dwelling unit	$1095.14
Visitor accommodation		
Type 1 Home hosted	single bed;	$ 319.42
	guest room	$ 638.83
Type 2 Caravan park	caravan or camp site	$ 766.60
Type 3 Rural	single bed	$ 319.42
	guest room	$ 638.83
	cabin	$ 766.60
Type 4 Conventional	single hostel bed for tourist or overnight accommodation	$ 319.42
	a) 1bedroom unit	$ 638.83
	b) 2 bedroom unit	$1095.14
	c) 3 or more bedroom unit	$1505.81