Section 94 Contributions Plan
For Traffic Facility Works
Version 1.2

Port Macquarie - Hastings Council
April 2006
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AMENDMENT HISTORY

<table>
<thead>
<tr>
<th>Version</th>
<th>Adopted</th>
<th>Commenced</th>
<th>Amended</th>
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<tr>
<td>1.0</td>
<td>14 July 1997</td>
<td>16 July 1997</td>
<td></td>
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<tr>
<td>1.1</td>
<td>7 March 2005</td>
<td>16 March 2005</td>
<td>Amended to incorporate new policy on deferral of payment of contributions.</td>
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<tr>
<td>1.2</td>
<td>7 March 2006</td>
<td>3 April 2006</td>
<td>Amended to incorporate new provisions for Monitoring Review and Adjustment of Rates and Pooling of Contributions.</td>
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ABBREVIATIONS LIST

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>BA</td>
<td>Building Application</td>
</tr>
<tr>
<td>CP</td>
<td>Contributions Plan</td>
</tr>
<tr>
<td>DA</td>
<td>Development Application</td>
</tr>
<tr>
<td>DCP</td>
<td>Development Control Plan</td>
</tr>
<tr>
<td>EP&amp;A Act</td>
<td>Environmental Planning &amp; Assessment Act</td>
</tr>
<tr>
<td>GLFA</td>
<td>Gross Leasable Floor Area</td>
</tr>
<tr>
<td>LGA</td>
<td>Local Government Area</td>
</tr>
<tr>
<td>HRD</td>
<td>Hastings River Drive</td>
</tr>
<tr>
<td>No.</td>
<td>number</td>
</tr>
<tr>
<td>s.94</td>
<td>Section 94 (of the EP&amp;A Act)</td>
</tr>
<tr>
<td>3(s) zone</td>
<td>Special Business zone</td>
</tr>
<tr>
<td>4(t) zone</td>
<td>Industrial technology zone</td>
</tr>
<tr>
<td>[1]</td>
<td>Bibliography reference number</td>
</tr>
</tbody>
</table>
PART A -

SUMMARY SCHEDULES

Executive Summary
Summary of the Work Schedule
Summary of the Contribution Rates
Executive Summary

This Contributions Plan enables Port Macquarie - Hastings Council to levy s.94 contributions where the anticipated development as a result of rezoning will, or is likely to, increase localised traffic demands.

The 1993 Connell Wagner Report [1] analysed the existing and future traffic demands for the Port Macquarie - Hastings Major Council Roads from 1993 to 2011 and Hastings River Drive featured in this analysis. Part A - Council Roads of the 1993 Port Macquarie - Hastings Contributions Plan was developed from the Connell Wagner Report and in 1996 was superseded by the Port Macquarie - Hastings Major Council Roads s.94 Contributions Plan. Both the 1993 and 1996 Contributions Plans included Hastings River Drive as a staged upgrading project. This Contributions Plan (CP) is a ‘localised’ s.94 Plan for Hastings River Drive, addressing the traffic needs of a particular length of Hastings River Drive given the rezoning of the adjacent or nearby areas to either 3(s) - special business or 4(t) - industrial technology (see Figure 1 & 2).

As a consequence of anticipated redevelopment/development along Hastings River Drive it will be necessary to provide two (2) roundabouts (one at the Boundary St. intersection and one at the Unnamed Rd. intersection) linked by an unbroken median island and flanked by a dedicated parking lane on the northern and southern sides of Hastings River Drive (see Figure 4). These additional traffic facility works allow the needs of redevelopers/developers to be met whilst also serving the needs of the existing community, with the upgrading of Hastings River Drive to a capacity sufficient to carry expected future traffic loadings. Appropriate apportionments have been calculated for each item of the traffic facility works and the resultant contribution rates have yielded the relevant s.94 contribution applicable for each 3(s) or 4(t) zoned property.

Summary of the Work Schedule

The works required as a consequence of, and to serve the demand generated by the anticipated redevelopment/development along Hastings River Drive are summarised by Table 1, including the location, estimated cost and staging for the traffic facility works.

Table 1: Summary of the Work Schedule

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Staging</th>
<th>Total Cost ($)</th>
<th>HRD s.94 apportionment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Widening Acquisition</td>
<td>Kemp St. to Boundary St.</td>
<td>staged 1997-2005</td>
<td>1,500,000</td>
<td>74%</td>
</tr>
<tr>
<td>Construction</td>
<td>Kemp St. to Boundary St.</td>
<td>staged 1999-2011</td>
<td>2,456,400</td>
<td>various¹</td>
</tr>
<tr>
<td>Roundabout 2</td>
<td>Boundary St/HRD</td>
<td>2003-2004</td>
<td>250,000</td>
<td>100%</td>
</tr>
<tr>
<td>Roundabout 1</td>
<td>Unnamed Rd/HRD</td>
<td>2009-2010</td>
<td>250,000</td>
<td>100%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>4,456,400</td>
<td>3,033,016</td>
</tr>
</tbody>
</table>

¹ Apportionment varies between construction items
Summary of the Contribution Rates

The contribution amount is calculated using a multi-step formulae below which firstly assesses the proportion of the traffic facility work costs attributable to this CP and secondly calculates the contribution rates. The contribution rates calculated in the Hastings River Drive s.94 CP are summarised in Table 2. There is also a s.94 apportionment towards the Major Council Roads s.94 Contributions Plan but it is not included in Table 2. The contribution levied by Council is a multiplication of the contribution rates by the site area to be used in the redevelopment/development.

\[
\text{s.94 contribution} = \frac{\text{Total Cost} - \text{proportion attributable to the existing community}}{\text{proportion (Table 1)}} - \text{Other Funding}
\]

\[
\text{Contribution rate for works} = \frac{\text{s.94 proportion} - \text{Econ}}{\text{Benefiting area} - \text{Econ benefiting area}}
\]

\[
\text{Contribution rate for administration} = \frac{\text{administration expenses, 1997-2011}}{\text{Benefiting area}}
\]

\[
\text{Contribution for administration/works} = \frac{\text{site area \times contribution rate for administration/works}}{\text{used for administration/works}}
\]

\[
\text{Contribution in total} = \text{Contribution for works} + \text{Contribution for administration}
\]

where:

- Total Cost - sum of capital and land costs (from Table 1) for the traffic facilities which have been, or which are to be, provided
- Other Funding - sum of any grants, subsidies or other funding source which may be available to fund the capital works ($nil at present)
- Econ - sum of any existing contributions which have been previously paid towards the provision of the traffic facilities in Hastings River Drive
### Table 2: Summary of the Contribution Calculation

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Cost (Table 1)</th>
<th>Existing Community proportion</th>
<th>Other Fund</th>
<th>Major Ccl Rds s.94 CP</th>
<th>HRD s.94 CP proportion</th>
<th>Econ.</th>
<th>Benefit m²</th>
<th>Contribution rate</th>
<th>Benefit m²</th>
<th>Contribution rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roundabout 1</td>
<td>250,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>250,000</td>
<td>0</td>
<td>151,544</td>
<td>$1.65/m²</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Roundabout 2</td>
<td>250,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>250,000</td>
<td>0</td>
<td>151,544</td>
<td>$1.07/m²</td>
<td>220,962</td>
<td>$0.40/m²</td>
</tr>
<tr>
<td>Road Acquisition</td>
<td>1,500,000</td>
<td>0</td>
<td>0</td>
<td>390,000</td>
<td>1,110,000</td>
<td>0</td>
<td>151,544</td>
<td>$4.75/m²</td>
<td>220,962</td>
<td>$1.77/m²</td>
</tr>
<tr>
<td>Construction</td>
<td>2,456,400</td>
<td>0</td>
<td>531,400</td>
<td>501,984</td>
<td>1,423,016</td>
<td>88,634</td>
<td>variable</td>
<td>$6.42/m²</td>
<td>220,962</td>
<td>$2.12/m²</td>
</tr>
<tr>
<td>Administration</td>
<td>14,224</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14,224</td>
<td>0</td>
<td>151,544</td>
<td>$0.07/m²</td>
<td>220,962</td>
<td>$0.02/m²</td>
</tr>
</tbody>
</table>

The contribution rate per construction item is shown in full in Table 8 but in Table 2 above construction is lumped together for the purposes of summarising. The land acquisitions that have already occurred in the Kemp to Boundary strip of Hastings River Drive are not included as Econ in Table 2 as they are not costed to this Contributions Plan. The Econ in Table 2 resulted from earlier subdivisions that either paid money into a trust account for later frontage construction by Council or constructed works-in kind.
PART B - ADMINISTRATION AND ACCOUNTING

Policy Statements

- The Name of this Plan
- The Purpose of this Plan
- To what Area does this Plan apply?
- What is the Relationship to Other Plans and Policies?

How does this Plan Operate?

What Formula is used to Determine the Contribution?

Accounting Matters

- When are Contributions Payable?
- Can a Deferred or a Periodic Payment be made?
- Can Material Public Benefit or Works-In-Kind Contributions be made?
- Are there any Exemptions to paying s.94 contributions?
- What are the Special Agreements available in this CP?
- How will the Contribution Rates be reviewed?
- Do Administration costs form part of the Contribution?
Policy Statements

The Name of this Plan

This Contributions Plan has been prepared in accordance with the provisions of Section 94 of the Environmental Planning & Assessment (EP&A) Act and Part 4 of the Regulations and may be referred to as the 1997 Hastings River Drive Section 94 Contributions Plan.

The Purpose of this Plan

The primary purpose of this Plan is to satisfy the requirements of the EP&A Act and Regulations to enable Port Macquarie - Hastings Council to require a contribution towards the provision of traffic facilities that will, or are likely to be, required as a consequence of the anticipated redevelopment/development in the rezoned areas along or nearby to Hastings River Drive, or, that has been provided in anticipation of, or to facilitate, such development.

Other purposes of this Contributions Plan (CP) are to:

- ensure that Hastings River Drive can provide an adequate level of traffic movement as redevelopment/development occurs
- enable Port Macquarie - Hastings Council, in future years, to recoup funds which it has spent in the provision of localised traffic facilities in Hastings River Drive between Kemp and Boundary Streets in anticipation of future redevelopment/development
- ensure that the existing community is not burdened by the provision of these traffic facilities required as a result of anticipated future redevelopment/development
- provide a comprehensive strategy for the assessment, collection, expenditure, accounting and review of traffic facility contributions for Hastings River Drive on an equitable basis

To What Area does this Plan Apply?

This CP applies to all land bounded by the thick dark line on the maps in Figures 1 and 2. The applicable land is denoted by zoning type and lies either adjacent to Hastings River Drive or nearby, within the airport technology park (4(t) zone) in Boundary Street.

What is the Relationship to Other Plans and Policies?

This CP acts in conjunction with the Port Macquarie - Hastings Major Council Roads s.94 Contributions Plan to provide both localised and broad-based upgrading of Hastings River Drive and it’s traffic facilities. Other Council policies that relate to this CP include:

- Policy S24 - deferred contribution payment
- DCP29: Hastings River Drive
- LEP 1987 - amendments 55 & 56
- draft DCP 28: Airport Technology Park (Airpark)
Figure 1: Map of the Area to which this CP Applies - 3(s) zoning

<table>
<thead>
<tr>
<th>Zones</th>
<th>Description</th>
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<tbody>
<tr>
<td>2(a1)</td>
<td>Residential “A1”</td>
</tr>
<tr>
<td>2(t)</td>
<td>Residential “T” (Tourist)</td>
</tr>
<tr>
<td>2(t2)</td>
<td>Tourist (Restricted)</td>
</tr>
<tr>
<td>3(s)</td>
<td>Special Business</td>
</tr>
<tr>
<td>5(a)</td>
<td>Special Uses</td>
</tr>
<tr>
<td>7(a)</td>
<td>Environmental Protection “A” (Wetlands)</td>
</tr>
<tr>
<td>7(b)</td>
<td>Environmental Protection “B” (Secondary)</td>
</tr>
<tr>
<td>9(c)</td>
<td>Local Roads</td>
</tr>
<tr>
<td></td>
<td>Land referred to in clause 23 of Hastings LEP 1987</td>
</tr>
</tbody>
</table>
Figure 2: Map of the Area to which this CP Applies - 4(t) zoning
How does this Plan Operate?

In determining a Development Application (DA) for any development/redevelopment on a 3(s) or 4(t) zoned property, Council will impose a condition requiring the payment of a contribution, if redevelopment of the site increases the previous traffic generation from the site. This contribution may take the form of a monetary contribution, the dedication of land or the provision of material benefits in accordance with the stipulations of this Contributions Plan.

This Contributions Plan permits Council to consider entering special agreements with redevelopers/developers within the 3(s) or 4(t) zoned areas. These agreements are fully explained later in Part B but might, for example, consider removing the burden of contributions from newly created lots, in-lieu of land dedication and parking lane construction, to an equal value.

Where a DA is received for a 3(s) or 4(t) property, the contribution payable is based on the sum of the site areas proposed for use in the development. For example, a motor showroom would pay a contribution based on the sum of the areas for display, customer parking, landscaping and buildings as opposed to paying a contribution based upon the GLFA within any buildings proposed for the site. Where a site is to be part occupied, contributions will only be levied on that part use of the site and the consent issued would indicate the approval for only part site usage.

The procedures followed for the administration of the contributions received (in whatever form) under this Contributions Plan are illustrated in the flowchart diagram, Figure 3. The cost of administering this Contributions Plan (including the indexing, review and re-exhibition), following its initial commencement, is incorporated into the contribution amount and this aspect is explained in the latter sections of Part B. In terms of facility provision, the work schedule nominates the timing/staging of works and will be revised biannually, or annually if required. The details of the expenditure procedures, limitations and threshold are explained in Part C - The Work Schedule.

It is the intention of the HRD CP to allow credits for the existing level of traffic generation from a site. The issue of credits is particularly relevant where a site is to be redeveloped as opposed to being developed from a green-field site. The calculation of credits and where they are applicable is explained in Part C-The Contribution Calculation.
Figure 3: Flow Chart of the Contribution Administration Procedure
What Formula is Used to Determine the Contribution?

The contribution amount is calculated using the multi-step formulae below which firstly assesses the proportion of the traffic facility work costs attributable to this CP and secondly calculates the contribution rates. The outcome of the contribution rates calculation is summarised by Table 2 in Part A. The contribution levied by Council is a multiplication of these contribution rates by the site area used in the redevelopment/development.

\[
\text{s.94 contribution proportion} = \frac{\text{Total Cost} - \text{proportion attributable to the existing community}}{- \text{Other Funding}}
\]

\[
\text{Contribution rate for works} = \frac{\text{s.94 proportion} - \text{Econ.}}{\text{Benefiting area} - \text{Econ benefiting area}}
\]

\[
\text{Contribution rate for administration} = \frac{\text{administration expenses, 1997-2011}}{\text{Benefiting area}}
\]

\[
\text{Contribution for administration/works} = \text{site area} \times \frac{\text{contribution rate for administration/works}}{\text{used}}
\]

\[
\text{Contribution in total for works + Contribution for administration}
\]

where:

Total Cost - sum of capital and land costs for the traffic facilities which have been, or which are to be, provided

Other Funding - sum of any grants, subsidies or other funding source which may be available to fund the capital works ($nil at present)

Econ. - sum of any existing contributions which have been previously paid towards the provision of the traffic facilities in Hastings River Drive

Further information regarding the contributions for works and administration can be found in the last section of Part B and the latter section of Part C-Strategy Plans: The Contribution Calculation.
For the purposes of calculating the contribution rate, the following components have been included:

- the capital cost of the traffic facilities
- current land values along and adjacent to Hastings River Drive

For the purposes of calculating the contribution rate, the following components have been excluded:

- the cost associated with any proposed traffic facilities (capital and land costs) which are intended to serve the existing development or to make up for any existing deficiency of provision. The traffic facilities which are to be funded by this CP are intended to meet the needs of future development only
- any development contributions which may have been collected previously for the provision of traffic facilities and which have not yet been expended (deducted as Econ. in the Contribution Formulae)
- any assured grants, subsidies or funding from other sources which may be payable in respect of any traffic facilities (deducted as ‘Other Funding’ in the Contribution Formulae)
- any recoverable funding which has been provided for traffic facilities which may otherwise have been provided under section 94
- costs associated with ongoing routine maintenance, staff resources, or other recurrent expenses
- any traffic facilities which may be required by development, the responsibility for provision of which is by another organisation or government agency

**Accounting Matters**

**When are Contributions Payable?**

Port Macquarie - Hastings Council will accept s.94 contributions for traffic facilities in the Hastings River Drive in the following manner(s):

Where a BA is required (eg. new development, redevelopment or change of use on existing sites with increased traffic generation) - prior to the release of the BA approval

Where no BA is required - within three (3) months of the development consent granting or prior to occupation, whichever is sooner

A consent to any other development type/land use - before the development is commenced or prior to the endorsement of the final plan (if a plan endorsement is required)

Subdivision (mandatory Special Agreement) - Special Agreement to be finalised and submitted to Council’s satisfaction prior to the linen release
Can a Deferred Payment be Made?

Council will allow the deferral of the payment of Development Contributions involving the construction of a building subject to:

i) Lodgement of an irrevocable guarantee for the amount of the contributions plus an additional 12 month interest amount calculated at the average rate of Council’s investments performance over the past 12 months plus 1%.

ii) The maximum period for which the guarantee will be accepted is the sooner of 12 months or the issue of an occupation certificate for the development.

iii) Guarantees will only be accepted from an institution approved by the Manager Corporate and Financial Planning.

iv) If at the end of the period for the lodgment of the guarantee, the outstanding contributions plus the additional amount referred to in ‘i’ have not been paid, Council will call in the guarantee without further reference to the applicant.

v) A prorata reduction in the amount referred to in ‘i’ will be allowed for payment of the outstanding contributions within 12 months or the calling in of the guarantee within 12 months.

vi) The guarantee is to provide for Council to unconditionally call in the guarantee for the full amount at any time.

Can Material Public Benefit or Works-In-Kind contributions be made?

Port Macquarie - Hastings Council may accept an offer by the applicant to make a contribution by way of a material public benefit or a works-in-kind contribution as referred to in section 94(2C) of the EP&A Act.

Port Macquarie - Hastings Council may accept the offer of a works-in-kind contribution or material public benefit if the applicant, or any other person entitled to act upon the relevant consent, satisfies the consent authority that:

- the material public benefit or works-in-kind contribution will not prejudice the timing or the manner of the provision of the traffic facilities for which the contribution was required
- the works or benefit forms part of Council’s overall planning for Hastings River Drive
- the acceptance that the works or benefit would be a significant advantage to the community

Any offer of a material public benefit or works-in-kind would need to be accompanied by a statement of public benefit. The statement of public benefit must include information to establish a nexus between the benefit and contribution against which it is offset, and, the numbers and characteristics of the people who would use or benefit from the facility. If Council accepts a material public benefit or works-in-kind, documentary evidence would need to be presented in a form suitable for inclusion in Council’s asset register and to allow Council to evaluate the benefit.

Where the provision is in the form of land, a valuation provided by a registered valuer at the developer’s expense would be required. Council would compare the developer’s valuation with its own valuation from the Valuer Generals Office and assess the offset against the contribution.

Where the works-in-kind contribution was in the form of physical improvements or infrastructure, documentary proof in the form of a cost estimate for the work would need to be produced so that Council may consider the works-in-kind contribution proposal. If accepted by
Council, the works-in-kind contribution would have a set budget, with no avenues for extras. At the completion of the works-in-kind the cost of work would need to be submitted to Council, in a written form suitable for inclusion in Council’s asset register.

Works-in-kind or material public benefit may either be equal to the whole value of the contribution levied in the consent, or, may be part of the contribution levied in the consent with the outstanding balance of the levied contribution payable in cash.

Where a Government Department, Government Agency and/or a Public Authority acts as a private developer, they will be expected to pay a level of contribution equal to the private sector.

**Are there any Exemptions to paying s.94 contributions?**

There are to be no exemptions for s.94 contribution payments under this Contributions Plan or via any Council Policy.

**What are the Special Agreements available in this CP?**

In this CP Council has included Special Agreements to allow some flexibility where land acquisition or infrastructure construction is required in the CP’s work schedule, and, redevelopment, subdivision, development and/or sale of properties fronting Hastings River Drive, between Kemp and Boundary Streets, is proposed.

Where the subdivision of a property fronting Hastings River Drive, between Kemp and Boundary Streets, is proposed, it will be mandatory, as part of the consent conditions, for the developer to enter into a “Special Agreement” with Council, prior to the release of the subdivision’s Linen Plans. In the case of a subdivision, a special agreement would contain documentation for the dedication of the road widening strip (zoned 9(c)) in-lieu of a s.94 contribution reduction for the newly created lots. The reduction in contributions for the newly created lots would be equivalent to the road widening acquisition that would otherwise have been necessary. Should the reduction amount exceed the contributions due by the subdivision, an appropriate monetary compensation will be made to the developer. Further information regarding the creation of new public roads in a subdivision is given in Part C-The Contribution Calculation.

Where negotiated and agreed between Council and the developer, other aspects of infrastructure provision may also be included in the Special Agreement. Such infrastructure provision may, for example, be the construction of the parking lane and/or kerb and gutter along the proposed future alignment of Hastings River Drive.

Where redevelopment, development and/or sale of a property fronting Hastings River Drive, between Kemp and Boundary Streets, is proposed, Council may negotiate a Special Agreement with the developer/seller. The content of the Special Agreement would vary, property to property, but could include the dedication of land, or, construction of infrastructure, in return for an equivalent contribution reduction or, where contributions are exceeded or not applicable, a monetary compensation.
Monitoring, Review and Adjustment of Rates

Council will adjust the contributions levy in this plan on a quarterly basis. To ensure that the value of the contributions is not eroded by inflation, Council will increase the levy in accordance with the Consumer Price Index All Group Index Number for Sydney (CPI), as published by the ABS.

Where contributions have been levied under an existing consent, granted in accordance with this Plan, but not yet paid, the contribution will continue to be indexed on a quarterly basis in accordance with the above until such time as they are paid.

Contributions rates will be adjusted in accordance with the following formula

\[ CR_A = \left(1 + \frac{CPI_C - CPI_O}{CPI_O}\right) \times CRO \]

Where

CRA is the adjusted contributions rate at the time of adjustment in the Contributions Plan, or at the time of payment of the contributions, as applicable.

CRO is the original contribution rate in the contributions plan, or at the time of the development consent, as applicable.

CPIO is the original CPI rate at the time of adoption of the contributions plan, or at the time of the development consent, as applicable.

CPIC is the current CPI rate at the time of adjustment of the contributions rate in the Contributions Plan, or payment of the contributions, as applicable.

The cost of proposed works in the contribution plan will be reviewed annually if warranted, but at least every three years, to ensure the CPI adjustments reflect the ‘real’ cost of acquisitions and construction.

Council will also review this plan if it becomes necessary to borrow additional funds to meet the Section 94 funding component of the works program due to a shortfall in the receipt of development contributions.

Do Administration Costs form part of the Contribution?

Yes, the administration costs for the review, indexation and updating of this CP are part of the contribution paid by developing/redeveloping 3(s) and 4(t) properties. It is called the ‘contribution for administration’ and the formula is given below.

\[ \text{Contribution} \quad = \quad \frac{\text{administration expenses, 1997-2011}}{\text{Benefiting area}} \]

The contribution for administration assesses the expected administration costs of this CP over its life and divides it between the 3(s) and 4(t) properties to benefit from the CP’s traffic facility.
works. The nexus to substantiate the contribution for administration is given towards the end of the Causal Nexus section in Part C. The calculation of the administration contribution rate is shown in the Contribution Calculation section of Part C, with the applicable contribution rates shown in Table 7.

**Pooling of Contributions**

This plan expressly authorises monetary S94 Contributions paid for different purposes to be pooled and applied (progressively or otherwise) for those purposes. The priorities for the expenditure of the levies are shown in the works schedule.
PART C - STRATEGY PLANS

Nexus

Causal Nexus
- The Anticipated Types of Redevelopment/Development
- What is the Anticipated Increase in Traffic Generation?
- To what extent will the Traffic Facility Works meet the needs of the Redevelopment/Development?

Physical Nexus
Temporal Nexus
Cost Estimation Derivations

The Work Schedule

The Contribution Calculation
Credits against Contributions Levied
Nexus

What is the relationship of the anticipated redevelopment/development in Hastings River Drive and the requirement for traffic facilities? This part of the CP establishes the relationship (nexus) between the anticipated types of development and the demand for additional traffic facilities. The nexus relies upon the anticipated commercial/industrial technology growth and the traffic generation/parking demands projected from the 1993 Connell Wagner Report [1] and the RTA Guidelines [2]. This nexus was first explained in the March 1995 Hastings River Drive Strategy [3] and has now culminated in this Section 94 Plan.

The nexus in this CP is divided into three parts, those being a causal nexus, a physical nexus and a temporal nexus. The causal nexus discusses the reasons why, or, the cause for the additional traffic facility works and the administration contribution. It delves into the anticipated types and rates of redevelopment/development, the apportioning of the costs for the traffic facilities, the extent to which these works will satisfy the needs of the redevelopment/development and the contribution for administration. The physical nexus establishes the relationships of where, in terms of location. The temporal nexus indicates the timing or staging reasons for the traffic facility works and how, in terms of a provision strategy.

Causal Nexus

To demonstrate the causal nexus for the additional traffic facility works on Hastings River Drive it is necessary to know a little bit about the history of the Kemp to Boundary St. strip of Hastings River Drive.

A road widening scheme for Hastings River Drive (HRD) had been in existence since the 1960s when HRD was then part of the Pacific Highway alignment. This road widening scheme finished, at that time, at the western property boundary of the old drive-in site.

The attraction of the main road frontage had led to a number of spot rezonings of individual properties between Kemp St. and Tuffins Lane since 1988 and further requests continued to be received. Council was concerned about the impact of these ad-hoc rezonings and their cumulative effect on the main northern entry way to Port Macquarie. On 5 October 1993 Council resolved to prepare a development strategy for the area, prior to proceeding with any further rezonings. On 30 May 1994, Council adopted the extent of the strategy area and resolved to prepare a draft LEP over the area. This draft LEP, once gazetted, would create the new zones (later the 3(s) and 4(t) zones) and remove the need for continual spot rezonings. In December 1994 it was resolved to extend the Hastings River Drive road widening scheme to include the additional length to Boundary St, in anticipation of the rezonings, and in March 1995 the HRD Strategy, incorporating an environmental study at the request of the Department of Planning, was completed.

The HRD Strategy embodied predicted traffic flow details and proposed traffic management measures to adequately cater for the expected traffic flows. The consecutive rezoning in Boundary St, the 4(t) industrial technology zone in the vicinity of the airport, also had its traffic flows taken into consideration when assessing the works required.

In addition, the access roads (loop roads) proposed in the 1995 HRD Strategy have now been made redundant by the Council resolution of 10 March 1997 to replace them with a roundabout at
the Unnamed Rd intersection of HRD and an unbroken median from this roundabout to the Boundary St. roundabout proposed in the HRD Strategy. The March 1997 resolution also required the cost of the Unnamed Rd intersection roundabout and the acquisition costs relating to the HRD gazettal to be addressed via Section 94 Planning.

It can now be seen how the anticipated redevelopment/development in both the 3(s) zone and 4(t) zone will place greater traffic demands on Hastings River Drive requiring traffic facility works in excess of those originally proposed in the Hastings River Drive Road Widening Scheme. The traffic facility works required to cater for these additional traffic demands are apportioned in this Contributions Plan based on the traffic growth percentages. The proposed traffic facility works are:

- directional lane separation in the form of an unbroken median island
- a dual carriageway road (two traffic lanes in each direction)
- two roundabouts to facilitate intersection movements and property access/egress
- the provision of a separate parking lane, adjacent to the traffic lanes, on both the north and south sides of Hastings River Drive

The causal nexus between the anticipated redevelopment/development along Hastings River Drive and the proposed traffic facility works has been established having regard to:

- the type and extent of the anticipated redevelopment/development following rezoning
- the expected increased traffic generation as a consequence of that development
- the characteristics of the additional development and the requirements for parking facilities and vehicle access/egress (customer, employee, delivery and goods/materials transport)
- the parking availability and traffic capacity of Hastings River Drive in its existing form and under the original Road Widening Scheme
- the extent to which the proposed traffic facility works will meet the needs of the anticipated redevelopment/developments

The following sections discuss the above points and build upon them to form the basic structure of the work schedule for the traffic facility works. A discussion of the cost apportionment of the traffic facility works and contribution for administration is also found in the following sections.

**The Anticipated Types of Redevelopment/Development**

The proposed traffic facility provisions will be carried out, or have already been carried out, to meet the likely needs and increasing usage of Hastings River Drive due to, or in anticipation of, the new development. The new development comprises three basic types, all leading to an increase in traffic generation, these being the 3(s) zone, the 4(t) zone and the growth of the remaining zones in the Port Macquarie - Hastings, comprising mostly residential and tourism sectors.

The anticipated types of redevelopment/development each differ. The 3(s) - Special Business zone (shown in Figure 1) applies to land fronting Hastings River Drive and is located generally between Kemp St. and Hibbard Drive (west). The 4(t) - Industrial Technology zone (shown in Figure 2) applies to land generally located in Boundary St. and adjacent to Port Macquarie Airport. The residential and tourism sector incorporates all growth in such areas throughout the Port Macquarie - Hastings area in accordance with the various DCP’s for each respective area.
The ‘special’ in the 3(s) - Special Business zone indicates that the properties within this zone are not to be developed for general retail and commercial uses. The Special Business zone is to be an area for the sale of large items and for other uses which Council considers to have reasonable suitability to a main road frontage. Such special businesses would include motor showrooms, bulky goods retailing, service stations, car repair stations, bulk stores, warehouses and transport terminals.

The 3(s) - Special Business zone has been introduced as a result of a current demand for such a zone along Hastings River Drive. The demand for the 3(s) zone has been reflected in the ad hoc or spot rezonings, over recent years, that have allowed the uses that are permissible in the Special Business zone.

The Industrial Technology zone adjacent to the airport is intended to encourage the establishment of airport related and emergent technology industries. It is also hoped that new employment generating industries or industries with regional economic benefits would be attracted to this zone, perceiving the proximity to the airport an asset to their company in terms of both goods and personnel transport.

The establishment of the 4(t) - Industrial Technology zone was an endeavour to attract such industries, on a regional/statewide basis, in competition with other regional centres. There is a demand for such zoned areas on a regional/statewide basis and Council wishes to create such an opportunity in the Port Macquarie - Hastings, utilising the available land adjacent to the Port Macquarie airport.

What is the Expected Rate of Redevelopment/Development?

The rate of redevelopment/development in the 3(s) and 4(t) zones will directly affect the timing of the traffic facility works and the income available to fund these works. Table 3 indicates Council’s anticipated redevelopment/development rate for these areas. The Traffic Generation Calculation Sheet in Part D details the traffic generation predicted from the full development of these 3(s) and 4(t) zones.

<table>
<thead>
<tr>
<th>Year</th>
<th>Redevelopment/Development (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3(s)</td>
</tr>
<tr>
<td>1997-1999</td>
<td>30,000</td>
</tr>
<tr>
<td>2000-2005</td>
<td>60,000</td>
</tr>
<tr>
<td>2006-2011</td>
<td>61,544</td>
</tr>
</tbody>
</table>

The redevelopment/development rates identified in Table 3 are different for the 3(s) and 4(t) properties. The redevelopment/development rates for the 3(s) properties have been chosen knowing the pent up demand that currently exists whilst awaiting the gazettal of the 3(s) rezoning. It is expected that within the 3(s) zone the redevelopment/development rate will be above that anticipated in the first two years and then level out, to a constant rate, in the
proceeding years towards 2011. In the 4(t) zone redevelopment/development is expected to be initially slow as there will be a need to attract key industries to the 4(t) zone and Council is currently being proactive in this regard. Once a number of key industries are established, redevelopment/development rates are expected to self-generate and lead to a higher level of constant growth.

The traffic generation from the further development of the other zones in the Port Macquarie - Hastings is not available in so precise a form as Table 3, due to the extensive area covered and the variations per town precinct area. However, the Connell Wagner report [1] has detailed the predicted traffic generations and these were also part of the HRD Strategy [3].

The actual rates of redevelopment/development will be monitored so that, if necessary, the timing of works may be brought forward if redevelopment/development is above the rates anticipated or delayed if lower than those anticipated. It is expected that any redevelopment/development rate disparity will even itself out over the years of the Plan's operations.

To What Extent do the traffic facility works Meet the Needs of the redevelopment/development?

The proposed traffic facility works identified in this CP are required to satisfy the traffic generation and car parking demands of the anticipated types of redevelopment/development. In the following paragraphs the apportionment nexus for the traffic facility works will unfold, explaining the benefits to both the existing community and the anticipated redevelopers/developers. Table 4, towards the end of this section, summarises the resultant apportionment nexus, in tabular form.

Hastings River Drive is currently a major Council road within Council's road hierarchy. As one of three major entrance ways to Port Macquarie, the Oxley Highway and Ocean Drive being the others, a road widening scheme for Hastings River Drive was earmarked and proportionately funded by the Major Council Roads s.94 Contributions Plan prior to the rezoning proposals enabling redevelopment/development in the 3(s) and 4(t) zones. The rezoning and consequential anticipated redevelopment/development has dictated additional traffic facility requirements to the original road widening scheme for Hastings River Drive between Kemp and Boundary Streets.

The additional traffic facilities to accompany the original Hastings River Drive Road Widening Scheme between Kemp and Boundary Streets propose roundabouts at the Boundary Street/Hastings River Drive and Unnamed Rd/Hastings River Drive intersections linked by an unbroken median island, a dual carriageway and flanked by a dedicated parking lane on the northern and southern sides of Hastings River Drive, adjacent to the traffic lanes. These additional traffic facility works allow the needs of redevelopers/developers to be met whilst also serving the needs of the existing community with the general upgrading of Hastings River Drive.

To begin discussions of serving need and establishing apportionments Hastings River Drive itself should first be considered. It is proposed to be a dual carriageway road flanked by a parking land (that is two lanes plus a parking lane in each direction) and divided by a continuous median. Basically, in each direction there is a centre traffic lane, adjacent to a median, a second traffic lane and a parking lane. The nexus for each is different and hence the apportionment for each also differs.

The centre traffic lane is that existing now, in 1997, and serves the needs of the existing community. Any work on this centre lane would have to be attributed to maintenance and
therefore could not be financed by any Section 94 Plan. The cost of upgrading the centre traffic lane would lie with Council’s general roadworks funding and would effectively be an Other Funding item, in terms of the Contribution Formulae. The cost of the works on the centre lane amounts to a 7 of a total 20 metre (3.5m width for each centre traffic lane, 3.5m width for each parking lane and 3.0m for each parking lane equals 20 metres) fraction of the pavement construction costs.

The second traffic lane serves the future growth in traffic generation, that is, the traffic generation from 1997 onwards. The cost of creating the second traffic lane lies with the three growth areas for traffic generation (3(s) zone, 4(t) zone, Major Council Roads s.94 CP) and would be a 7 of a 20 metre fraction of the pavement construction costs. The apportionment ratio between the sources of future traffic generation growth is calculated and explained in Part D-traffic Generation Calculation Sheets, the apportionment being 3(s) zone-48%, 4(t) zone-26% and Major Council Roads CP-26%.

The parking lanes allow Hastings River Drive properties to cater for customer patronage, heading either east or west, as a parking lane is proposed on both the north and south side of Hastings River Drive. The parking lanes benefit all properties on Hastings River Drive, offering offsite, onstreet parking separate to the traffic lanes. The parking lanes were proposed in the original HRD road widening scheme but did not stretch to Boundary St. As the parking lanes are an integral part of the two-roundabout-unbroken-median-island scheme that allowed the burden of the loop roads on the 3(s) properties to be removed and the parking lane already exists in the extension stretch to Boundary St. and therefore need relocations, the parking lanes have also been apportioned on the basis of traffic generation growth.

The pavement construction apportionments can be summarised by the following points.

- centre traffic lanes: \( \frac{7}{20} = 35\% \) - Other Funding (Council Roads maintenance fund)
- Second traffic lane & parking lane: \( \frac{7}{20} + \frac{6}{20} = 65\% \) of the pavement construction cost, divided on a 48/26/26 ratio between 3(s)/4(t)/Major Council Roads CP
- The split for the pavement construction is then 35% Other Funding - 31% 3(s) zone - 17% 4(t) zone - 17% Major Council Roads CP

Many of the other construction items are apportioned on the basis of the traffic generation growth ratio. These items include survey & design, road widening acquisitions, median island construction, Kerb & gutter, utility services relocation, stormwater, street lighting and signage. The nexus for each is explained in the following paragraphs.

Survey & design is apportioned on the basis of traffic generation growth because the traffic generation growth creates the need for the traffic facility works and hence the survey & design work. There is no apportionment to Other Funding and there is no apportionment to Council within the Major Council Roads CP. Council does not receive an apportionment under the Major Council Roads CP as the apportionment was on the basis of traffic generation growth and any apportionment to Council, under the Major Council Roads CP would reflect the needs of the existing community. The existing community traffic generation does not warrant the traffic facility works the growth component of the traffic generation warrants the traffic facility works.

The road widening acquisition is apportioned on traffic generation growth as the combination of these growths will together create a nexus for the second traffic lane and the parking lane which in turn requires road widening acquisitions to accommodate them.
The construction of the median island is apportioned on traffic generation growth because the combined growth warrants a median island as per the 1995 HRD Strategy [3] analysis of traffic predictions and resultant traffic management measures. An unbroken median island reduces congestion due to the absence of 4-way intersections, improves the amenity by allowing the provision of a continuous landscaped strip and provides a safer environment by reducing collision potentials and providing a pedestrian safe-haven whilst crossing Hastings River Drive. The median island, for these reasons, benefits the existing community, the properties along Hastings River Drive and to an extent the 4(t) properties in the proposed airport technology park.

Kerb & gutter is apportioned on the basis of traffic generation growth because the increased standard of road, to carry the predicted future traffic flows, demands kerb & gutter. Kerb & gutter acts as delineation of the road boundaries and acts as a barrier/deterrent to vehicle access on to the road reserve areas. Additionally, the kerb & gutter will formalise the stormwater infrastructure along HRD but the stormwater apportionments are discussed separately.

The relocation of utility services includes water, sewer, Telstra and power. The increase in road capacity, that being the second traffic lane and parking lane, has required widening of the road to a point where the relocation of the utility services, to the new footpath area (the area between the kerb and the property boundary), is necessary. If left in their current positions, these utility services would be in the parking and second traffic lane. Whenever problems occurred or maintenance was required on the utility services, traffic flow along Hastings River Drive would be disrupted. On this basis the apportionment is based upon the traffic generation growth.

The exception to the rule, in terms apportionment of the utility services relocation, is a water main that will be concurrently relocated and upgraded in size. This water main, the 150mm water main, firstly has the cost of the upgrading apportioned to Other Funding (1/6 of the cost), namely the Council’s water supply upgrading fund, and secondly has the relocation portion of its cost (5/6 of its cost) apportioned on the basis of traffic generation growth.

Stormwater and streetlighting have been necessitated for similar reasons to the kerb & gutter. The higher standard of road proposed, once the traffic facility works are complete, demands that stormwater and streetlighting are incorporated. For this reason, they have been apportioned also on the basis of traffic generation growth.

Signage in some instances is a relocation item but in some instances is a new signage item for the new roadwork infrastructure. The apportionment of the signage cost has been on the traffic generation growth which meets both the new signage and relocation reasoning described in the previous paragraphs.

Hastings River Drive provides the only means of access to properties between Kemp St. and Boundary St. as there is no secondary access road network. The roundabouts allow improved access/egress for the 4(t) zoned land at the Hastings River Drive/Boundary Street intersection and all Hastings River Drive properties will gain access/egress from both the east and west directions, using the roundabouts, without crossing multiple lanes of opposing traffic. That is, eastbound traffic can access a property on the southern side of Hastings River Drive by looping back, utilising Roundabout 1 or conversely, westbound traffic can access a property on the northern side of Hastings River Drive by looping back at Roundabout 2. Additionally, traffic flow is more continual rather than the stop/start flow of other intersection treatments, such as traffic lights.

The apportionment of both Roundabouts 1 and 2 was justified by first considering that the original Hastings River Drive road widening scheme, prior to December 1994, did not require
roundabouts. The rezoning and subsequent predicted additional traffic created, pushed the traffic flows to a point where intersection treatments were warranted [3]. Roundabout 1 (Unnamed Rd) was proposed as part of Council’s 10 March 1997 resolution that removed the need to create rear access roads or loop roads through developable properties. Roundabout 2 (Boundary St.) was first proposed in the 1995 HRD Strategy [3] as a traffic management measure to cater for the predicted traffic from the rezoned areas. On this basis, Roundabouts 1 and 2 have been wholly apportioned to the HRD CP. The internal apportionment split between 3(s) and 4(t) zoned properties is not equal and the resultant apportionments are listed in the paragraphs following. Roundabout 1 is apportioned solely to the 3(s) properties as they benefit by not losing developable land to the rear access (loop) roads. Roundabout 2 is apportioned based on the ratio of traffic generated from the 3(s) and 4(t) zones (see the Traffic Generation Calculation Sheet in Part D).

The apportionment of both Roundabouts 1 and 2 is 100% to the HRD CP.
- Roundabout 1 (HRD/Unnamed Rd) is apportioned 100% to the 3(s) properties.
- Roundabout 2 (HRD/Boundary St.) has been apportioned on the 65/35 traffic generation calculation split and becomes 65% to the 3(s) properties and 35% to the 4(t) zoned properties.

Table 4 summarises the information given regarding the apportionment percentages in the causal nexus and calculates the monetary apportionments given the cost estimation of each item. Information regarding the cost estimation derivations is given after the Temporal Nexus.

**The Contribution for Administration**

The administration costs of Port Macquarie - Hastings Council’s CPs have previously been a cost borne by Council. The administration costs of each CP are now to be charged to that CP, in the form of a contribution for administration, where a nexus can be substantiated.

The traffic facility works, the subject of the Hastings River Drive s.94 CP, were adopted as the preferred option after representations and discussions with landowners. Hence, the cost of administration of the CP that provides the financial resources to implement the traffic facility works is to form part of the contribution.

Council concedes that it is not permitted to recoup the cost of staff wages as these are considered a recurrent cost to be carried by Council. However, Council will endeavour to recoup the other non-wages administration costs, associated with the Hastings River Drive CP over its life, including plan review, contribution rate indexation, reprinting and the issuing contribution rate update lists.
Table 4: The Apportionment Nexus for the Traffic Facility Works

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
<th>Total Cost</th>
<th>HRD s.94 CP</th>
<th>Major Council Roads s.94 CP</th>
<th>Other Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item</td>
<td></td>
<td>3(s)</td>
<td>4(t)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>road widening acquisition</td>
<td>1,500,000</td>
<td>48</td>
<td>720,000.00</td>
<td>26</td>
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<tr>
<td>2</td>
<td>survey &amp; design</td>
<td>25,000</td>
<td>48</td>
<td>12,000.00</td>
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<tr>
<td>3</td>
<td>roundabout 1</td>
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<td>100</td>
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<td>0</td>
</tr>
<tr>
<td>4</td>
<td>roundabout 2</td>
<td>250,000</td>
<td>65</td>
<td>162,500.00</td>
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<tr>
<td>5</td>
<td>median island construction</td>
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<td>48</td>
<td>50,880.00</td>
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<tr>
<td>6</td>
<td>pavement</td>
<td>1,484,000</td>
<td>31</td>
<td>460,040.00</td>
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<td>7</td>
<td>kerb &amp; gutter</td>
<td>95,400</td>
<td>48</td>
<td>45,792.00</td>
<td>26</td>
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<td>8</td>
<td>stormwater drainage</td>
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<td>48</td>
<td>96,000.00</td>
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<td>9</td>
<td>power line relocation and street lighting</td>
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<td>48</td>
<td>43,200.00</td>
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<td>10</td>
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<td>48,000.00</td>
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<tr>
<td>11</td>
<td>water main relocation: 250mm</td>
<td>144,000</td>
<td>48</td>
<td>69,120.00</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>150mm</td>
<td>72,000</td>
<td>48% 5/6</td>
<td>28,800.00</td>
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<td>12</td>
<td>signage</td>
<td>20,000</td>
<td>48</td>
<td>9,600.00</td>
<td>26</td>
</tr>
<tr>
<td>13</td>
<td>sewer relocation</td>
<td>120,000</td>
<td>48</td>
<td>57,600.00</td>
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<tr>
<td>Totals</td>
<td>4,456,400</td>
<td>2,053,532</td>
<td>979,484</td>
<td>891,984</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: In the above table the cost apportionments listed in the ‘Others Funds’ column are attributed to the following funding resources Item 6 - Roadworks maintenance, Item 11 - Water developer charges.
**Physical Nexus**

A physical nexus indicates the reasons for the location of a particular facility to be provided relative to the community which it is intended to serve. The community to be served by the additional traffic facility works is the recently rezoned 3(s) land along Hastings River Drive and the 4(t) land in the proposed airport technology park.

The location of the traffic facility works was considered by the Option Paper that exhibited the various possible amendments to the Hastings River Drive road widening scheme. The Options Paper had regards to the anticipated increase in traffic generation once redevelopment/development occurred, property accessibility, the potential degree of traffic congestion, the potential of increased collision probabilities and the manner in which the identified needs could best be satisfied. A report to Council informed of the exhibition feedback and the choice of the various possible options was made by Council at the Ordinary Meeting on 3 March, 1997.

Council resolved the works and their location to be roundabouts at the Boundary St./Hastings River Drive and Unnamed Rd/Hastings River Drive intersections, an unbroken median island between these roundabouts, a dual carriageway and a dedicated parking lane flanking Hastings River Drive between Kemp and Boundary Streets. Figure 4 shows the location of these traffic facilities along Hastings River Drive.

These traffic facility works and the expected redevelopment have a physical nexus that relies upon the proximity of the rezoned areas to this otherwise undivided, unwidened single carriageway length of Hastings River Drive. Without these traffic facility works on Hastings River Drive the predicted traffic generation from these rezoned areas would have produced a bottleneck of traffic until reaching the divided dual carriageway, further to the east on Hastings River Drive. The proximity of the traffic generation, previously uncatered for, and what would be an undercapacity length of road, with these predicted traffic volumes, has substantiated the physical nexus. Part D-Traffic Generation Calculation Sheet indicates the traffic generation expected from the 4(t) zone, 3(s) zone and the level of traffic growth incorporated in the pre-1994 Hastings River Drive road widening scheme. The types of traffic facilities to be provided in the Kemp to Boundary St. strip of Hastings River Drive are those derived from the HRD Strategy [3] and the Options Paper in Part D-Other Reference Material.

**Temporal Nexus**

The temporal nexus indicates the reasons for the timing and provision strategy chosen by Council for the implementation of the traffic facility works. The timing of the works implementation is based upon the anticipated rate of redevelopment/development (see Table 3) on the rezoned 3(s) and 4(t) zoned land and, hence the increase in traffic generation and contribution income. The implementation is also dependent, timing-wise, upon the financial resources available to Council and the rate at which the necessary private land acquisitions can be transacted.
The ideal strategy to complete the works is to perform all necessary land acquisitions upfront and construct the works in stages once the financial resources from contributions were sufficient and traffic generation demanded them. However, Council does not presently have extensive financial resources to complete all the necessary private land acquisitions upfront and the alternative of "bits and pieces" traffic facilities provision as properties developed, that is, a bit here and a bit there, was not favoured and was foreseen as problematic given the potential traffic hazards. Also, the changeable nature of development rates could mean that the traffic facility works may be provided in a stop/start fashion, or, may be dragged out more than twenty years.

Council proposes to purchase the private land steadily, as financial resources allow, and to consider works-in-kind or special agreements to complete the land acquisitions where a property fronting Hastings River Drive is being redeveloped/developed. The construction phase would then follow in stages, minimising the traffic hazards and relieving congestion. Once again, works-in-kind and special agreement negotiations could assist the completion of the construction.

There is a timing dependency between the land acquisitions and the construction phase, this being the rate of acquisition transaction completions. It is known that some property owners are eager for their land to be acquired whilst some owners are considerably reluctant given the need to relocate or be considerably disadvantaged in terms of disturbance and solatium. As such, it is expected that not all property acquisitions will be straightforward and some may become quite protracted.

The resultant timing and provision strategy chosen by Council for the implementation of the traffic facility works is given in Table 5.

Table 5: Timing of the Traffic Facility Works

<table>
<thead>
<tr>
<th>Facility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>survey &amp; design</td>
<td>1997-98</td>
</tr>
<tr>
<td>land acquisition, Stage 1</td>
<td>1997-2000</td>
</tr>
<tr>
<td>Stage 1 construction: Kemp-Hibbard (east)</td>
<td>1999-2000</td>
</tr>
<tr>
<td>roundabout 2</td>
<td>2003-2004</td>
</tr>
<tr>
<td>Stage 2 construction: Hibbard (east)-Unnamed</td>
<td>2004-2005</td>
</tr>
<tr>
<td>land acquisition, Stage 2</td>
<td>2000-2005</td>
</tr>
<tr>
<td>Stage 3 construction: Unnamed-Hibbard (west)</td>
<td>2007-2008</td>
</tr>
<tr>
<td>roundabout 1</td>
<td>2009-2010</td>
</tr>
<tr>
<td>Stage 4 construction: Hibbard(west)-Boundary</td>
<td>2010-2011</td>
</tr>
</tbody>
</table>
Figure 4: The location of traffic facility works on Hastings River Drive
Figure 4: The location of traffic facility works on Hastings River Drive (continued)
Cost Estimation Derivations

The cost estimated for the various items apportioned in Table 4 were based on those calculated by Council using unit rates that Council makes budgetary estimates upon all construction projects. Coupled with these unit rate estimations is a preliminary property valuation report, regarding the possible valuations of the portions of land to be acquired for the purposes of road widening, and estimates from various public authorities, such as NorthPower.

These cost estimates have been made in 1997 dollars to allow future indexing of the contribution rates as per the formula in Part B-Accounting Matters.

It should be noted that the estimates for each item in Table 4, particularly the construction items, has been completed without a detailed design, a quantities list and geotechnical tests. Effectively, these are not accurate estimates, however, given these circumstances, the cost estimate given is as accurate as presently possible. In further years, when the detailed design is complete, or, when a quantities list is available after geotechnical tests have been completed, the accuracy of the cost estimation will be greatly improved.

Where a cost estimation is later found to be overstated, it is the intent of this Contributions Plan to refund the overpaid contribution amount. The overpayment would be refunded to the person who made the contribution payment but this refund would not be available until after the staged construction was complete in 2011. Where the cost estimation was later found to be understated, contributions would be increased at the next review of the contribution rate, using the formula in Part B-Accounting Matters, to reflect the new estimates. Council will bear the risk of lost opportunity for any contributions received from redevelopments in the period between the higher cost estimation and the review of the contribution rate.

The administration expenses estimated for the HRD CP from 1997 to 2011 amounts to $14,223 in 1997 dollars, which includes fourteen years of indexing and updating, per quarter, at an estimated $20 per quarter and CP review costs every two or three years at an estimated $2340 per review.

The Work Schedule

The discussions in the causal, physical and temporal nexus play an intricate part in the creation of the Work Schedule. The Work Schedule effectively tabulates the causal, physical and temporal nexus detailing the estimated cost, staging and apportionment of the traffic facility works along Hastings River Drive, to be met by the Hastings River Drive Contributions Plan.

Council intends to follow the staging in the Work Schedule, providing financial resources are sufficient in terms of income from s.94 contributions and general Council funding. It is foreseen that initially, that is in the road acquisition stage, it may be perceived that funds are insufficient for the landowners expecting immediate compensation. If this proves to be the case, Council will endeavour to appease these landowners by offering extended settlements. Further available options may be investigated if the extended settlements were considered inadequate.

It is intended to establish an annual monitoring of the redevelopment/development of 3(s) and 4(t) zoned land regarding the anticipated redevelopment/development rates hold true and if the timing of the traffic facility works will be satisfactory. Any necessary adjustments will be made at subsequent reviews of the CP.
## Table 6: The Work Schedule for the Traffic Facility Works

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
<th>Timing</th>
<th>Total Cost ($)</th>
<th>HRD s.94 CP</th>
<th>Major Council Rds s.94 CP</th>
<th>Other Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>%</td>
<td>Cost ($)</td>
<td>%</td>
</tr>
<tr>
<td>survey &amp; design</td>
<td>Kemp-Boundary</td>
<td>1997-98</td>
<td>25,000</td>
<td>74</td>
<td>18,500</td>
<td>26</td>
</tr>
<tr>
<td>road widening acquisition, Stg 1</td>
<td>Kemp-Unnamed</td>
<td>1997-2000</td>
<td>500,000</td>
<td>74</td>
<td>370,000</td>
<td>26</td>
</tr>
<tr>
<td>Stage 1 construction</td>
<td>275m, Kemp - Hibbard (east)</td>
<td>1999-2000</td>
<td>534,908</td>
<td>varies</td>
<td>308,993.52</td>
<td>varies</td>
</tr>
<tr>
<td>road widening acquisition, Stg 2</td>
<td>Unnamed - Boundary</td>
<td>2000-2005</td>
<td>1,000,000</td>
<td>74</td>
<td>740,000</td>
<td>26</td>
</tr>
<tr>
<td>roundabout 2</td>
<td>HRD/Boundary St.</td>
<td>2003-2004</td>
<td>250,000</td>
<td>100</td>
<td>250,000</td>
<td>0</td>
</tr>
<tr>
<td>Stage 2 construction</td>
<td>Hibbard (east) - Unnamed</td>
<td>2005-2006</td>
<td>583,536</td>
<td>varies</td>
<td>337,083.84</td>
<td>varies</td>
</tr>
<tr>
<td>Stage 3 construction</td>
<td>Unnamed - Hibbard (west)</td>
<td>2007-2008</td>
<td>680,792</td>
<td>varies</td>
<td>393,264.48</td>
<td>varies</td>
</tr>
<tr>
<td>roundabout 1</td>
<td>HRD/Unnamed Rd</td>
<td>2009-2010</td>
<td>250,000</td>
<td>100</td>
<td>250,000</td>
<td>0</td>
</tr>
<tr>
<td>Stage 4 construction</td>
<td>Hibbard (west) - Boundary</td>
<td>2010-2011</td>
<td>632,164</td>
<td>varies</td>
<td>365,147.16</td>
<td>varies</td>
</tr>
</tbody>
</table>
The Contribution Calculation

The contribution amount is calculated using the multi-step formulae below which firstly assesses the proportion of the traffic facility work costs attributable to this CP and secondly calculates the contribution rates. The contribution levied by Council on a Development Consent is a multiplication of these contribution rates by the site area used in the redevelopment/development.

\[
s.94\text{ contribution proportion} = \frac{\text{Total Cost} - \text{proportion attributable to the existing community}}{-\text{Other Funding}}
\]

\[
\text{Contribution rate for works} = \frac{s.94\text{ proportion} - \text{Econ}}{-\text{Benefiting area-Econ benefiting area}}
\]

\[
\text{Contribution rate for administration} = \frac{\text{administration expenses, 1997-2011}}{-\text{Benefiting area}}
\]

\[
\text{Contribution for administration/works} = \text{site area} \times \text{contribution rate for administration/works}
\]

\[
\text{Contribution in total} = \text{Contribution for works} + \text{Contribution for administration}
\]

where:

- **Total Cost** - sum of capital and land costs for the traffic facilities which have been, or which are to be, provided
- **Other Funding** - sum of any grants, subsidies or other funding source which may be available to fund the capital works (the grants available are $nil at present)
- **Econ** - sum of any existing contributions which have been previously paid towards the provision of the traffic facilities in Hastings River Drive

Other Funding, for the above formula, includes grants but the grants currently sit at $nil and at present there are no other grant funding avenues for growth driven projects within State government for roads. It is hence presumed that the grants component of Other Funding will, for some time, remain $nil. The s.94 contribution proportion and total cost, both part of the first of the above formulæ, is given by Table 4 and the component responsible to the Hastings River Drive CP is under the column heading »HRD s.94 CP«. Table 7 shows the calculation of the contribution rates for each traffic facility item and the administration.

When calculating the contribution for works or administration due by a particular site, the site area is to include the entire area of the site to be developed for the purposes of occupation. This means that the site area includes the areas for customer parking, employee parking, landscaping, signage, buildings, offices, storage areas and internal vehicle or pedestrian access ways.
Table 7: The Contribution Rates Calculation

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
<th>HRD s.94 proportion</th>
<th>Econ</th>
<th>Benefit</th>
<th>Contribution rate ($/m²)</th>
<th>Benefit</th>
<th>Contribution rate ($/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>road widening acquisition</td>
<td>1,110,000</td>
<td>0</td>
<td>151544</td>
<td>4.75</td>
<td>220,962</td>
<td>1.77</td>
</tr>
<tr>
<td>2</td>
<td>survey &amp; design</td>
<td>18,500</td>
<td>0</td>
<td>151544</td>
<td>0.08</td>
<td>220,962</td>
<td>0.03</td>
</tr>
<tr>
<td>3</td>
<td>roundabout 1</td>
<td>250,000</td>
<td>0</td>
<td>151544</td>
<td>1.65</td>
<td>220,962</td>
<td>0.00</td>
</tr>
<tr>
<td>4</td>
<td>roundabout 2</td>
<td>250,000</td>
<td>0</td>
<td>151544</td>
<td>1.07</td>
<td>220,962</td>
<td>0.40</td>
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<tr>
<td>5</td>
<td>median island construction</td>
<td>78,440</td>
<td>0</td>
<td>151544</td>
<td>0.34</td>
<td>220,962</td>
<td>0.12</td>
</tr>
<tr>
<td>6</td>
<td>pavement</td>
<td>712,320</td>
<td>77,811.50</td>
<td>121681</td>
<td>3.37</td>
<td>220,962</td>
<td>1.02</td>
</tr>
<tr>
<td>7</td>
<td>kerb &amp; gutter</td>
<td>70,596</td>
<td>10,822.31</td>
<td>121681</td>
<td>0.32</td>
<td>220,962</td>
<td>0.10</td>
</tr>
<tr>
<td>8</td>
<td>stormwater drainage</td>
<td>148,000</td>
<td>0</td>
<td>151544</td>
<td>0.63</td>
<td>220,962</td>
<td>0.24</td>
</tr>
<tr>
<td>9</td>
<td>power line relocation and street lighting</td>
<td>66,600</td>
<td>0</td>
<td>151544</td>
<td>0.29</td>
<td>220,962</td>
<td>0.11</td>
</tr>
<tr>
<td>10</td>
<td>Telstra relocation</td>
<td>74,000</td>
<td>0</td>
<td>151544</td>
<td>0.32</td>
<td>220,962</td>
<td>0.12</td>
</tr>
<tr>
<td>11</td>
<td>water main relocation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>250mm</td>
<td>106,560</td>
<td>0</td>
<td>151544</td>
<td>0.46</td>
<td>220,962</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td>150mm</td>
<td>44,400</td>
<td>0</td>
<td>151544</td>
<td>0.19</td>
<td>220,962</td>
<td>0.07</td>
</tr>
<tr>
<td>12</td>
<td>signage</td>
<td>14,800</td>
<td>0</td>
<td>151544</td>
<td>0.06</td>
<td>220,962</td>
<td>0.02</td>
</tr>
<tr>
<td>13</td>
<td>sewer relocations</td>
<td>88,800</td>
<td>0</td>
<td>151544</td>
<td>0.38</td>
<td>220,962</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>administration</td>
<td>14,224</td>
<td>0</td>
<td>151544</td>
<td>0.07</td>
<td>220,962</td>
<td>0.02</td>
</tr>
</tbody>
</table>
The negotiations for the purchase of the 9(c) zoned strip of land, road widening forward of most 3(s) zoned properties, are between Council’s Property Section and the owner of the subject property. Any request for use of the land, until construction commenced, would have to be discussed/negotiated at that time and would be dependent upon the progress of the staged construction program. The shape, height or general form of the new footpath area (the land between the kerb and the property boundary) would not be confirmed until the detailed design was complete and this may also influence the acquisition negotiations.

**Credits against Contributions Levied**

Credits against HRD s.94 CP contributions will be granted to developers for three reasons. These are:

- the property has previously paid money into a trust fund for works to be later constructed by Council
- the property has previously constructed works-in-kind
- the property has an existing level of traffic generation from the current site use

A property that has either paid money into a trust or has constructed works-in-kind has the contribution denoted in the contribution rate calculation as > Econ. In 1997, there were only eight properties in this category and the properties are listed below.

- Lot 3 DP 808950  No. 181 Hastings River Drive
- Lot 2 DP 808950  No. 183 Hastings River Drive
- Lot 4 DP 816675  No. 185 Hastings River Drive
- Lot 5 DP 837765  No. 191 Hastings River Drive

The value of the > Econ for each relevant property is dynamic in terms of the accrued interest in the trust account (now the HRD s.94 CP) and/or current equivalent cost to construct the works-in-kind. To determine the current value of such credits a potential developer would have to contact the Development & Environment staff and have a preliminary concept plan of the redevelopment proposed.

Where a 3(s) or 4(t) zoned property has already been developed for a permissible use under that zone, or enjoys existing use rights under a previous consent, any existing levels of traffic generation would be considered as a credit, should that property redevelop. The existing levels of traffic generation would be calculated using the RTA’s Guide to Traffic Generating Developments [2] at an evening peak hour. This existing level of traffic generation would then be converted to a $/trip value to be credited against the contribution otherwise due by the property. The monetary value of each credit trip would be dynamic, following any movement of the traffic facility works estimation.

An example of a credit calculation follows to further explain this approach to crediting of a contribution. This example has been given in 1997, prior to any indexing of the contribution rate.
To obtain a current estimate of credit levels, a potential developer should speak to Council’s Development and Environment Staff.

**Example:** 4(t) property

The existing development is a hangar of 324m$^2$ and includes 75.6m$^2$ of workshop space and 75.28m$^2$ of office space. Using the RTA’s Guide [2] the existing traffic generation level would be calculated using:

- Business park: 1.2 trips/100m$^2$ office space
- 1.0 trips/100m$^2$ factory/warehouse

Existing traffic generation level = $1.2 \times \frac{75.28}{100} + 1.0 \times \frac{248.72}{100}$

= 3.39 trips

The total cost of traffic facility works = $4,456,400

(Part C - Table 4)

The total number of trips = 4351 trips in evening peak hour

(Part D - Traffic Generation Calculation Sheet)

The 1997 value of a trip (no indexing) = \[
\frac{\text{total cost}}{\text{total trips}} = \frac{4,456,400}{4351} = \$1,024.22
\]

The credit due to this property for the existing level of traffic generation, should the property be redeveloped is

$1,024.22/\text{trip} \times 3.39 \text{ trips} = \$3,472.11$

A credit will not be given for the area of land used to create any new public (or private) road in a 3(s) or 4(t) zoned property. Where the subdivision of a property creates a public road, the contributions due by that area of road will be dispersed across the newly created lots in the subdivision, on an area ratio. Effectively, the contributions due by the newly created lots will increase where a new public road is created and the increase in contributions will be dependent upon the size of the lot and the area of the road.
PART D - SUPPORTING DOCUMENTS

Other Reference Material
- Option Paper
- Traffic Generation Calculation Sheet
Bibliography
Other Reference Material

This section includes supporting information for the Hastings River Drive Section 94 Contributions Plan. The reference material is in the form of documents, calculation sheets or exhibited papers. A brief summary of the supporting information is given below to assist the reader.

<table>
<thead>
<tr>
<th>Reference Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options Paper</td>
<td>Exhibition paper regarding draft amendments to the Hastings River Drive Road Widening Scheme</td>
</tr>
<tr>
<td>Link to rest of document:</td>
<td>Part C, Strategy Plans, Nexus</td>
</tr>
<tr>
<td>Traffic Generation Calculation Sheet</td>
<td>Apportionment calculations for road widening acquisition and construction within the HRD CP, based on predicted traffic generation</td>
</tr>
<tr>
<td>Link to rest of document:</td>
<td>Part C - Strategy Plans, Nexus</td>
</tr>
</tbody>
</table>
HASTINGS COUNCIL

EXHIBITION OF DRAFT AMENDMENTS TO
HASTINGS RIVER DRIVE ROAD WIDENING SCHEME
Exhibition ends 4/12/96

Purpose

Hastings Council wishes to examine 3 options for proposed roundabouts and associated widening along Hastings River Drive. After considering submissions, Council will determine whether to amend the Hastings River Drive Road Widening Scheme.

These options are described below.

Exhibition location

The draft plan of options is on public exhibition from 6 November 1996 until 4 December 1996 between the hours of 8.30am and 4.00pm weekdays at the Strategic Planning Division, corner Burrawan and Lord Streets, Port Macquarie.

Background

Council prepared a strategy for rezoning of land around Hastings River Drive, between Kemp Street and Tuffins Lane in March 1995. This strategy recommended a special business zone, over land fronting Hastings River Drive from Kemp Street to Hibbard Drive (west), and tourist development zones to the west of Hibbard Drive.

The strategy took into account the proposed road widening and upgrading plan for Hastings River Drive. This plan was the outcome of a road widening scheme that commenced in the 1950s when Hastings River Drive was part of the Pacific Highway. In the mid 1970s, Council reviewed these proposals that still existed despite the diversion of the highway, over the Denis Bridge. A road widening scheme was adopted by Council proposing 2 traffic lanes in both directions from Park Street to the Drive-in site, with 1 traffic lane beyond this. A building line was imposed from the drive-in site to Tuffins Lane to allow the long term widening to 2 lanes in the long term. This road widening scheme was amended by Council on 5 December 1994, to extend the road widening to Boundary Street.

A draft local environmental plan (LEP) was exhibited in May 1995, proposing zones in accordance with the Strategy. In February 1996, Council resolved to exhibit a draft development control plan (DCP) for the Hastings River Drive area which took place in March/April 1996.

On 1 July 1996, Council considered a report on submissions on the exhibited draft DCP, and resolved to hold a workshop between staff, interested Councillors and those who made submissions. The workshop was held on 29 July 1996.

As a result of the workshop, a proposal arose involving the provision of a further roundabout in Hastings River Drive to adequately deal with traffic management issues resulting from the rezoning.
Proposed Options 1, 2 and 3

The three (3) options are designed to cater for both eastbound and westbound vehicles, to be able to access properties fronting Hastings River Drive between Hibbard Drive east and Hibbard Drive west. These properties are proposed to be zoned Special Business, which will allow a range of land uses including bulky goods retailing, motor showrooms and automotive related businesses.

Consequently, access for articulated vehicles will be required. To prevent multiple turning points and right hand turn movements, the traffic management options seek to create a situation where all movements from Hastings River Drive to properties will be left hand turns, except the two roundabouts, which will allow right hand turns and u-turns.

The adopted road widening scheme includes a roundabout at Boundary Street, with median island openings at Hibbard Drive east and west, Wood Street and the unnamed road adjacent the old drive-in site.

The options propose three (3) different locations for a second roundabout, with unbroken median between the Boundary Street roundabout and the second roundabout. The attached map shows the three (3) options.

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTION 1</td>
<td></td>
</tr>
<tr>
<td>(a) creates entryway to special Business zone.</td>
<td>(a) requires acquisition of land currently developed as a motor showroom (Miedecke Motors)</td>
</tr>
<tr>
<td>(b) provides improved access to Hibbard Drive east and sports fields.</td>
<td>(b) requires traffic seeking to turn right into Wood Street to be diverted to the Boundary Street roundabout and return.</td>
</tr>
<tr>
<td></td>
<td>(c) requires traffic seeking to turn right into Hibbard Drive west to either divert to the Boundary Street roundabout and return or to divert via Hibbard Drive east.</td>
</tr>
<tr>
<td></td>
<td>(d) requires traffic seeking to turn right out of Hibbard Drive west to divert to Hibbard Drive east.</td>
</tr>
</tbody>
</table>
### OPTION 2
(a) requires minimal land acquisition.
(b) requires only minor diversion of traffic seeking to turn right into Wood Street.

### OPTION 3
(a) provides preferred traffic management movements for accessing Woods Street and the unnamed road, with no diversion.

### Inspection and submissions
Any person may inspect the draft plan of options and supporting material and make written submissions until the end of the exhibition. Note that any submission may be made public.

File No: E.350.10.253
TRAFFIC GENERATION CALCULATION SHEET
- part of the apportionment nexus

The 3(s) Zoned Areas

Land Area (total): 157,120 m²

Assumptions: The land use ratio will be 50% motor showrooms or the like and 50% bulky goods. The floor space ration (fsr) for the bulky goods land use is 0.5:1

Calculations
Motor Showrooms: 78,560 m² @ 0.7 trips/100 m²
= 550 trips

Bulky Goods:
  GFA: 78,560 m² x 0.5 fsr = 39,280 m² GFA
  Trips: 39,280 m² GFA @ 3 trips/100 m²
  = 1178 trips

Total trips generated by the 3(s) zoned Area = 1728 trips peak hour

The 4(t) Zoned Area

Land Area (total): 220,962 m²

Assumptions: 4(t) areas will achieve a floor space ratio (fsr) of 0.5:1. Traffic to/from the 4(t) area is split 20% westbound and 80% eastbound. Business Parks: 1.1 trips/100 m² GLFA and GLFA = 0.75 GFA

Calculations
  GLFA: 220,962 m² x 0.5 fsr x 0.75 GFA = 82,861 m² GLFA
  Trips: 82,861 GLFA @ 1.1 trips/100 m²
  = 911 trips peak hour
  Trips to HRD = 911 trips x 80% = 729 trips
(Kemp-Boundary)

Total trips generated by the 4(t) zoned area = 729 trips
### Hastings River Drive growth without rezonings

**Source:** Connell Wagner Report [1]

Predicted AADT by 2011: 18,943 AADT

Peak hour (assume 10% AADT): 1894 trips

---

**Apportionment**

<table>
<thead>
<tr>
<th>Area/Zone</th>
<th>Percentage Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td>3(s)</td>
<td>1728 / 4351 = 40%</td>
</tr>
<tr>
<td>4(t)</td>
<td>729 / 4351 = 17%</td>
</tr>
<tr>
<td>Mjr Ccl Rds</td>
<td>1894 / 4351 = 43%</td>
</tr>
</tbody>
</table>

---

The growth component of the above Traffic Generation Calculations, for the period 1997-2011, are calculated in the following section.

According to the HRD Strategy [3] the traffic expected without the 3(s) and 4(t) zone were

<table>
<thead>
<tr>
<th>Year</th>
<th>AADT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>9,878</td>
</tr>
<tr>
<td>2001</td>
<td>13,133</td>
</tr>
<tr>
<td>2011</td>
<td>18,943</td>
</tr>
</tbody>
</table>

Growth 1991-2001 = 3,255 AADT over 10 years. Assuming a linear growth proportion, this gives a growth of 325.5 AADT per year. Therefore, in 1997 the traffic would be 9878 + 6 x 325.5 = 11,831 AADT.

The growth projections for traffic generation are then the following values for 1997-2011.

**Major Council Roads:** 7112 AADT = 711 trips peak hour

**3(s) zone:** 1728 - existing = 1728 - 441.96 = 1286.04 trips peak hour
4(t) zone:  
\[ 729 - \text{existing} = 729 - 35.23 = 693.77 \text{ trips peak hour} \]
\[ \approx 26\% \]

If an item in the traffic facility works was apportioned entirely to the HRD s.94 CP on growth apportionments and then apportioned between 3(s) and 4(t) zoned property on the basis of traffic generation, the ratio would be:

<table>
<thead>
<tr>
<th>Zone</th>
<th>Ratio Calculations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3(s)</td>
<td>( \frac{1286.04}{(1286.04+693.77)} )</td>
<td>65%</td>
</tr>
<tr>
<td>4(t)</td>
<td>( \frac{693.77}{(1286.04+693.77)} )</td>
<td>35%</td>
</tr>
</tbody>
</table>
Bibliography

