

# STRATEGY/POLICY FORUM

24 June 1997

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## PRELIMINARY LIGHT RAIL FEASIBILITY STUDY

Recently there have been technological advances made in Light Rail Systems which can better address the growing community concern for energy consumption and preservation of the environment. A Director - Works' report (Council Meeting 13/12/94) suggested that it would be appropriate for Council to initiate a preliminary study into the feasibility of Light Rail for Gosford City.

A meeting was convened between the Light Rail Association and representatives of Council's Works and Development/Environment Directorates to discuss various preliminary proposals and determine a future course of action. It was agreed that the Association would carry out the study based on their specialist background and experience.

At the time, the Association was a voluntary body of professionals which provided specialist advice on Light Rail Systems and their feasibility. The Association had been involved in the preparation of similar studies and was assisting consultants in developing the proposed Light Rail systems from Sydney's Central Railway Station to the airport, another link to Pymont and Glebe and a third extension to Circular Quay. Some sections of these Light Rail systems are presently being constructed.

At its meeting held on 13 December 1994 Council resolved to accept an offer by the Light Rail Association to carry out a Preliminary Light Rail Feasibility Study of Gosford City for a cost of \$9,000.

The Study of Gosford City is now complete. During the Study the principal researcher, Mr Matt Hurst, of the Association formed a company called Parade Consulting Pty. Ltd. Under the new arrangements Parade Consulting inherited and completed the Study (as per the original brief) on the behalf of the Association.

### The Study

The aim of the Study is to give Council potential alternatives for future transport and land use patterns. The Study is "broad brush" in nature and assesses the potential for Light Rail in Gosford City. The following components were included in the Study:

- 1 Assessment of 2 to 3 routes looking at gradients, alignments and other physical factors (Includes potential routes from Woy Woy to Ettalong and Umina and from Gosford to Erina and Terrigal).
- 2 Assessment of financial factors including potential patronage/revenue versus costs capital and ongoing costs.
- 3 A preliminary Cost Benefit Analysis (CBA) incorporating user and non-user benefits, and
- 4 An Economic Impact Assessment (EIA) of local Multiplier Effects for the economy (particularly tourism) and improvements in land values and development potential.

### The Proposed Routes

The study examined existing activity centres and trip generating developments. These were then linked to satisfy travel demand and further developed into corridors. The corridors were analysed to determine the gradients and engineering required to achieve them.

The study assessed the following potential corridors:

Woy Woy to Umina/Ettalong  
Gosford to Terrigal; and  
Woy Woy/Ettalong to Erina

These corridors are shown schematically on the attached map.

### Economic Evaluation

The tangible benefits of the light rail corridors were evaluated economically, based on the total benefits and costs to the community. Total benefits included:

- benefits to users
- benefits to bus users from improved light rail times and vehicle boarding times
- benefits to road users from increased road speeds because of a patronage shift from road to rail
- reduced (noise and air) pollution and accidents costs from a commuter diversion from road to rail
- physical, social and transport cost savings from urban consolidation
- benefits to operators; and
- benefits to non-users

Each corridor was evaluated as if it were built immediately. On this basis the study provides the following results for each corridor.

Characteristics	Peninsula	Terrigal	Ettalong to Erina
Length of track	6.5 km	14.25 km	14 km
Number of stops	15	15	8
Number of Light Rail Vehicles	6	6	9
Frequency of service	15 minutes	15 minutes	15 minutes
<b>Economic Assessment</b>			
Capital Cost \$M (1995)	* 58.3	* 138.4	184.4
Benefit/Costs	1.61	1.65	N/A
Benefit/Cost of Invested Capital	0.61	0.65	N/A

\* Includes \$5M for estimated cost of acquiring land for a depot

The above Economic Assessment does not include other potential benefits such as, reduced road construction, road enlargement and maintenance, tourism impacts, local economy impacts and land value impacts. The study claims that these benefits will, to various extents, be positive and increase the economic worth of the project.

Quantifying the extent of these benefits is difficult due to their intangible nature, and without more comprehensive detailed studies.

### The Conclusion

The Study concludes that:

“Opportunities for Light Rail Public Transport exist within the Gosford City Council Area. Although Bus services could easily accommodate likely demand in all corridors for many years, introduction of Light Rail Services would provide a faster, more attractive and user friendly alternative. The nature of likely Light Rail Services, being largely Off Street or prioritised, would attract users to public transport that would otherwise have used cars and added to traffic congestion.

Current levels of patronage will sustain Light Rail services in both the Woy Woy to Umina and Gosford to Terrigal (via Erina) corridors. Revenues would balance operating costs at fifteen minute frequencies during the peak and half hour services off peak. Services to

Ettalong would also be justified if or when a ferry terminal servicing a Jet Cat from Sydney became operational. The economic evaluation reveals that the Cost Benefit Ratios favour the projects in these corridors (see section 9), especially if road capacity is not increased.

The Kincumber Corridor will not sustain Light Rail Services until considerably more development has occurred, particularly near proposed stop locations, or unless traffic congestion increased and traffic delays doubled in both frequency and length. Initial indicators reveal that the Cost Benefit Ratio will only benefit this corridor when development has increased and traffic congestion has worsened. (This is largely because of the length and cost of the line.)

The result of the implementation of light rail services in the corridors examined in this study would be considerable demand for residential and commercial development within easy access of the line. This market demand could be focused at strategic locations to create definable villages where urban densities are distinctively higher than the surrounding areas.

The surrounding areas can, therefore, effectively remain untouched. This, in effect, is a process of damage control that concentrates growth in a more sustainable pattern than is occurring with current suburban trends. The resultant villages develop in lieu of allowing further suburban subdivision. The subsequent increases in density also serve to feed the Light Rail line, in effect anchoring it into the urban land use/transport pattern for the area.

It is felt that the implementation of the proposals examined in this study, and the likely, well managed, development patterns that it will encourage, would be favourable by comparison to current development trends."

Many issues require further consideration by the Council such as: identifying acceptable land re-zoning opportunities along the corridor; potential funding sources and levels of population growth to be accommodated.

Other proposals presently being considered by the Council such as, the proposed fast ferry service to Sydney and a potential Gosford Marina would also impact the viability and desirability of a light rail project. It is suggested that Council defer its determination on the light rail system until after it has resolved these matters.

During the interim, Council will soon have the opportunity to visit the Sydney Light Rail system which is about to commence operations. Its success or otherwise, both financially and in terms of community acceptance will be of great assistance to Council when determining the feasibility of a similar system for Gosford City. Council officers could monitor and report on the effectiveness of the new system.

#### **Financial Impact Statement**

No impact.

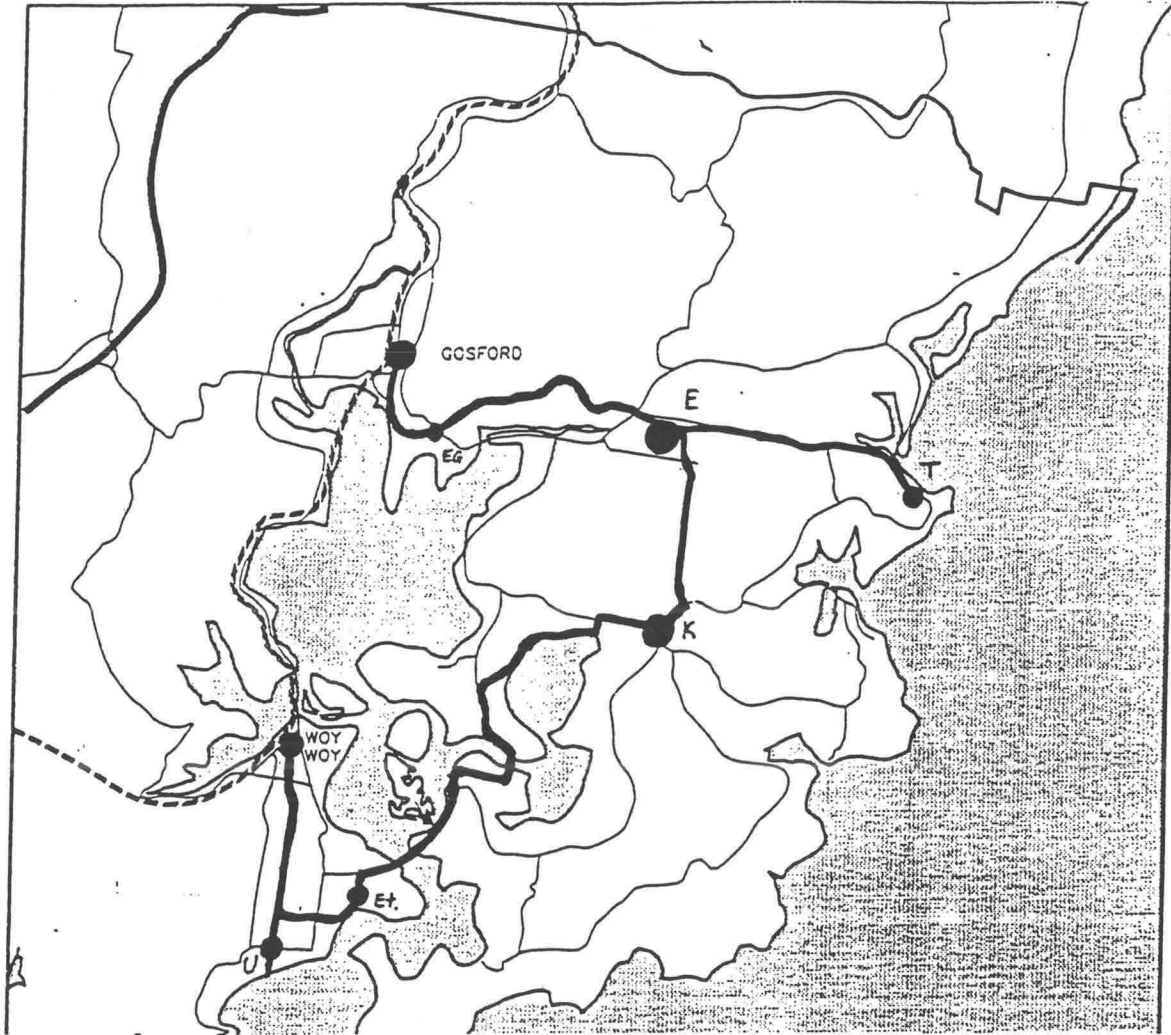
#### **RECOMMENDATIONS**

- A Council note the findings of the Preliminary Light Rail Feasibility Study.
- B A report be prepared to Council which further addresses the technical and practical issues raised in the study and the effectiveness of the Sydney Light Rail System, which is about to commence operation.



Steven Green  
**Traffic Engineer**

### Corridors Examined In This Study



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**PRELIMINARY LIGHT RAIL FEASIBILITY STUDY**

THE REVIEW COMMITTEE OF COUNCIL RECOMMENDS that:

- A Council note the findings of the Preliminary Light Rail Feasibility Study.
- B A report be prepared to Council which further addresses the technical and practical issues raised in the study and the effectiveness of the Sydney Light Rail System, which is about to commence operation.
- C *Council write to Sydney Light Rail System seeking information on the economics of the System and any other relevant information in terms of financial feasibilities.*
- D *A copy of the Study and Council's report be referred to the State Economic Development Board to see if State and Regional Development have any economic feasibility studies or any investigations in terms of the provision of light rail both in Australia and overseas.*

**LATE ITEM**

SF.014

170.07.00

**CITY MANAGEMENT PLAN - RESIDENT SURVEY**

Following consideration of the Report of the General Manager on this matter, THE REVIEW COMMITTEE OF COUNCIL RECOMMENDS that:

- A Council accept the quotation from the Hunter Valley Research Foundation to carry out a random telephone survey of residents at a cost of \$18,600.
- B The questions contained in the Report be used as the survey questions.

Councillors Brooks and Bockholt dissented.

THE REVIEW COMMITTEE OF COUNCIL RECOMMENDS that the meeting move into Ordinary Council.

**ADJOURNMENT OF BUSINESS**

The meeting adjourned at 9.52 pm.