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## **Report 00.660**

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Report to the Regional Land Transport Committee  
By Nick Sargent, Senior Transport Planner, Transport Policy

## **Road Pricing Investigation**

### **1. Purpose**

To provide the Committee with an update on the Road Pricing Investigation project.

### **2. Background**

The Wellington Regional Council is required under the Land Transport Act 1998 to develop a Regional Land Transport Strategy that identifies the future land transport needs of the region and the most desirable means of responding to such needs. Technical work undertaken in support of the 1999-2004 Wellington Regional Land Transport Strategy (RLTS) demonstrated that road pricing (tolling options) have the most significant effect on the transport network, they:

- address issues of network congestion
- discourage car use and decrease trip length
- significantly reduce accident costs
- address environmental issues

The RLTS concludes that road pricing has the potential to deliver significant accessibility, safety and environmental benefits in addition to providing a mechanism to fund investment in the region's transportation infrastructure. Further work will be undertaken to develop a more definitive proposal for the future role of road pricing in this region.

#### ***The RLTS includes:***

*Theme 2.1: Price the strategic transport network to encourage its efficient use.*

*2.1.1 Provide for additional pricing for the use of the roading network as a step towards ensuring all users pay the cost of their use, including externalities.*

2.1.2 *Provide for pricing on major new roads to manage the demand on the road network and to help pay for additional projects and services.*

2.1.4 *Undertake a more detailed investigation of the role of road pricing in the region.*

*Theme 2.2: Contain the growth of commuter road traffic.*

2.2.3 *Provide for pricing at peak times to manage road demand and reduce road congestion*

*Theme 5.1: Minimise the impact of transport on the environment.*

5.1.3 *Price at peak times on the road network to mitigate adverse impacts of road use.*

... Relevant extracts of the RLTS relating to road pricing are included in **attachment 1**. The Wellington Road Pricing Project has therefore been initiated to further assess the role that road pricing should play in the Regional Land Transport Strategy. This report provides information to the RLTC on work undertaken in the project.

### 3. **Central Government Position On Road Pricing**

The previous government looked favourably on introducing road pricing. Their National Transport Statement (December 1998) included a desired result that “users of transport systems are faced with their actual costs through prices or regulations, whichever is more efficient.” Their proposals for road reform, “Better Transport Better Roads” (December 1998) included allowing road service providers to introduce tolls and congestion prices for the use of specific roads.

The current government is still developing a policy position on road pricing. Prior to the election, the Labour leaflet on local government stated that Labour will “work with local government ... to provide public transport options and investigate methods of congestion pricing.” At the National Transport Futures Forum (March 2000) the Secretary for Transport, Alastair Bisley, advised that “the Minister of Transport has already announced that the last Government’s proposals for road management will go no further” but that “Mr Gosche has already indicated that he believes that there is a general consensus that there is a need for change to the ways we manage and fund our land transport system. He also believes that there is a general consensus that some changes to management structures are desirable, and that there is a widespread view that we need to find better ways of charging for road use.” He went on to say that “the role of congestion pricing will also be a key issue to consider. The detail of these issues will be developed in the coming year in consultation with local government and user and community groups. Change is clearly in the air, and I know the Minister’s determination to make progress on these issues this year.”

Clearly, then, the road pricing projects being carried out by Wellington and Auckland Regional Councils are still relevant, and will be of interest to Central Government.

#### 4. **Relationship To The Auckland Regional Council Study**

The Regional Council's of both Auckland and Wellington are conducting investigations into the issue of road pricing. Although the context and issues faced by them are different it has been recognised that there is considerable room for co-operation in the investigation of this subject matter. Officers from each Council sit on the others technical steering group. This has led to the identification of joint working opportunities including the commissioning of reports, which has enabled the reach of both projects to be enhanced.

#### 5. **Discussion**

The Wellington RLTS introduces the concept of road pricing, but proposes that it be set at what it calls "a modest level, to fund enhancements to the network." Pricing at the modest level was chosen because:

- The modelling process showed that modest pricing can help achieve benefits
- WTP research identified support for pricing at the modest level only, and
- Stakeholder consultation supports the enhanced strategy which requires a modest level of funding

It further indicates that pricing to manage congestion is part of the long-term scenario for land transport in the region.

The RLTS indicates that there are two perceived reasons for pricing:

- To raise money, and
- To better manage the road resource

Currently roads are charged for through fuel taxes and mass-kilometre charges, which do not reflect the temporal demand for facilities. As a result, demand exceeds supply at some times of the day, while facilities are under-utilised at other times. This mismatch is managed primarily through queuing. There is strong public pressure to expand facilities, which by their nature, are only at capacity for short periods of time. However because the demand is only for short periods, there are insufficient benefits to justify the expansion (or insufficient money to pay for all the expansion that people want). In other words, roads exhibit the classic symptoms of incorrect pricing which include queuing and inappropriate investment decisions.

Proponents of road pricing believe that appropriate pricing will:

- Efficiently utilise existing resources
- Provide the right price signals to guide investment by road authorities and the public; and
- Generate the money needed for the investment required

The RLTS states that the Regional Land Transport Committee:

*"will now develop a range of approaches to pricing, and levels at which they might be set. A mandate will then be sought for its introduction."*

In order to facilitate this the Wellington Regional Council Road Pricing Steering Group (WRC RPSG), has been established. It consists of representatives from government departments (and agencies) and of Local Government within the region. This group will oversee the development of specific proposals involving road pricing. The aim will be to gain broad-based community support for any road pricing proposals, and then introduce them with maximum agreement and minimum controversy.

In order to restrict the size of the problem before the WRC RPSG the initial phases of this project will concentrate on a restricted number of road pricing options. They are:

- Marginal cost pricing
- Cordon tolls
- Tolls for specific facilities or lanes
- Parking charges
- Fuel charges

## 6. Work Streams

There is a substantial body of literature on pricing road usage. This literature shows:

- Pricing generates net benefits
- The public is generally opposed to pricing

... Bluntly, there is a mismatch between effectiveness and acceptability (see **attachment 2 - The Road Pricing Paradigm**)

The reason for this apparent contradiction is that the toll that is paid generally exceeds the benefit to the individual. The public see paying tolls as a certainty, and getting money back as an unlikely story. The individual therefore feels worse off because pricing only benefits road users if the revenue is returned to them in some way.

There is no problem in principle, returning the money – it can be in the form of:

- Reduced fuel taxes or local rates
- Increased investment in roads
- Investment in public transport (so called carrot and stick)
- Dividends or credits

The work programme for the Road Pricing Investigation project will be guided by the need to address three questions:

- (1) What information is required to convince the WRC RPSG that there is a role for road pricing in Wellington
- (2) What information is required to answer likely questions put by the RLTC
- (3) What information is required to inform the public about road pricing

A first step is to convince the technical group that the benefits associated with pricing are indeed present when the theory is applied to the Wellington situation. This question is important because it is believed that there are relatively few places in NZ where congestion pricing is appropriate. The Transport Strategy Model (TSM) will therefore be used to

conduct a small number of model runs which will include a full congestion pricing run and the main variants (cordon tolls, etc). It will build on the technical analysis carried out in developing the RLTS.

Assuming that road pricing is viable in Wellington, we then need (in the words of the RLTS) to establish a mandate for its introduction. That means convincing the RLTC, the wider political community (Central and Local Government) and the public. They will want to know:

- What are the benefits
- What will congestion pricing achieve (what investments can be funded, what are the tolls)
- Who wins and loses
- What is the best way of doing it (universal, time based, cordons, etc.)
- Can we introduce it slowly
- Will the proposed scheme be acceptable

Since the last question is the crucial one it is proposed that the study be largely driven by research into how the benefits of road pricing can be communicated to the public. Therefore six work streams have been identified for action in the 2000 year period with the key component being the communications strategy (see **attachment 3**):

- (1) A Communications Strategy
- (2) Analysis using the Transport Strategy Model
- (3) An International Review of the effects of Road Tolls
- (4) An Assessment of the Regional Economic Impacts of RP measures
- (5) A study of Legal and Administrative Issues
- (6) An Analysis of Stakeholders

## 6.1 **Communications Strategy**

The Communications Strategy will embrace the entire Road Pricing Project. The aim will be to understand what the public and their community group representatives think about:

- The Wellington transport system in general
- Specific components of the Wellington Transport System
- Solutions for any perceived inadequacies

The work will aim to confirm what our understanding of the present public viewpoint is. Previous detailed work carried out for the Council is now over three years old and it is important to confirm that the public viewpoint has not shifted significantly. It is not however necessary to redo this work, merely confirm that it is not out of date.

### 6.1.1 *Stage One*

#### (A) *Pilot Survey of the Public*

Survey public perceptions about the transport system in the Wellington Region, with particular reference to any negative perception. Do they believe it should be improved and do they have any ideas about how this should be done.

The public survey will consist of a random telephone survey of 100 of the region's residents.

The results of the survey will lead to a survey of community groups in the region.

#### (B) *Survey of Community Groups*

Identify various groups (transport lobby groups & TLA's excluded), selecting 12 to circulate the results of the pilot public surveys to. Write to the groups requesting an interview with a representative and then subsequently conduct a face to face interview.

Collate data from both surveys, and provide a written report to WRC.

#### *Review Point*

- Review results of the above process
- Provide results of community group survey to participants
- Provide results of both surveys to city councils and transport lobby groups
- Prepare an article for publication

#### (C) *Feature Articles*

A feature article will be written for placement in with daily and community newspapers in order to expose the general public to the findings of the surveys and relate to them the wide range of techniques being adopted by the Regional Council in tackling transport problems in the region.

This process will help to prepare the ground work for market research into peoples' understanding of road pricing, their attitudes towards it and the reasons they are unhappy with the idea. Focus groups or otherwise will then be used to determine how the benefits from road pricing can be presented in order to gain public support (and not alienate them).

## 6.2 **Transport Strategy Model**

The Wellington Region Transport Strategy Model (TSM) will be used to provide base data on the effect of congestion pricing. The modelling will help to answer the following questions:

- What are the potential economic benefits
- What proportion of the benefits can be achieved by pricing variants
- Can "pricing" be introduced slowly via Transmission Gully type initiatives
- What investment would be justified to optimise the network
- What are the optimal tolls / charges going to be

Outputs from the TSM will include:

- The likely toll for a number of key journeys
- The travel time or change in travel time for those journeys
- The average speed in key congested areas (or some other measure of congestion)
- The change in petrol price in the region (or some other equivalent rebate)
- The effect on public transport
- The environmental impact
- New or improved roads funded by the option
- The overall assessed impact on RLTS goals

### 6.3 **International Review**

This is to provide a review and analysis of literature (and whatever other data is available) to provide base data on the effect of different forms of congestion pricing on travel cost, travel times, and user benefits. This research will address the political question of who benefits and who loses from the different forms of road pricing. It will also help guide the communications strategy

Specific areas that will be covered include:

- A World Scan of Road Pricing Applications and specific case studies from
- Australia: similar to NZ in many respects there are several toll roads operating in Brisbane, Melbourne and Sydney
- Norway: uses cordon pricing in Bergen, Oslo, and Trondheim
- Singapore: introduced road pricing specifically to reduce congestion
- United Kingdom: a review of key studies to date (theoretical)

### 6.4 **Regional Economic Impacts**

This will provide an analysis of the impacts of different types of road pricing systems on the Wellington regional economy – both within and between regions.

Key questions to be answered include:

- What is the impact of congestion on the economy of the Wellington region
- How is this affected by adopting differing road pricing options

Congestion has impacts on the movement of people and goods, as well as on the consumption and investment decisions of its residents. The resulting resource use may be sub-optimal, although the size of this sub-optimality, and therefore its impact on the overall economy is not clear. One possible scenario could be – if Wellington could solve the problem of congestion, how would this change its relative attractiveness vis a vis Auckland (or perhaps Palmerston North) as a location for various forms of industrial or other activity.

Pricing for peak road space may provide a more efficient allocation of resources, by introducing more appropriate consumption and investment signals. The options identified earlier will be considered and their relative impacts on the regional economy will be identified, (in terms of magnitude of the effect, distribution across the region, and likely transaction costs). The analysis will be backed up by outputs from the Transport Strategy Model.

### 6.5 **Legal and Administrative Issues**

Road pricing cannot be implemented tomorrow because the legal and administrative structures required do not exist. Tauranga District Council is the only local body in the country that can charge its ratepayers to use a road. This required a special law to be passed to enable it to charge a toll. The RLTC will therefore need to understand:

- What are the current legal impediments or opportunities, and
- What might the legal/ administrative structure required to deliver road pricing, be



To complete this work it will be necessary to approach other agents of transport policy such as Te Manatu Waka (Ministry of Transport), Ararua Aotearoa (Transit New Zealand) and Arataki Aotearoa (Transfund New Zealand).

Questions to address include (but are not limited to):

- Is a specific Act required for each facility or are there other methods that could be used
- Who can own and operate a toll road
- What rules govern the charges levied
- What about tolling existing roads
- Are the issues different
- Are there plans for legislation to enable toll roads or other road charges
- Can regional willingness to pay for higher levels of investment be considered
- How does this impact on Transfund criteria for CBA and how would this be administered
- What are the implications of congestion charging for the administration of the roads

Expected output from these questions:

The preparation of a working paper -

- Setting out the different road pricing or funding mechanisms and their requirements in terms of management (powers, scope etc)
- Identifying the various options for management/administration of the mechanism, and management of the roads themselves
- Concluding what administrative arrangements could deliver each pricing/funding mechanism and of these, which should be preferred in each case
- An assessment of their practicality and political acceptability

## 6.6 **Analysis of Stakeholders**

Using Transmission Gully as a practical example of road pricing (through tolling), the objectives are as follows:

- To conduct a stakeholder analysis of Transmission Gully
- To understand the preferences of stakeholders towards a practical road pricing example

The aim will be to understand the past preferences of the stakeholders, analyse the present behaviour of the stakeholders and predict the possible reaction of the stakeholders in the future. Accordingly, the research project will consist of the following four stages:

### 6.6.1 ***Stage 1: Understanding the Present System***

- A comprehensive identification of Stakeholders involved in this issue
- Stakeholder Analysis using Secondary Research data

### 6.6.2 *Stage 2: Data Collection*

- Through the use of detailed interviews

### 6.6.3 *Stage 3: Data Analysis*

- Analysis of stakeholders on Support for Possible Solutions
- Analysis of stakeholders on Willingness to pay
- Analysis of stakeholders on Fund raising alternatives
- Analysis of stakeholders on Transmission Gully as a toll road

### 6.6.4 *Stage 4: Interpretation and Reporting*

- Identification of Stakeholder Preferences from Analysis.
- Creating Policy Alternatives using Stakeholder Analysis.
- Preparation of a report on the major findings of the research.

In the next phase, the scope of this research will extend to the identification of variables interacting in the system. It is proposed to prepare Causal Loop diagrams using these variables. Eventually, this may lead to the preparation of a Dynamic Model using System Dynamics Methodology.

## 7. **Communications**

As discussed earlier a Communication Strategy is a central component of this project.

## 8. **Recommendation**

*That this report be received.*

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**Attachments : 3**