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Estimating the economic benefits of road user charging reforms

The economic benefits of road user charging will depend critically on the specific design, coverage and implementation of such a scheme. Estimating the associated economic benefits is a highly complex undertaking, requiring an evaluation of the current road use and provision arrangements, the canvassing of potential road user charging schemes, and their interaction with other parts of the transport system and the broader economy – now and into the future.

Lacking details about a specific road user charging scheme, a simple, illustrative quantification of some potential benefits would require:

- An average road user charge that would apply to the vehicles in scope
- An estimate of the number of vehicles that would be in scope
- A breakdown of the existing cost structure and road funding arrangements for the road transport industry
- Assumptions about the changes in road use and road provision caused by a road user charging scheme
- A baseline projection of the above in the absence of any policy changes
- A framework to turn the above into inputs for the Commission's existing economy-wide models

This simple approach should be sufficient for a crude, illustrative and back-of-the-envelope estimate of the potential fiscal and economy-wide implications of a road user charging scheme in the long run. It would provide a rough estimate of the magnitude of the financial implications for road users and the flow-on effect throughout industries and the broader macroeconomy.

However, there would be serious limitations on the (external and internal) validity of these results and consequently, the value in undertaking the exercise. The Road Transport industry in the Commission's suite of CGE models is underdeveloped, capturing road transport services for hire more than industries' own road transport activities and making no distinction between commercial and passenger road use. Any numbers derived from this approach would rely largely on averages and assumptions, requiring careful framing and risking misrepresentation in a policy area that the Australian Government is beginning to move into.

Moreover, despite its relative tractability the exercise is non-trivial – especially given the proposed time frame. Among other tasks, it would require a small team to gather the necessary data and estimate a feasible (average) road user charge, conduct a thorough literature review of the relevant assumptions used in similar transport modelling, and explain the results (and importantly, limitations) of any economy-wide simulations.

A more advanced approach to estimating the economic benefits of a road user charge would require:

- A clear articulation of the road user charging scheme to be introduced, including its interaction with existing arrangements, practical means of administration and the treatment of the revenue collected
- A well-defined time horizon for comparison, accounting for both short-run and long-run effects
- A schedule of distance-based charges varying by vehicle mass and location of travel, derived according to their contribution to road damage
- A schedule of additional charges to address other externalities, including congestion, emissions and road trauma
- A count of the number and type of vehicles that would be in and out of scope, the distance they travel, and how this differs throughout Australia
- A cost-benefit analysis of the changes in road use and provision caused by a road user charging scheme, including
  - Changes in distance travelled and travel routes by different vehicles (requiring a price elasticity of demand for road use)

  - Changes in the efficiency of road maintenance and provision associated with alternative funding and information-collection arrangements
  - Any additional vehicle reforms that may be introduced alongside and enabled by road user charging, such as access and mass reforms for heavy vehicles
  - The costs of implementing, monitoring, complying and administering a road user charging scheme
  - Any other cost-saving (productivity) benefits or additional costs of a road user charging scheme
- A baseline projection of the above in the absence of any policy changes
- A suitable transport network model that can accommodate different agent types, intermodal substitution, and temporal and spatial dimensions in a dynamic setting

This advanced approach would allow a detailed exploration of the potential effects of a particular road user charging scheme and enable the comparison of alternative schemes. However, such an approach involves significant informational, computational, and specialised knowledge requirements, entailing a time and resourcing investment that is best suited to a standalone, dedicated project more akin to an inquiry.