TECHNICAL NOTE:

INFLUENCES ON ROAD TRANSPORT POLICY DECISIONS AND PEAK OIL

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ABSTRACT

Transport plays a vital role in the economy and lives of New Zealanders and 98% of transport energy relies on fossil fuels. The future for the transport system is uncertain due to a growing body of research about the supply of fossil fuel from finite resources in the future, termed ‘peak oil’.

Transport policy decision makers have an important role to play in preparing for peak oil and its consequences. However, despite the difficulties that would be faced by a society which is "addicted to oil", road transport policy decisions do not seem to prioritise this issue. Despite the availability of oil being highlighted as a concern in many policy and strategy documents, increasing road capacity and catering for the private car continues to dominate many road policy decisions. Reasons for not prioritising planning for the possibility of peak oil include trusting that alternative energy sources and technology will mitigate the effects, thinking that peak oil will not occur or is too far in the future to plan for effectively, or a lack of political will to act.

INTRODUCTION

Scientific evidence exists to suggest the availability of fossil fuels will decrease in the near future (Sorrell et al, 2009). The current reliance of the transport system on oil and resulting problems that could occur should fossil fuels become scarce, coupled with the negative impacts fossil fuel use has on the environment, are three major challenges facing transport policy decision makers.

Despite these impending challenges, transport policy decision makers rarely prioritise planning for the possibility of reduced availability of fossil fuels. Whilst policy that endeavours to protect the environment is widely accepted now as "best practice", only a handful of cities around the world have recognised fuel constraints as a coming crisis and have made policy decisions to mitigate against such a scenario (Lerch, 2008).

This technical note examines the influences in transport policy decision making, current trends in transport policy, the links between transport policy, fossil fuels and economic growth, and examines peak oil and the problems it poses for transport policy decision makers. Conclusions are presented in the final section.

INFLUENCES IN TRANSPORT POLICY DECISION MAKING

Transport policy decision makers are defined in this paper as elected officials (Councillors) and those Council staff involved in transport policy making (technical staff, Council officers, transport engineers and planners). They are influenced by a number of factors, including politicians, the business community, environmentalists and lobbyists. There are also a number of factors that influence transport policy makers, including availability of funding and the makeup of the transport system.

Transport policy decision makers cannot make decisions based purely on technical data, but instead must take into account the highly contentious and politicised transport policy making arena in which multiple stakeholders with different views operate. An example of this policy making arena is described by Manners (2002) and what he sees as a "transport planning gridlock" (Manners, 2002, p.9). In this "gridlock" transport policy makers require support from the public in order to successfully implement sustainable transport policy; however measures that discourage car use are often unpopular with the public and therefore become politically difficult to implement. On the other hand there is often also vocal opposition to road building projects, and as a result transport policy makers are "hopelessly caught between public opinion *for* roads and public opinion *against* roads" (Manners, 2002, p.9).

As well as political influences, transport policy decision makers must contend with the highly influential business and industry sectors. It can be argued that policy makers are heavily influenced by business and industry because they are "bound" to make policy that facilitates economic growth (Lindblom, 1982). Lindblom suggests that in a capitalist society "the free market constrains policymakers to reject out of hand virtually all policy changes that are detrimental to business. Within capitalist economies, any attempt to alter fundamental institutions automatically triggers "punishment," in the form of unemployment or a sluggish economy" (Hayes, 2001, p.56).

CURRENT TRENDS IN ROAD TRANSPORT POLICY DECISION MAKING

The traditional method of road transport policy decision making is based on what is commonly referred to as the "predict and provide" method, where transport policy decision makers predict future demand on the road network and provide for this forecast demand through increasing capacity on the network by building roads (Bertolini, Le Clercq and Straatemeier 2008).

As a result of increased awareness of the detrimental environmental, health and social impacts of road building as a means to "provide" for predicted future demand in transport policy decision making, there has been a shift in emphasis from road building to a broader, more multi-faceted style that encourages sustainable transport solutions and integration between transport and land use planning. This can be seen in the majority of transport policies and strategies in New Zealand, which highlight the need and desire to move away from a focus on road building and focus instead on more sustainable transport solutions, including public transport, walking and cycling.

These strategies and polices provide guidelines to transport policy decision makers. However, it is not easy for decision makers to implement such policies. Decision makers are bound by the funding available to them. In Auckland, the Draft Regional Land Transport Strategy (RLTS) highlights the need for a robust public transport network with its preferred strategic option being a "public transport lead approach". However, Central Government only

> *"allocates 53 per cent of the transport budget over the next three years to state highway infrastructure and only 19 per cent to public transport…[the] draft RLTS strategy advocates to the Government for a change in funding arrangements to ensure funds are available to implement the Preferred Strategic Option [a public transport led approach]" (Auckland Regional Transport Committee (ARTC), 2009, p.10).*

As well as funding problems, uncertainties about the future surrounding climate change, technology and energy availability makes long-term transport policy decision making very difficult, especially in terms of making radical changes to existing policy and planning practices – the risks are too great. As a result transport policy decisions tend to be incremental in order to avoid political or public backlash.

Headicar (2009) provides an excellent description of the situation regarding incremental transport policy decision making and sustainability in the UK at present:

> *"Politically the hazards of uncertainty provide reason for avoiding commitment to any particular long term strategy (individual schemes and developments continue to be approved, but on an incremental basis). 'Muddling through' enables flexibility to be retained. It also avoids having to present populations (hence voters) with costs or other disbenefits which are designed mainly to safeguard the interests of future generation…These technical and political stances tend to encourage an approach to planning which is executed through successive 'roll-forwards' of existing programmes, rather than engaging with the more difficult and potentially controversial matter of where these are leading…it therefore implies an extremely conservative pattern of change over time (Headicar, 2009, p.411).*

TRANSPORT POLICY, OIL AND ECONOMIC GROWTH

Central to the uncertainties facing future road transport policy decisions is the availability of oil. With the invention of the internal combustion engine at the beginning of the 20th century, oil started on its path to becoming the principal fuel source for transport. Because oil has been cheap and easy to extract and transport we saw major advances in the transportation industry: cars became cheaper and more popular, agricultural production soared, and transportation of goods became easier and cheaper, meaning companies could expand into new and far-reaching markets (Roberts, 2004). All of this cheap energy resulted in economic growth, globalisation and an increasing demand for cheap energy to sustain the growing economic system. Economic growth is linked to higher standards of living, and as a result it is the main policy goal of most nations. There is a clear link between economic growth and growth in the number of transport trips, resulting in increased fossil fuel use by the transport sector to sustain economic growth (Exxon Mobil, 2008).

Due to the dominance of the economic growth paradigm, governments often make efficiency of movement a priority for road transport policy, which is reinforced by businesses and industries who rely on the transport system for operations, and the public who rely on the transport system to enhance their lifestyles. Therefore policies such as improving the roading network to increase capacity and reduce congestion, with the aim of increasing economic efficiency, are often politically and publically acceptable, resulting in increased popularity of the government amongst the majority of voters, businesses and industry groups. Unfortunately, this often clashes with sustainability objectives and as a result transport policy making has become a task of balancing between the goals of economic growth and sustainability.

TRANSPORT POLICY MAKING AND PEAK OIL

In New Zealand, 98% of all transport energy comes from crude oil and petroleum products (Sustainable Energy Forum, 2005) with the transport sector accounting for 86% of total oil consumption (Ministry of Economic Development, 2007). A concern for the transport sector is that the ability to produce high-quality, cheap and easily extractable oil on demand is diminishing, which will lead to a scenario termed “peak oil”.

Peak oil can be defined as the point in time when the maximum rate of global oil extraction is reached, after which the rate of production enters decline and the depletion of existing reserves can no longer be replaced by additions of new flow capacity (UK Industry Taskforce on Peak Oil and Energy Security, 2008). This theory is hotly debated by industry experts. Sorrell et al (2009) reviewed all the current science and reporting on peak oil and concluded that “On the basis of current evidence we suggest that a peak of conventional oil production before 2030 appears likely and there is a significant risk of a peak before 2020” (Sorrell et al, 2009, p.x). There is also much debate about the ability of unconventional oil, such as tar sands, and alternative transport energy sources such as hydrogen, biofuels and electricity to replace the reduced availability of oil that could be created by a peak oil scenario.

Despite the potential consequences of not planning for peak oil, and transport policy makers being aware that oil is a finite resource, many policy decisions do not prioritise mitigating against possible future fuel supply constraints. Should a significant shortage in the availability of fuel occur, this would most probably result in a marked reduction in the number of car trips made, making investment in major roading projects a flawed strategy (Dantas, Krumdieck and Page, 2007). In the face of possible fuel shortages it would appear more appropriate to target funding towards reducing reliance on private cars and promoting active transport modes and public transport (Macbeth, Wilke and Koorey, 2006), as is being suggested by the ARTC.

However, funding is instead being prioritised for road building. The main reason behind the Government’s prioritisation of funding for roading infrastructure is “to increase economic

productivity and growth in New Zealand" (Ministry of Transport, 2009, p.1). This poses concerns when the links between transport fuel consumption and economic growth suggest that if a scenario of significantly reduced fossil fuel availability were to eventuate, economic growth would be very difficult to achieve under the existing transport system. What is needed is the ability to successfully 'decouple' economic growth and fossil fuel consumption in the transport industry.

There are many possible factors that could result in this apparent lack of concern about peak oil by transport policy decision makers. Heinberg (2007) and Buchannan and Dantas (2008) make note of the following factors, among others: uncertainty about timing of peak oil, lack of political will to introduce bold policies to plan for peak oil at the expense of economic growth, inability of people to comprehend the chaos that could ensue in a worst case scenario, and the belief that alternative energy sources will "fill" the gap or that new oil reserves will be found.

CONCLUSIONS

There is solid scientific evidence to suggest that that there will be a reduction in the availability of easily accessible oil for transport in the next 20-30 years. The majority of transportation policy makers recognise this fact and understand that this may affect the transportation system in the future. However, transport policy decisions that cater to the private car through investment in road construction continues, appearing to ignore the fact that future energy constraints may result in *less* private car use, rather than more congestion.

Transport decision makers cannot make their decisions based solely on the technical data available to them as they are influenced by a wide range of factors. They face the dilemma of preparing for problems such as peak oil, that would require a potentially politically and publically unacceptable departure from the status quo, and supporting economic growth, that requires a continuation of the transport policy status quo. The ongoing debate surrounding the concept of peak oil, its existence, timing, and possible alternative energy sources, provides little direction or certainty for transport policy makers and as a result incremental, risk averse changes to current transport policies are the extent of the peak oil planning. However, because of the potential scale of peak oil impacts on society and the economy, and the need for "massive mitigation at least a decade before the fact" (Hirsch, 2006, p.7) incremental transport policy decisions will not be adequate. As long as the economic growth paradigm is dominant, and economic growth and fossil fuel consumption are linked, any robust peak oil related transport policy will be very difficult to implement.

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