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Technical Note: Rural Demand Management Plans

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Abstract

The Land Transport Management Act (2003) requires that demand management plan be considered as part of all transport programmes. While the initiatives that might be included in a demand management plan for an urban region may be readily apparent, a plan for a predominantly rural region requires a different approach. Not only are the demand management tools different but also local consultation must take on a different focus when considering a rural area. This technical note briefly covers what demand management involves, how it is directly relevant to rural areas, consultation, and some specific areas for demand management initiatives in rural areas.

1 The Imperative for Demand Management.

The Land Transport Management Act (2003) defines the funding regime for land transport investment in New Zealand. It encapsulates central Government's objectives for transportation outcomes, where social, environmental and economic development issues are key. As part of this framework, the concept of Demand Management is introduced.

As often is the case, the legislation does not define the term itself, but rather requires Government agencies and practitioners to define how to implement the requirement as part of developing the national roading programme.

"Demand Management" is a broad term, and often practitioners inadvertently:

- Use too narrow a definition; and/or
- Use the phrases Transportation Demand Management, Travel Demand Management, and Traffic Demand Management interchangeably, referring to all as TDM.

2 A Definition of Demand Management.

There is potentially little value in arguing the finer points of a definition of Demand Management, but some form of common understanding within the profession is required. It is perhaps best explored by examining the different contexts of the different TDM:

- **Transport Demand Management** is at the transport system level.
- **Traffic Demand Management** is at the network level.
- **Travel Demand Management** is at the individual traveller level.

An informal paper produced within the New Zealand Ministry of Transport describes the difference between the three:

Transport Demand Management seeks to achieve modal split from private car mode to more sustainable transport modes. It focuses on all transport modes and takes therefore a

systems approach. Usually different measures for various modes are implemented at the same time to enhance synergy effects.

Traffic Demand Management is trying to reduce traffic flows or to optimise them with the goal to make better use of a single network. The approach is usually applied to roads but can also be used for rail, air or sea traffic.

Travel Demand Management includes measures that aim at reducing the need to travel and at changing individuals' travel behaviour. The approach focuses on encouraging sustainable travel modes by providing incentives for people to use those, such as improved public transport, walking and cycling facilities, implementation of travel plans, and educational and marketing measures. Included in those 'soft options' are also personalised journey planning and land use initiatives.

Given Land Transport New Zealand's desire to see packages of inter-related and complementary projects developed to address transport challenges, there are also opportunities for demand management measures to be 'packaged' with, and therefore support, more traditional projects, such as roading, and vice versa. Moreover, as demand management is increasingly becoming a feature of national funding allocations, there is new potential to unlock funding for upgrades to existing infrastructure - particularly where it can be demonstrated that such upgrades will support effective demand management measures.

3 Rural Demand Management Plans

My definition of rural areas is those areas that are predominantly rural but may include townships or small sub-regional centres. In New Zealand, the Bay of Plenty (with the exception of the Tauranga and Rotorua urban areas) would be an example of a rural area and it is an area where I have been involved in developing rural demand management plans.

In this technical note for rural demand management, I use the acronym TDM, which while conveniently covering all types of demand management, in reality for rural areas, focuses on travel demand management. This is due to the limited ability to provide alternatives to the car for travel in regions with a dispersed population and relatively long trips (transport demand management) and the fact that optimising traffic flows to make use of available capacity is rarely warranted (traffic demand management).

Introducing the idea of demand management in the rural context, in my experience, often brings the immediate response that what is promoted for urban solutions (public transport, rationing public parking) will neither meet the travel requirements of rural industry / population, nor support the ongoing development of rural communities.

In some ways this is a statement related to timing (some of the TDM tools that are available to transport planners may not be relevant for at least 30 or 40 years in particular rural

areas), however it demands that as transport planners, we consider what people see as their viable options for travel in predominantly rural regions.

3.1 Consultation

It is an oft quoted experience of people working in our profession that “everyone thinks that they are a traffic engineer”, and the quality of the firmly held views by individuals in society about the ‘solutions’ to transportation challenges vary wildly.

However, in the case of rural TDM, as the solutions are often local, I want to introduce the idea that rural communities do have a good idea of TDM strategies that will work.

The local marae may be the best ‘public transit’ operator in the region, if only they had access to a community van. The local taxi operator might be best based out of the local store or pub with marketing material provided by the local information centre. The school bus service, may be the best commuter service in the region, if only those other than students could use it. A modified form of ‘Walking school buses’ using a more car-pooled approach may be a valid approach for small communities bisected by a high-speed highway.

It is my view that rural communities generally understand what measures could get them to make more trips without using a car and often they are things related to how the communities work, not the information and initiatives we might think of in our offices some 500 km away! So consultation is key, and equally important for all TDM initiatives, whether urban or rural.

In urban areas, the focus of consultation is often promoting an understanding of what the impact of the demand management initiatives will be. In rural areas the focus of consultation should be to discover the demand management initiatives that will be relevant.

My key point is that for rural TDM it is a case of getting out there and understanding the particular circumstances of the rural communities and not taking with us the vocabulary that describes solutions for urban regions.

3.2 The Vocabulary of Rural TDM:

Because of dispersed population, rural travel tends to be predominantly car based. While this may lead to significant congestion issues for a region’s urban centres, for the associated rural areas it is the lack of choices for travel and the potential significant isolation for non-drivers where TDM can have the biggest impact. Strategies that provide more affordable transportation options to link a dispersed population with regional civic and employment centres will help sustain the development of predominantly rural regions.

In the last part of my technical note I cover some of the TDM tools that may be applicable for rural TDM strategies. Reinforcing my point about consultation, the following only describe the general strategies – only consultation with individual communities will bring out the relevant initiatives for those areas.

3.2.1 Public Transport Measures:

Priority can be given to reserve the best place for public transport stops in townships, rather than somewhere “out the back.”

Regular coach services, provided by a variety of commercial operators, are generally available between main centres in the region. However, where population densities are low, consider alternative passenger transport services, such as ‘wiggly bus services’ where vehicles that run on a core circular route but divert pick up or drop off passengers as close as possible to their home.

Park and ride facilities can sustain the regional urban centres by extending the reach of employment opportunities by making it cost effective for people living some distance away to get to and from work; they also allow outlying rural communities to continue to develop without “everyone having to move to town”. Park and ride can also be combined with ride-sharing.

3.2.2 Physical Measures:

Incorporating TDM principles into the package of roading upgrades, can improve the viability of non-car based travel. Shoulder widening on highways can be important in encouraging cycling and cycle tourism, as well as better protect those who make local walking trips along the highway.

A historical initiative of providing physical entry thresholds to reduce open road speeds in rural communities are widely in place, however the design of thresholds around schools is getting increased focus. More often, off-road drop-off / pick up areas within the school properties are replacing roadside pickup areas.

Road bypasses may be supported as a TDM measure where they support demand management and community development by shifting traffic away from certain areas, particularly heavy commercial traffic. Similarly the use of restrictions on heavy vehicle routes can provide other options and enable more pedestrian friendly routes.

Other types of road improvements, such as duplicating or increasing the resilience of river crossings can, when planned in an integrated manner, enable more non-car travel choices. The key here is that while TDM may not justify a duplicated river crossing, it can assist in the justification using the principles of the LTMA.

3.2.3 Parking Measures:

Car parking measures are often a controversial rural TDM tool, where convenience is part of the benefit of being in rural regions. Whether it is parking pricing, time restrictions or limiting car park provision, strategies must ensure such measures are appropriate within the context of wider community and local political objectives. The location of new car parking capacity needs to be considered carefully within the context of overall town centre planning and demand management strategies, to assist the viability of local community retail with free, convenient, and close parking for shoppers.

3.2.4 Planning Measures:

While in large townships land use planning can assist in commercial / retail areas being within walking / cycling distances of residential areas, the most common TDM issue at the

moment for rural areas appears to be the limitation of connections of developments / subdivisions directly to the State Highway network. My understanding is that this is primarily a traffic demand management tool, so as to preserve sustained capacity in the strategic road network. The planning of road hierarchies in new subdivisions (so that local trips on made on local arterials are made without reliance on the State Highway, and, so public transport routes can be efficiently provided) is an emerging rural TDM issue.

3.2.5 Freight Measures:

Often these can be overstated because of the attractiveness of moving freight to rail, which might not take into account financial and operational considerations. However for large producers, use of non-road-based modes, particularly rail and water, may be a tool to reduce road-based heavy vehicle traffic.

3.2.6 Travel Plans:

Travel plans look at identifying different options for organisations to reduce the number of car trips undertaken by their employees. For rural TDM, travel plans can include the organisation of car-sharing, the provision of cycle parking and showering facilities, and the display of any public transport information at workplaces.

School Travel Plans aim at reducing car based traffic to and from schools, for example by implementing school buses, organising walking school buses (a group of students accompanied by a parent walking to school), travel awareness education and improved safety. Roading / pedestrian infrastructure improvements can often be combined with safety improvements for access to schools.

3.2.7 Tourist Transport Management:

This programme involves improving transportation options for visitors and reducing vehicle traffic in tourist areas. Tourists have particular and predictable travel patterns and mobility needs as well as baggage requirements which all need to be taken into account when developing a management plan. Cycle tourism is a growing phenomenon across many rural regions and therefore requires special consideration in terms of shoulder widths or off-road trails.

3.2.8 Travel Awareness

Marketing does still have a role in rural TDM, particularly where image improvements are undertaken to change people's image on and attitude towards sustainable transport modes by emphasizing that those modes are not just for low income families, that they are reliable, and good value for money etc. There is also potential for coordinating marketing material on commercial or subsidised transport services.

4 Conclusion

Demand Management needs to be thought of as a multilayered approach, with 'TDM' covering the three aspects of Transportation Demand Management, Travel Demand Management, and Traffic Demand Management.

With TDM in the rural context, there is a wide range of tools that can be considered when building up long-term strategies for increasing travel options into the future and reducing potential isolation in rural areas for non-drivers or people without access to affordable car travel.

A key difference in rural TDM from its urban cousin, is the focus of consultation. The solutions are often local, and the approach in developing the demand management plan needs to incorporate those local solutions into the transportation package where the combination of physical roading improvements and TDM initiatives will provide the package to help sustain economic, environmental and social benefits in rural communities.

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