



transport advice, concepts and solutions for the public & private sectors

The transport retail model – a new approach to transport planning

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TABLE OF CONTENTS

Table of Contents	i
1 The Transport Retail Model	1
2 The Key Differences	2
Transport supply and demand	2
Market Segmentation	3
User Groups	4
3 Delivery of the TRM	5
Networks	5
Personalised IT devices.....	5
Balanced pricing	6
New business models.....	7
New funding models	7
4 Conclusions and Recommendations	8

1 THE TRANSPORT RETAIL MODEL

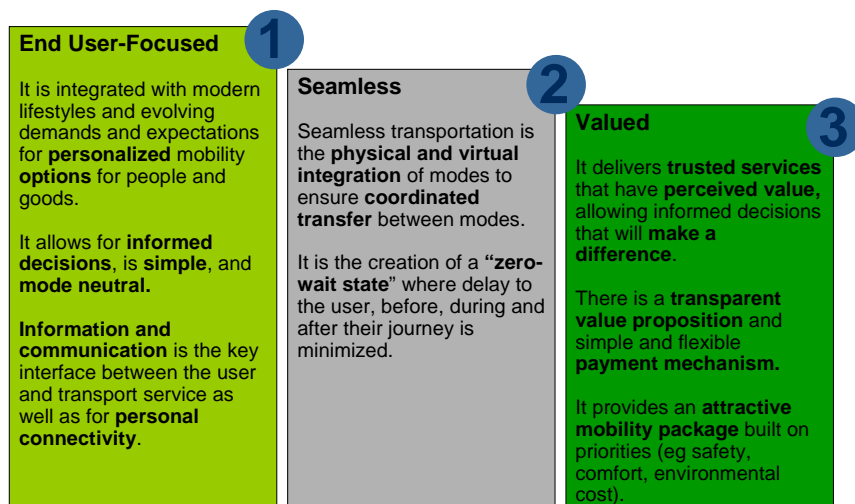
This paper puts forward outline proposals for a new approach to transport planning, as developed by MRC McLean Hazel in association with EC Harris.

The approach considers how to exploit new technology, new income streams and providing ‘what the customer wants’ – a transport ‘retail’ model. The principles of the transport retail model were developed from a study on global megacities that established that good mobility is one of the key elements of successful cities. There is a strong positive relationship between mobility and measures of economic competitiveness such as GDP per head.

But particularly in the current conditions no city or region will be able to fund significant improvements to infrastructure in order to gain the economic benefits of mobility. In any case, there is still considerable discussion about the best combination of transport measures required to meet overall economic, environmental and quality of life objectives. These overarching objectives often conflict, and are continually changing, but transport is limited in its ability to respond to changes in demand.

We propose a unified transport system would continually adapt to meet the developing demands and expectations of its users; would be capable of meeting personal requirements through offering the best travel options; and would recognise that the infrastructure which enables traveller choice is also capable of managing user choice to achieve real-time and competing policy objectives. It moves away from the traditional “carrot and stick” approach to one based on valued services and incentivised choice. It removes the silos of transport modes and the constant debate about which mode is better. Instead it is based on the user-focussed concept of the best package of links for any given need. The Transport Retail Model (TRM) is founded on three pillars:

Figure 1 - Three Pillars of the Transport Retail Model



2 THE KEY DIFFERENCES

TRANSPORT SUPPLY AND DEMAND

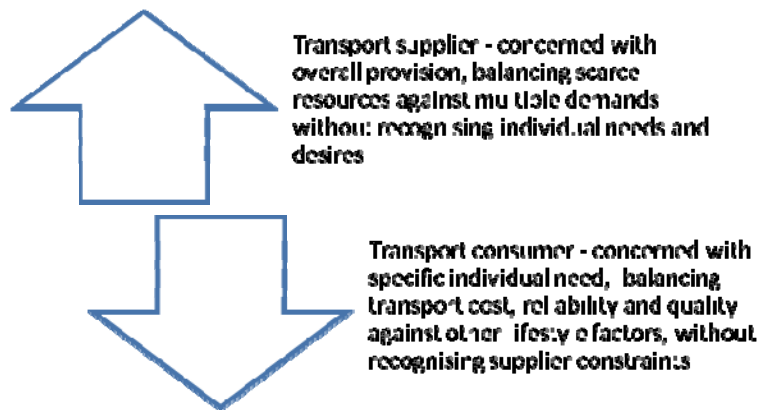
By taking a user-focussed view of transport we move from a corporate and general plan to a system that responds to the individual needs of public and business users. The former is still needed from a corporate planning viewpoint and is complementary to the latter. But the additional elements are:

- Actions and information for individuals, groups and market segments – **End user focussed**
- Personalised information and technological solutions to traffic and demand management – **Seamless**
- The role of different funding and delivery mechanisms (and media) to extract monetary value from the personal value derived from the integrated and efficient mobility system, with the aim of developing self-funding traffic and demand management programmes – **Valued**

The established view of transport planning is a mixture of ‘predict and provide’ with attempts to change behaviour to meet environmental or other objectives. So far little work has been done on what is actually needed by transport consumers. One example might make this clear.

Transport and health providers might consider the main issue in health transport to be ensuring an adequate supply of ambulances to meet the anticipated needs of the target population in a cost effective and efficient way. However, from the consumer point of view, the key requirement is for one ambulance to arrive at the right place at the right time. Both are right but answer different questions. The first is needed as a planning framework for the whole system, the second responds to individual users’ needs. The traditional method of transport planning follows the first and ignores the second. This is why, in many cases, plans fail because they do not address the needs and value systems of the users. It is essentially a transport supplier view rather than a transport consumer view.

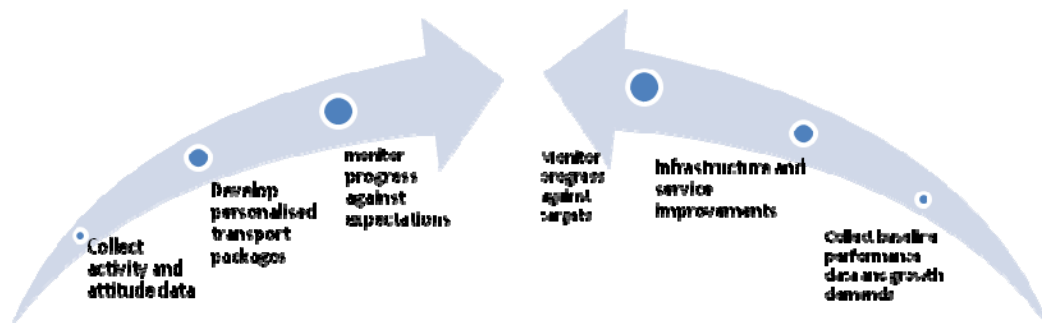
Figure 2: The dichotomy between transport supply and demand



Transport infrastructure providers and services providers often neglect consumer requirements and do not recognise the ethic of a quality service that many retail outlets aspire to. At a basic level, the purchase of a yearly pass for a significant one-off payment does not elicit the welcome and “membership” feel of joining an exclusive gym for what is often a lower financial outlay. More dynamically, many supermarkets now obtain customer preference information as a matter of course (from reward card or web use) and can therefore adapt their supply and presentation of goods to each person or market segment, however defined. Transport planning needs to start from a comprehensive customer database, and evolve into customer relationship management. As programmes and technology are rolled out, additional data could be added.

This combined activity and preference data is extremely valuable and is the start of the process required to bring transport demand together with supply. This is shown graphically below where the corporate needs of the city region are brought together with the needs of user groups and segments to derive a common delivery strategy.

Figure 3: Bringing the customer and the corporate together



MARKET SEGMENTATION

So far, there has been little attempt by transport planners and providers to use the considerable market research available to segment transport users and therefore to begin to tailor initiatives to specific segments. Market research determines segments of the population with particular views on, and habits relating to, transport use. These are not established user groups such as commuters or bus users, but are much more carefully defined combinations of attitudes and actual activities. One example of the research is Dr Jillian Anable’s work at the Robert Gordon University in Aberdeen, Scotland, which we have applied in an MRCMH project for the Department for Transport. An example of a researched market segment identified by Dr Anable is shown below, which also includes a summary of the incentive package that might appeal to this segment. Crucially personalised technologies can assist in more precisely auditing an individual’s place within the segmentation (by observed behaviour and other lifestyle choice data within related applications), and delivering the mobility incentive based on this segmentation (eg targeted discounts).

Figure 3: An example of market segmentation

transport for quality of life



Die Hard Drivers (20%)



Life	OV	Up
30%	18%	16%

- Strong emotional and physical attachment to the car
- Admit to strong habitual car use
- Not willing to use alternative modes or pay extra for car use
- Admit there may be alternatives but do not want to use them

Keen on 'technical' solutions such as smart cards (w/o carbon credits) & real time information. Some enthusiasm for car clubs. 'Early Adopters?' Negative about car sharing.



USER GROUPS

The TRM brings together the benefits of both a supply-focused and a demand-focused approach. Some suggested impacts on different user groups are:

Figure 4: TRM impacts on user groups

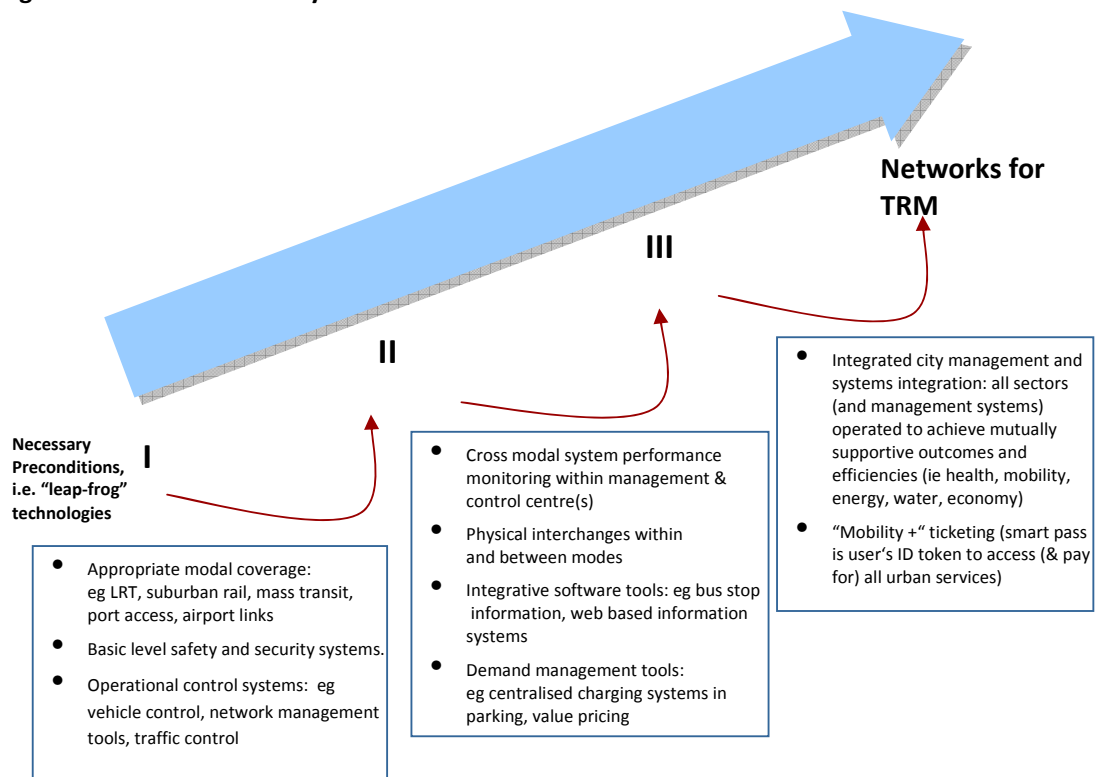
Business community	Urban communities	Rural communities
<ul style="list-style-type: none"> • Businesses will have information at their fingertips on real time road conditions and availability and costs of alternative routes and modes, as route planning technology is integrated with transport controls • Commuters will benefit from a more free-flowing, integrated and managed transport system, with options related to reliability and speed of travel 	<ul style="list-style-type: none"> • People will be able to manage their own transport needs with easy access information, ticketing and payment mechanisms, perhaps using all-purpose smart cards or transport 'devices' • For example, a transport device could provide information and allow payment for parking and/or public transport as well as discounts at shops and leisure activities 	<ul style="list-style-type: none"> • A mixture of the improved options available to urban communities and changes to services to enable better access - for example at rural service hubs or using the internet. • For example, access to further education could be by using the same smart card for parking, train tickets, building access and student identification

3 DELIVERY OF THE TRM

NETWORKS

The information, access, and integrated networks aspects of a seamless transport system are relatively well known and understood. Some of the important steps are shown below, and the necessary policies and building block projects should form a key element of transport planning. Many are already touched upon but relatively little focus is placed on bringing them all together.

Figure 5: Networks Pathway



PERSONALISED IT DEVICES

These can be in the form of smart cards, mobile phones or other 'travel organisers' with the ability to receive and transmit information and to hold cash or reward/payment points. Technology is developing fast, and there may be issues of 'future proofing' a chosen device.

Functions could include:

- GPS positioning of people and public transport vehicles so that the individual can receive real time information on the next bus or train, or book an available on-street parking space or a taxi

- GPS positioning of cars and/or people so that they can receive information on congestion, incidents on the road network, alternative routes and alternative modes to complete the journey
- Devices with the ability to be loaded with cash by the holder to pay for parking, fares, road tolls, access to leisure, education and entertainment facilities (an e-purse)
- Devices with the ability to be pre-loaded with cash or points by third parties to incentivise use of public transport, car clubs or cycle hire
- Devices measuring an individual's carbon footprint, storing and trading carbon credits
- Devices providing access and enabling payment for parking, car clubs, cycle hire and other facilities as well as for public transport

Added value is provided as:

- Data on journeys and activities can be collected so that patterns of regular journeys can be built up and the effectiveness of pricing and incentivisation can be measured
- The IT system managing an integrated transport network could be linked to the personal device management system so that cash and information can be exchanged

Cash stored on an e-purse system can grow into a significant amount that can be pro-actively used by a integrated transport management organisation to finance new initiatives

BALANCED PRICING

The pure economic model of comprehensively pricing road use as if roads were a scarce resource is theoretically correct but problematic. People are used to freely using roads and resent suddenly having to pay for what was once free. The rational argument for charging for a scarce resource is overwhelmed by the subjective desire for mobility and 'freedom to choose'. In short, users need to perceive value added before they pay more.

The mobile phone, broadband and now the mobile modem business have shown that there is another way of looking at pricing. This is about providing a completely new service that did not previously exist and using new payment models to allow people to choose a 'package' that suits them at a cost that they are willing to pay.

By providing the additional information, travel organisation and travel management services listed above, a similar '**balanced pricing**' model can be developed for transport. The services can be personalised to the requirements, activity patterns and/or attitudes of the individual.

Importantly, they will be voluntarily chosen and perceived as valuable. This is much more likely to be acceptable to consumers, and is able to be implemented without very large amounts of expenditure by transport authorities.

NEW BUSINESS MODELS

This, however, does open up some exciting potential with respect to new business models. These might take the form of those enabled by the Local Transport Act 2009, or we might learn lessons from the various MAA ideas or the smaller scale mobility management companies proposed for some eco towns. Possible models might include:

- A partnership between transport authorities, transport operators and a communications or IT company. This would provide the necessary buy-in from partners but may not have sufficient dynamism, customer focus or commercial acumen to achieve the step-change needed.
- A new 'mobility management' company set up by a transport authority or region specifically to manage CM functions. This might deliberately start small but with a programme to add services over time. It would take functions from existing organisations, and might have social and environmental as well as commercial aims.
- A private company contracted to a transport authority to operate defined CM functions, with specified performance targets and given the franchise to add optional added value services to users.
- Giving additional CM functions to an existing established company (eg bus operator, retail business), again with performance targets

NEW FUNDING MODELS

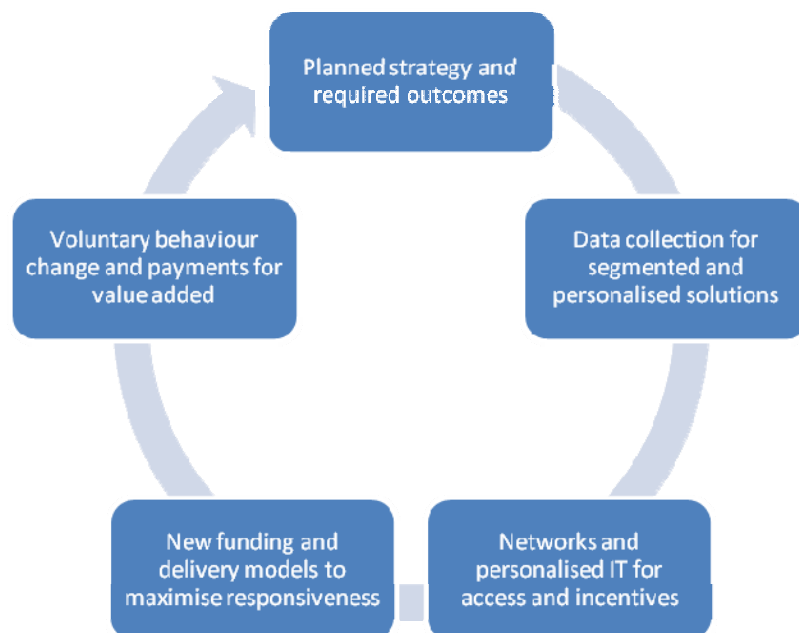
CM does not require large amounts of public money. It can be developed incrementally, building on existing good practice, identifying and making use of expertise and skills that already exist. It would create new income streams, for example:

- Utilising the cash stored in a pre-purchase and/or e-purse system
- Providing chargeable services for parking and transport suppliers
- Providing chargeable services to consumers
- Allowing additional applications to use the same IT systems and data
- Allowing a points system to be used as variable value tokens and developing income streams from acceptance from retailers
- Big money prize draws built around application and transport system usage (X-Factor Model)

4 CONCLUSIONS AND RECOMMENDATIONS

The TRM offers a challenge to established ways of thinking about transport, customers, perceptions and economic rationality. But current conditions need new thinking, and we believe that the TRM offers a practical way forward. There is a lot of work still to be done on making the concept operational, and would like to engage DfT in moving it forward. We know that there are other private and public sector organisations that are interested in this or similar ideas, but as far as we are aware, no one has yet developed the complete picture, bringing together the interests of both private and public sector.

Figure 6: How it might come together



Our proposals are:

- That we open up discussions with local transport authorities specifically including those who were involved in TIF bidding
- For the Department for Transport to consider the possibility of funding a feasibility study or demonstration project in a suitable city or region
- That we continue to discuss these ideas with relevant companies and organisations nationally and internationally