



Enhancing the impact of travel plans for new residential developments: Insights from implementation theory

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ARTICLE INFO

Article history:

Received 1 August 2014

Received in revised form

17 February 2015

Accepted 27 February 2015

Available online 11 March 2015

Keywords:

Travel plan

Residential development

Implementation theory

Sustainable transport

ABSTRACT

Travel plans are increasingly being required for new and expanded buildings as a condition of planning approval. Their aim is to manage car use and support access by more sustainable transport modes. However, their application to new residential developments has received little research attention to date.

A series of semi-structured interviews were undertaken with 30 industry representatives, predominately from Australia, to identify opportunities to enhance the impact of travel plans for new residential developments. Results showed general support for travel plans at new residential developments, but limited confidence in the ability to implement them successfully. Application of implementation theory to the research findings has highlighted key gaps in the monitoring and enforcement of residential travel plans, an absence of any sound planning or legal requirement, and limited involvement from property managers in the travel planning process to date. Opportunities to enhance implementation include the adoption of an educational response to enforcement, development of a sound planning requirement, enhancing travel plan quality prior to granting planning approval, preparation of guidelines backed by strong capacity building efforts, and development of a stronger industry focus for residential travel planning.

Future research is needed to assess the outcomes of travel plans for new residential developments. An assessment of different approaches for implementing residential travel plans is also needed to establish which methods are most appropriate under different contexts.

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1. Introduction

Across all 34 member countries of the Organisation for Economic Cooperation and Development (OECD), Australia has consistently experienced one of the highest rates of population growth at around 1.5% per annum between 2002 and 2012 (OECD, 2014). Such growth has placed additional pressure on the existing transport network, particularly in urbanised areas. However, both physical and financial constraints pose challenges for supplying additional transport infrastructure to these areas.

In responding to such transport challenges, it is appropriate to consider the role of demand-side strategies, such as Travel Demand Management (TDM), as part of an integrated transport solution. TDM is a general term for strategies that modify travel decisions, but exclude the provision of major infrastructure, so that more desirable environmental, social and economic objectives can be met and the adverse impacts of travel can be reduced (Institution of Engineers Australia, 1996). One type of TDM measure

that can be applied directly to trip generators, such as schools and workplaces, is the travel plan.

A travel plan contains measures tailored to the needs of a site to reduce car use and encourage the use of more sustainable transport modes such as public transport, walking and cycling. Examples of measures in a travel plan can be wide-ranging, although the more effective ones tend to include both 'carrots', such as financial incentives to use public transport, and 'sticks', such as car parking limitations to discourage car use (Cairns et al., 2004). While results have been shown to vary considerably, travel plans have typically brought about a reduction in car use of 5–15% (Enoch, 2012).

In recent years, travel plans have been required through the land use planning and approvals process for new and expanded buildings such as offices, schools and residential developments. Examples of travel plans for new developments are now evident across various countries, including the United States (Jollon, 2013), England (Rye et al., 2011a), Scotland (Llewellyn et al., 2014b), other parts of Europe (Rye et al., 2011b) and Australia (De Gruyter et al., 2014b). Despite this breadth of experience, little research has focused on their application to new residential developments.

The aim of this research is to identify opportunities to enhance

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the impact of travel plans for new residential developments. This is achieved through drawing on the perspectives of industry actors and applying implementation theory to the findings. In doing so, it focuses on the following aspects of travel plans at new residential developments:

- Perceived benefits and potential disadvantages.
- Extent of industry involvement and interactions among stakeholders.
- Implementation challenges and potential solutions.
- Future expectations.

This paper is structured as follows. Firstly, a summary of previous research into travel plans for new developments is provided, followed by an overview of implementation theory. The research method used to seek industry perspectives is then detailed. A summary of research findings are then presented, followed by the application of implementation theory. A discussion of the implications for practice is then provided, followed by some concluding remarks and future research directions.

2. Research context

2.1. Using the land use planning and approvals process to require travel plans

Travel plans can be required for new and expanded buildings, either through a condition of planning approval or through the use of a legal agreement. Several countries now have national policies in place to support the requirement for travel plans at new developments, such as the United Kingdom, Sweden and Switzerland (Rye et al., 2011b). In the United States, while no national policy exists, various counties such as Arlington, Montgomery and Fairfax have travel plan (known locally as TDM) requirements written into their municipal code or plan (Jollon, 2013). In Australia, no national or state planning policy refers to travel plans, yet a number of local governments have still required them for new developments. A survey of local governments in the state of Victoria, Australia, showed that over 100 travel plans had been required for new developments between 2010 and 2012 alone (De Gruyter et al., 2014b).

In the context of new residential developments, travel plans are a relatively new concept with examples now emerging in the United States (Arlington County Commuter Services, 2013), United Kingdom (Department for Transport, 2005) and Australia (De Gruyter et al., 2014a). However, efforts to quantify their effectiveness and understand their implementation challenges have been very limited to date (Addison and Associates, 2008; Morris et al., 2009).

A number of car-free housing developments are now evident across Europe, particularly in countries such as Austria, Germany and the United Kingdom (Melia, 2014; Scheurer, 2001; Wright, 2005). However, only a small number of these have incorporated a travel plan. Those that have are generally located in the United Kingdom and were required as part of planning approval (Melia et al., 2012; Morris et al., 2009).

Personalised journey planning techniques, such as individualised marketing and travel blending have also been applied in the context of residential settings. These programmes have been extensively researched over the past 10–15 years (Brög et al., 2009; Rose and Ampt, 2001) but are considered to be different to residential travel plans in that they represent a specific voluntary travel behaviour change initiative focused primarily on information, awareness and feedback. This is in contrast to a residential travel plan which is a mechanism for delivering a *package* of

sustainable transport initiatives at a residential site (Department for Transport, 2005).

At this point, it is worth noting the inherent difficulty with implementing travel plans specifically at new residential developments. In contrast to the more traditional workplace or school travel plan, residential travel plans are based on the trip origin and therefore need to cater not only for a range of trip destinations but also a range of trip purposes (Morris et al., 2009). Enoch (2012) notes that the need to establish an ongoing management structure to deliver any travel plan poses difficulties for residential sites since there is generally a weak relationship between the residential provider and the residents themselves.

In considering broader issues with requiring travel plans for new developments, Hendricks (2008) outlines four key challenges experienced in the United States:

- Poorly worded regulations that can oversimplify the value of travel plans.
- Travel plans being considered too late in the land development process.
- Conflict between state and local government in balancing mobility and access needs.
- Traffic analysis methods prioritising level of service for motorists over other transport modes.

2.2. Previous research into industry perspectives on travel plans

A number of studies have explored industry perspectives on travel plans. Firstly, Enoch and Ison (2008) conducted 10 interviews with travel plan experts in the United Kingdom, highlighting a number of barriers to the successful implementation of travel plans

- Lack of strategic direction and leadership to take travel plans forward.
- Lack of resources to ensure effective implementation, particularly among local authorities.
- Insufficient monitoring and enforcement, leading to a lack of evidence of travel plan effectiveness.

Within a broader European context, Davison et al. (2010) conducted interviews with 20 travel plan experts which highlighted the need for standardised monitoring and evaluation. Interviewees felt that there will be a growing demand for TDM measures into the future and that travel plans are expected to play an increasing role.

Rye et al. (2011a) report on the results of 18 interviews held with representatives (mostly) in local authorities in England to seek their views on current practice in securing travel plans through the planning system. Interviewees recognised that the preparation of travel plans by developers is not so much a problem as is ensuring implementation occurs. A lack of monitoring of travel plans was highlighted as a key issue with uncertainty over who is responsible for it. Interviewees felt there was a need for more guidance, earlier developer involvement in the process, and the consistent inclusion of monitoring and targets in travel plan agreements.

Yeates and Enoch (2012) undertook interviews with 10 developers in the United Kingdom to explore their views on travel plans required through the planning process. While developers were generally positive about travel plans, they expressed concern over potential financial penalties and future ongoing costs beyond development occupation. Yeates and Enoch (2012) recognise that further evidence of the benefits of travel plans is required, suggesting that monitoring efforts need to be improved.

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