Travel planning practice for new urban developments in Victoria, Australia

Chris De Gruyter[1], Geoffrey Rose[1], Graham Currie[1]

[1] Institute of Transport Studies, Department of Civil Engineering, Monash University, Victoria, Australia

Email for correspondence: chris.degruyter@monash.edu

Abstract

Continued demand for new housing and commercial developments is expected to add further pressure to existing transport networks in many urbanised areas. Given these pressures and a limited ability to add more capacity to the network, travel plans offer an alternative approach to managing travel demand. A travel plan is a strategy that contains a package of site-specific measures that aim to manage car use and encourage the use of more sustainable transport modes.

While travel plans have been applied to new developments through the planning process in various countries, the scale of activity in Victoria is largely unknown. A survey of Victorian councils was therefore undertaken to develop an appreciation of travel planning practice, specifically for new developments. Results indicated that half of the councils had previously required a travel plan for a new development. In total, around 100 travel plans had been required by Victorian councils in the last two years. Key issues which emerged from the survey responses included the lack of any state planning policy that is supportive of travel plans, difficulties in monitoring and enforcing travel plans, and general uncertainty regarding the effectiveness of travel plans that have been required through the planning process.

Some of the issues identified could be addressed in the short term through the preparation of state-wide guidance specific to Victorian conditions, combined with comprehensive training for those involved in the travel planning process. In the longer term, changes to the Victorian state planning policy could assist in requiring travel plans on a more consistent basis for new developments.

1. Introduction

In Australia, the population of Victoria is expected to increase by 1.7 million people in the next 20 years to a total of 7.3 million people (Department of Planning and Community Development 2012c). Combined with continued growth in the commercial sector, the demand for new developments such as housing and employment is expected to add further pressure to the existing transport network. In fact, the annual 'avoidable' cost of traffic congestion in Melbourne alone is expected to increase from $3 billion in 2005 to over $6 billion by 2020 (Bureau of Transport and Regional Economics 2007).

Given these transport pressures and a limited ability to add more capacity to the existing network, Travel Demand Management (TDM) offers an alternative approach by managing existing resources better and modifying the behaviour of transport users. While TDM can include 'hard' policy measures such as road pricing, it can also encompass 'softer' measures such as travel plans (Enoch 2012).

Various definitions for travel plans have been developed over time (Cairns et al. 2004; Department of Infrastructure 2008; Enoch 2012; Rye 2002) with recognition that the term 'travel plan' probably is not the most easily understood but for lack of a better option has remained (Enoch 2012). For the purpose of this paper, a travel plan can be defined as a strategy that contains a package of site-specific measures that aim to manage car use and encourage the use of more sustainable transport modes. Examples of measures in a travel plan can be wide-ranging, although the more effective ones are specific to the transport needs of the site and tend to include both 'carrots', such as financial incentives to use public transport, as well as 'sticks', such as car parking charges to discourage car use (Cairns, Newson & Davis 2010; Cairns et al. 2004).

In Victoria, and internationally, there is increasing interest in the role that travel plans can play in managing the transport impacts of new developments, such as offices, residential sites, schools and other major trip generators (Addison & Associates 2008; PBAI 2005; Rye, Green, et al. 2011; Rye, Welsch, et al. 2011).

The overall aim of the research underlying this paper was to assess the scale of travel planning practice in Victoria, specifically for new urban developments. The objectives of the research were to:

- Identify the mechanisms used by councils in requiring travel plans and the reasons they have been required
- Gauge the likelihood of requiring them in the future
- Assess the level of monitoring that has taken place to date
- Identify common issues faced by Victorian councils in requiring travel plans for new developments.

This paper is structured as follows. The next section sets the context around travel plans for new developments in Victoria through a review of the local planning system and relevant literature. It then details the methodology employed in a survey to determine the scale and associated characteristics of travel planning practice in Victoria, specifically for new urban developments. A summary of the survey results are then presented, followed by a discussion of their implications. The final section of this paper presents some concluding remarks and identifies future research directions.

2. Research context

2.1 Victorian planning system

In Victoria, planning schemes are developed separately for each local government area and contain a range of policies and provisions to ensure the appropriate use and development of

land. A planning scheme indicates whether a planning permit is required to make changes to land such as altering its use or constructing a building (Department of Planning and Community Development 2012b). While the state-wide content included in the planning schemes supports encouraging access to new developments by more sustainable transport modes, it does not make any specific reference to the use of travel plans. Furthermore, whilst councils can choose to include local content within their planning scheme, only 4 out of the 79 councils in Victoria (5%) currently include a specific requirement for travel plans (Department of Planning and Community Development 2012a). However, none refer to the use of any monitoring or enforcement mechanisms to ensure effective implementation occurs (Department of Planning and Community Development 2012a). Despite only a small number of councils incorporating the travel plan requirement into their planning scheme, this does not preclude other councils from imposing the requirement for a new development where it is considered necessary.

In Victoria, a travel plan for a new development can generally be secured either through a condition on the planning permit or through a formal agreement. The formal agreement arises out of section 173 of the Planning and Environment Act 1987 and can be registered over the title of the land and become binding upon future owners (Department of Planning and Community Development 2012b). In the UK, a similar arrangement exists, although the formal agreement is known as a section 106 agreement which arises out of the 1990 Town and Country Planning Act (Yeates & Enoch 2012).

2.2 Travel planning guidance

With the exception of the City of Darebin (City of Darebin undated; PBAI 2005), no Victorian councils have developed any guidance on travel plans specifically for new developments. Clear and practical travel planning guidance is available at the state level (Department of Infrastructure 2008), however this is not tailored to the specific characteristics of new developments. Looking internationally however, an excellent set of guidance documents exist in the UK, focused specifically on new developments (Department for Transport 2005, 2009; Transport for London 2011). Some of the key points highlighted in the available guidance include the need for:

- A supportive transport and land use planning policy framework
- Clear information on travel plan requirements provided to applicants in conjunction with expert guidance and advice throughout the travel planning process
- Buy-in and subsequent ownership of the travel plan by the applicant (and future occupant if known) with a strong commitment to implementation
- Training for all key participants involved in the travel planning process, both within local councils and externally
- Inclusion of an appropriate set of measures specific to the needs of the site which are aimed at achieving a clear set of measurable objectives and targets
- Nomination of a dedicated and enthusiastic travel plan coordinator
- Clear understanding from all parties on funding and delivery responsibilities associated with implementing and monitoring the travel plan
- A rigorous monitoring and review process, with links to financial sanctions where these are considered appropriate
- Flexibility, particularly in the early stages where the development is speculative and/or the final occupants may not be known.

It is also recognised that unacceptable development should never be permitted simply because of the existence of a travel plan (Department for Communities and Local Government 2011; PBAI 2005).

2.3 Issues in securing travel plans through the planning process

Despite the availability of clear and detailed guidance, a number of common issues have arisen in using the planning process to secure travel plans (Addison & Associates 2008; Roby 2010; Rye 2002; Rye, Green, et al. 2011), including:

- Difficulties in identifying and agreeing on targets and monitoring provisions, particularly if sanctions are to be imposed when targets are not met
- Issues associated with monitoring and enforcing the travel plan, mainly due to a lack of resources but also uncertainty in the use of legal mechanisms
- Use of planning mechanisms, such as conditions or formal agreements, not having been designed originally for securing transport-related measures
- Inconsistency between the objectives of the travel plan and the motivations of those responsible for implementing the travel plan
- Developers paying only 'lip-service' to travel plans, particularly where they are not actively involved in the process, e.g. post occupation
- The actual nature of the proposed development often being unknown at the time of preparing the travel plan, despite this information being vital in formulating objectives, targets and measures to include in the travel plan.

2.4 Travel planning outcomes

In Victoria, experience in travel planning over the past ten years has led to the development of a more refined approach aimed at better engaging the community to build ownership throughout the travel planning process. This has had positive results, with increases in sustainable travel often exceeding initial targets and reductions in single occupant vehicle trips of 10-15% or more (Howlett & Watson 2010). During the period of 2007-09 alone, over 150 travel plans were initiated with more than 180,000 Victorians directly engaged in the process (Howlett & Watson 2010). However, the approach has been primarily focused on *existing* developments, with very little practical experience or research undertaken in travel planning specifically for *new* developments.

Despite this, experience in travel planning for new developments is evident in various other countries, particularly the US, UK and other parts of Europe, albeit under different names such as trip reduction or mobility management programs. Results are wide-ranging, but consistently show a median reduction in car use of around 15% (Cairns et al. 2004; Enoch 2012; Rye, Welsch, et al. 2011; Seggerman & Hendricks 2005).

Finally, it is worth noting the inherent difficulty in evaluating outcomes of travel plans for new developments. Often no baseline travel patterns are available at the time of preparing the travel plan as the development is not occupied or even built. While estimates of mode splits can be made based on nearby sites or regional travel survey data, determining the effectiveness of any travel plan measures that are implemented prior to occupation will typically be difficult to ascertain.
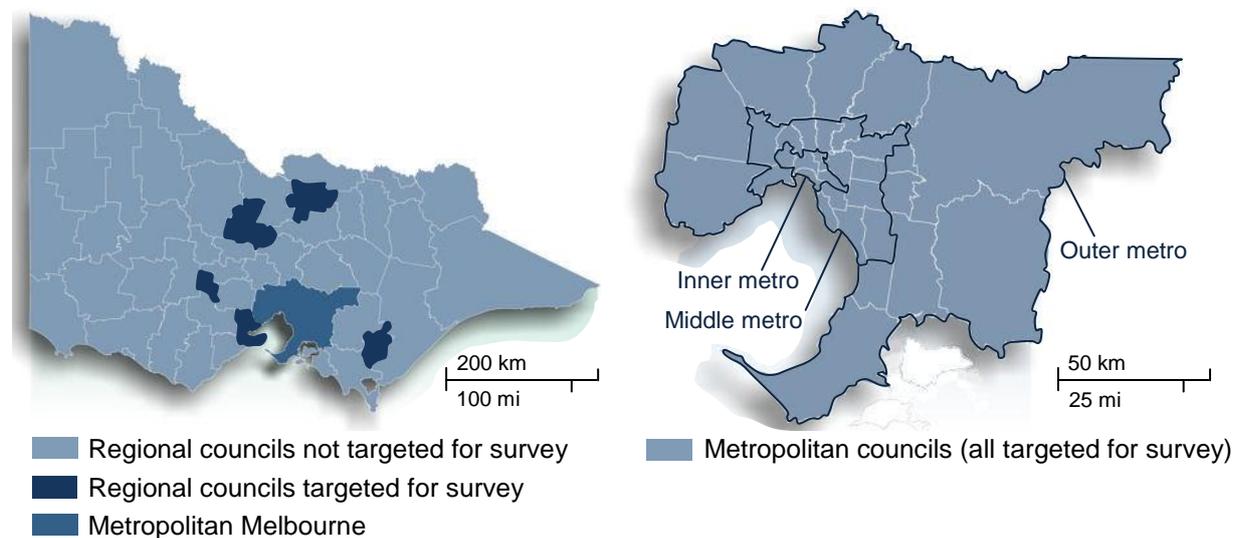
2.5 Knowledge gaps

In Victoria, little is known about the scale of travel planning for new developments and the issues faced by councils in securing them through the planning process. The remaining sections of this paper therefore aim to address those knowledge gaps. While the results are specific to Victoria, the methodology and approach can potentially be used in future research to examine those issues in other states and obtain a broader national perspective.

3. Research method

In order to develop an appreciation of travel planning practice for new developments in Victoria, an online survey was developed and administered to councils during May 2012.

All 31 councils in metropolitan Melbourne were targeted for the survey, plus five regional councils (Greater Geelong, Greater Bendigo, Ballarat, Greater Shepparton and Latrobe) which represent the key regional centres across Victoria. This resulted in a total target population of 36 councils, as illustrated in Figure 1. While the remaining regional councils could also have been targeted for the survey, this was not considered appropriate as travel plans are generally not considered in these areas at all due to their predominant rural character. Furthermore, the 36 councils targeted for the survey contain the majority of the Victorian population, at around 84% in 2011 (Department of Planning and Community Development 2012c).

Figure 1: Location of Victorian councils targeted for the survey

Regional councils not targeted for survey
Regional councils targeted for survey
Metropolitan Melbourne
Metropolitan councils (all targeted for survey)

In order to recruit survey participants, an initial telephone call was made to each council to explain the purpose of the survey and to determine an appropriate representative who could complete the survey. Contact with each representative was then made to confirm that they were the most suitable person to participate in the survey. The survey was then distributed by email to the selected representative in each council, with reminder emails sent as required to ensure completion of the survey. The level of interest in the survey was relatively high and there were generally no issues in seeking commitment from each representative to complete the survey. As a result, a response from all 36 councils was achieved over a three-week period, representing a 100% response rate.

An important finding during the survey recruitment stage revealed that there was little consistency in the administrative unit within each council that was responsible for travel plans for new developments. Of the 36 councils surveyed, 19 responses (or 53%) were provided by representatives in transport related roles, 15 responses (42%) were provided by representatives in planning related roles, and the remaining 2 responses (5%) were provided by representatives in other roles (e.g. environmental management). In some cases, the representative sought input from other relevant areas to complete the survey, highlighting that more than one area within particular councils may be involved in the travel planning process for new developments.

4. Results

4.1 Perceived effectiveness of travel plans

Council representatives were first asked to indicate on a five point likert scale, the extent to which they agreed that a number of mechanisms, including travel plans, are effective in managing transport access for new developments. The proportion that either agreed or strongly agreed that each mechanism is effective is shown in Figure 2. As can be seen, travel plans ranked lowest of the mechanisms presented with one in two respondents (50%) regarding them as effective.

Figure 2: Mechanisms considered effective for managing transport access
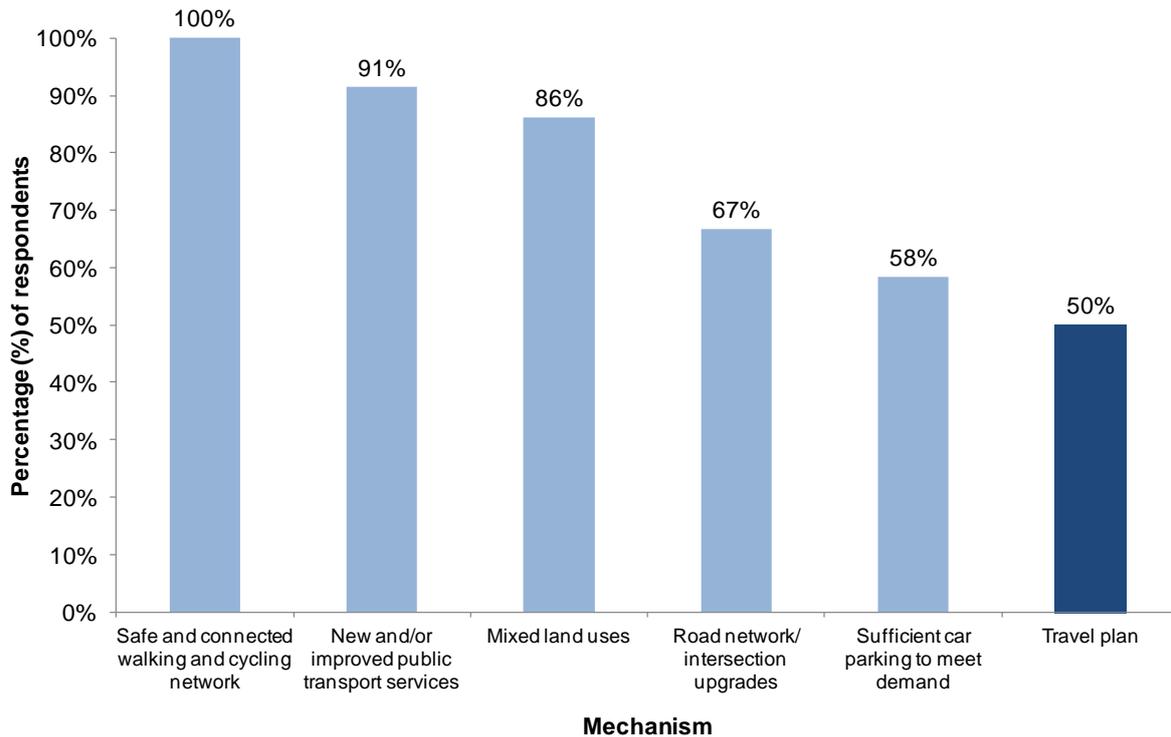
The proportion of respondents that felt 'neutral' towards the effectiveness of each mechanism (not shown in Figure 2) was highest for travel plans at 36%. As this reflects a level of uncertainty regarding travel plan effectiveness, respondents were cross-classified according to their familiarity and experience with travel plans, as shown in Table 1 (results associated with familiarity and experience of travel plans are discussed in Section 4.7). As can be seen, only 27% of those familiar and experienced in using travel plans felt 'neutral' towards their effectiveness. In comparison, 50% of those with a limited understanding of how travel plans work felt 'neutral' towards their effectiveness.

Table 1: Perceived effectiveness of travel plans cross-classified by familiarity & experience*

Perceived effectiveness of travel plans	Familiarity and experience with travel plans		Total
	Familiar and experienced	Not familiar or experienced	
Neutral	27% (6)	50% (7)	**36% (13)**
Not neutral	73% (16)	50% (7)	**64% (23)**
Total	**100% (22)**	**100% (14)**	**100% (36)**

* Numbers in parentheses indicate the actual number of councils

Despite achieving a 100% response rate to the survey, responses to the question regarding perceived effectiveness could change depending on the individual responding within a given council. Therefore, it was appropriate to test whether a statistically significant difference exists between those who were familiar and experienced with travel plans (and felt 'neutral' towards their effectiveness) and those who were not familiar and experienced with travel plans (but also felt 'neutral towards their effectiveness). The results of a z-test for the difference in proportions showed no statistically significant difference at the 95% confidence level. Therefore, the survey results indicate that those less familiar with travel plans are not necessarily more uncertain about their effectiveness.

4.2 Requirements for travel plans

Table 2 indicates the number of Victorian councils that have previously required a travel plan. Around 80% of inner and middle metropolitan councils have required a travel plan before, with this figure decreasing to around 20% for outer metropolitan and regional councils. Overall, exactly half of the councils surveyed (50%) had previously required a travel plan.

Table 2: Requirements for travel plans for new developments by Victorian councils*

Status	Location				Total
	Inner metro	**Middle metro**	**Outer metro**	**Regional**	
Required	80% (4)	83% (10)	21% (3)	20% (1)	**50% (18)**
Never required	0% (0)	17% (2)	43% (6)	40% (2)	**28% (10)**
Unsure	20% (1)	0% (0)	36% (5)	40% (2)	**22% (8)**
Total	**100% (5)**	**100% (12)**	**100% (14)**	**100% (5)**	**100% (36)**

* Numbers in parentheses indicate the actual number of councils

While not shown in Table 2, half (50%) of the councils who had required a travel plan before (25% of the total) had required more than five in the last two years. Inner and middle metropolitan councils required more travel plans than outer metropolitan and regional councils, presumably due to the larger number of new developments occurring in the inner and middle suburbs of Melbourne, coupled with greater transport issues. In total, around 100 travel plans have been required by Victorian councils in the last two years.

At this point, it is insightful to compare the results to a previous survey conducted of 388 local authorities in the UK (Steer Davies Gleave 2001). The survey was undertaken in 2001 to assess the take-up and effectiveness of travel plans which included a specific survey on the topic of travel plans and development control. A total of 269 responses were received for this survey, representing a 69% response rate.

The results of the UK survey showed that 58% of local authorities had required a travel plan for a new development, compared to 50% for the Victorian council survey. However, the percentage today in the UK is likely to be much higher, due to the increased focus on travel plans for new developments and the ongoing presence of a supportive policy framework (Department for Communities and Local Government 2011, 2012). A subsequent survey of local authorities in the UK in 2007 (albeit with a much lower response rate of 18%) suggested a three-fold increase in travel plans between 2001 and 2006, although it was also recognised that most local authorities currently secure less than 10 travel plans each year (Addison & Associates 2008). Overall, the results indicate that in comparison to the UK survey, Victoria's current position is analogous to the UK's position 10 years ago.

4.3 Reasons for requiring travel plans

Figure 3 shows that offsetting the impact of providing reduced car parking was the most common reason for requiring a travel plan for a new development. Reducing car parking has clear benefits for a developer through reduced costs which also acts as an important 'stick' in managing car use as part of the travel plan developed for the site.

Figure 3: Key reasons for councils requiring travel plans for new developments
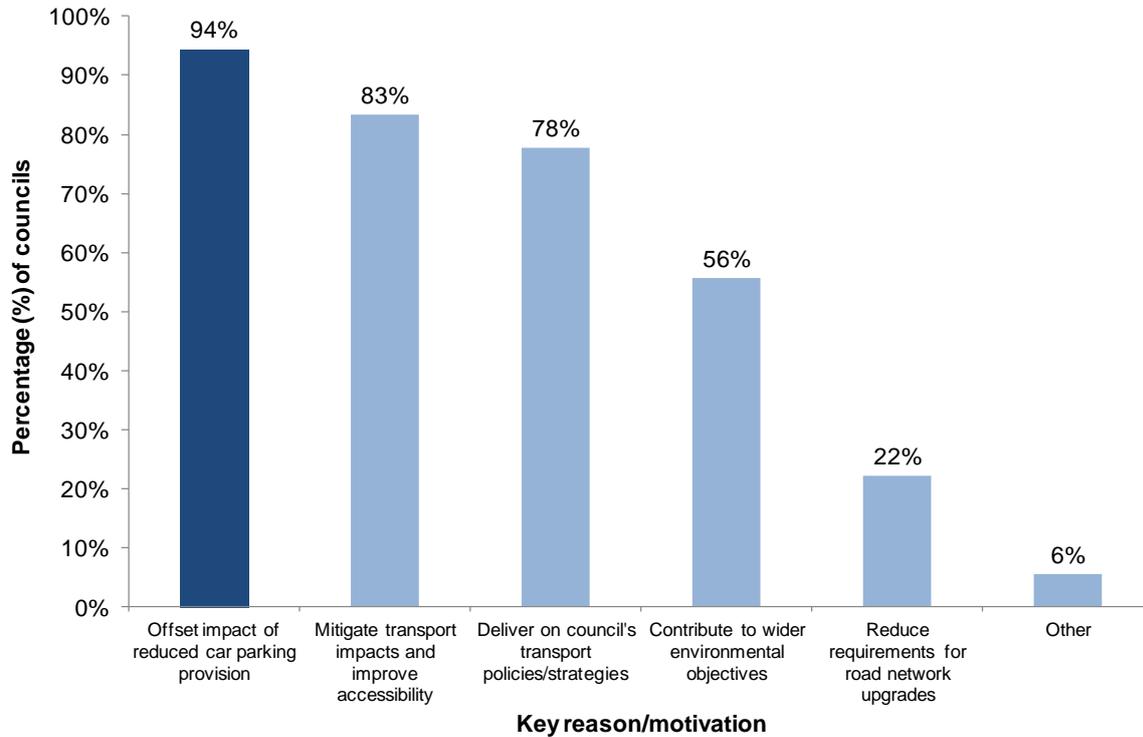
4.4 Reasons for not requiring travel plans

It is also appropriate to note the reasons why other councils have not required a travel plan before. Table 3 shows that more than half of these councils (57%) did not consider travel plans to be effective or appropriate for their local area, with around one-third (29%) citing the lack of any statutory or legal requirement and another third (29%) planning to require travel plans in the future.

Table 3: Reasons for councils not requiring travel plans for new developments*

| Reason for not requiring travel plans	% of councils who have not required travel plans
Not considered effective/appropriate for local area	57% (4)
Not statutory or legal requirement	29% (2)
Planning to require travel plans in future	29% (2)
Unsure	14% (1)
Other	43% (3)

* Numbers in parentheses indicate the number of councils. More than one reason could be selected.

4.5 Mechanisms used to require travel plans

Figure 4 shows that a planning permit condition is the most common mechanism used for requiring travel plans for new developments in Victoria. As respondents could indicate more than one mechanism they have used, verbal negotiation (reported by around 40% of respondents) may have been used in conjunction with other mechanisms. This is because it is unlikely that verbal negotiation alone would be particularly effective in ensuring a travel plan is developed and implemented.

Formal agreements were only used by around 30% of Victorian councils, which contrasts the finding of the 2007 UK survey where 61% of local authorities used them (Addison & Associates 2008). Formal agreements in the UK are typically used for larger developments as they are considered to have more 'legal force' and can be used to secure payments associated with implementing and monitoring the travel plan.

Figure 4: Mechanisms used by councils to require travel plans for new developments
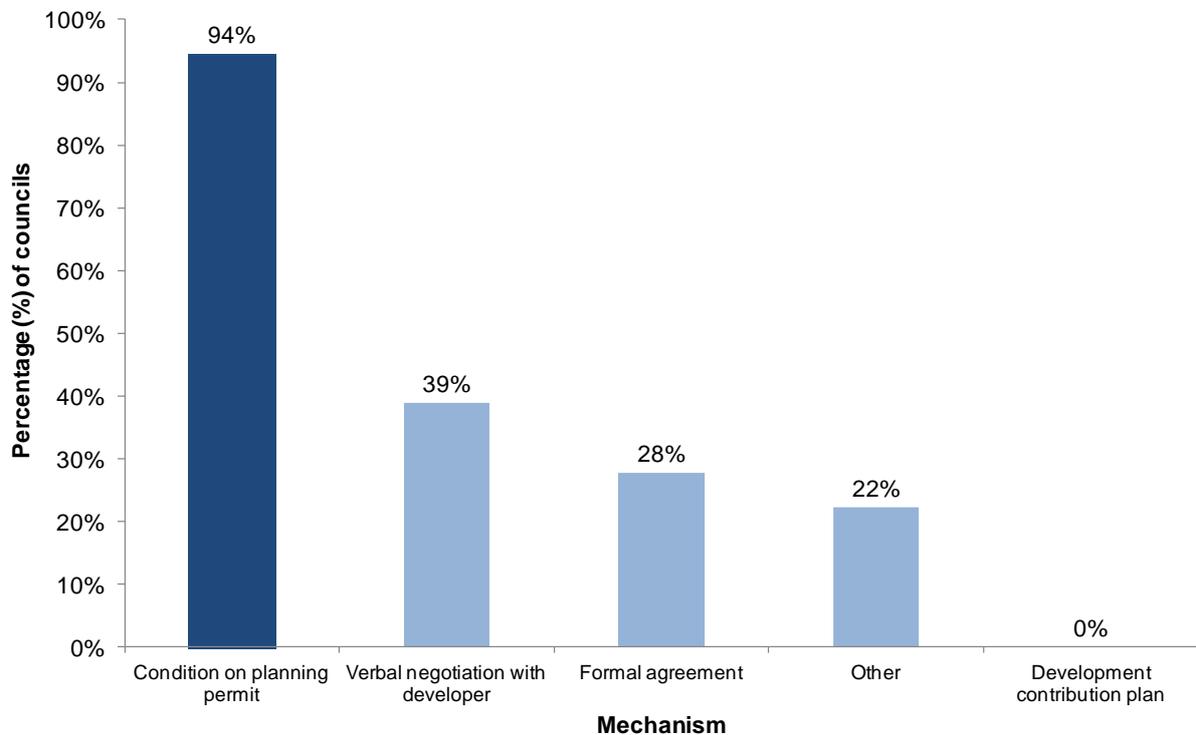
4.6 Monitoring of travel plans

Figure 5 indicates the level of travel plan monitoring undertaken by Victorian councils to date. Around 80% of councils indicated that they had not undertaken any monitoring of the travel plans they had required. This is in contrast to the UK where only 21% of local authorities recently reported that they did not monitor travel plans (Rye, Green, et al. 2011). A very different pattern of travel plan monitoring therefore exists between Victoria and the UK.

Figure 5: Level of travel plan monitoring amongst councils
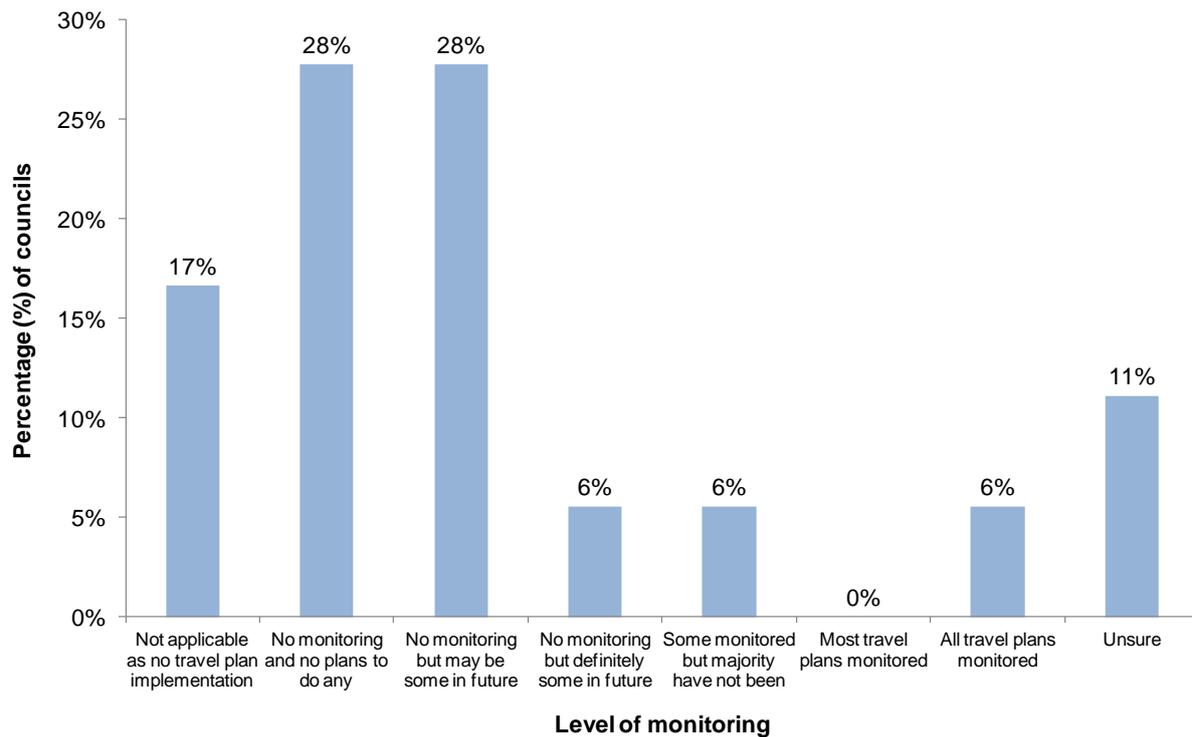
Some of the reasons suggested by respondents for the relatively low rate of monitoring included:

"The monitoring of travel plans is complex and it will require more resources from Councils to follow up the results in time." [response from representative of outer metropolitan council]

"I think the concept of travel plans can be useful, but in reality, it is not clear how they would be enforced..." [response from representative of outer metropolitan council]

"...there are a number of challenges with travel planning as it now stands. Without enforcement, or the legislation to support them they are most often not worth the paper they are printed on." [response from representative of middle metropolitan council]

"It is unlikely that we would monitor the plan to ensure it is being implemented, however if a complaint was received in relation to the development and traffic, etc it is likely planning enforcement would ensure that all conditions on the permit (including the green travel plan) are being implemented." [response from representative of middle metropolitan council]

This final comment highlights that councils may not necessarily be averse to monitoring travel plans, but feel that such monitoring should only be undertaken if completely necessary. Difficulties with monitoring and enforcing travel plans are commonly cited in the literature (Addison & Associates 2008; Enoch 2012; Rye, Green, et al. 2011; Steer Davies Gleave 2001), with findings from the 2007 UK survey echoing some of the comments made by Victorian councils:

"Resourcing (or the lack of it) of the monitoring, penalties, sanctions and incentives processes was seen by many authorities as a reason for not including them within travel plans as they have no resources to follow this through." (Addison & Associates 2008, p. 71)

4.7 Familiarity and experience with travel plans

Council representatives were asked to state their level of familiarity and experience with travel plans, as reported in Figure 6. While most of the respondents had some level of awareness of travel plans (91%), only around one-third (36%) indicated they had practical experience in using them. Practical experience with using travel plans generally declined with distance from the Melbourne CBD, with inner metropolitan councils reporting the highest proportion of respondents with practical experience (80%), followed by middle metropolitan councils (42%), regional councils (20%) and outer metropolitan councils (14%).

Figure 6: Level of respondent familiarity and experience with travel plans
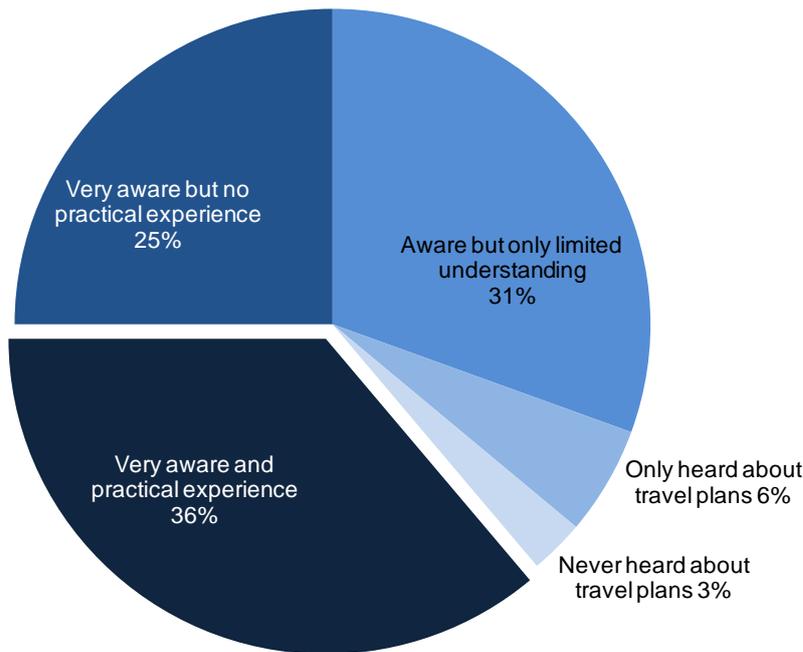
4.8 Future likelihood of requiring travel plans

Figure 7 shows that around half of the councils (51%) stated that they were likely or highly likely to require a travel plan for a new development in the next 12 months, which is similar to the proportion that have required them previously (50%). The proportion of councils that were likely or highly likely to require a travel plan in the next 12 months also declined with distance from the Melbourne CBD. Inner metropolitan councils were most likely (80%), followed by middle metropolitan councils (75%), regional councils (50%) and outer metropolitan councils (21%).

Figure 7: Likelihood of Victorian councils requiring a travel plan in the next 12 months
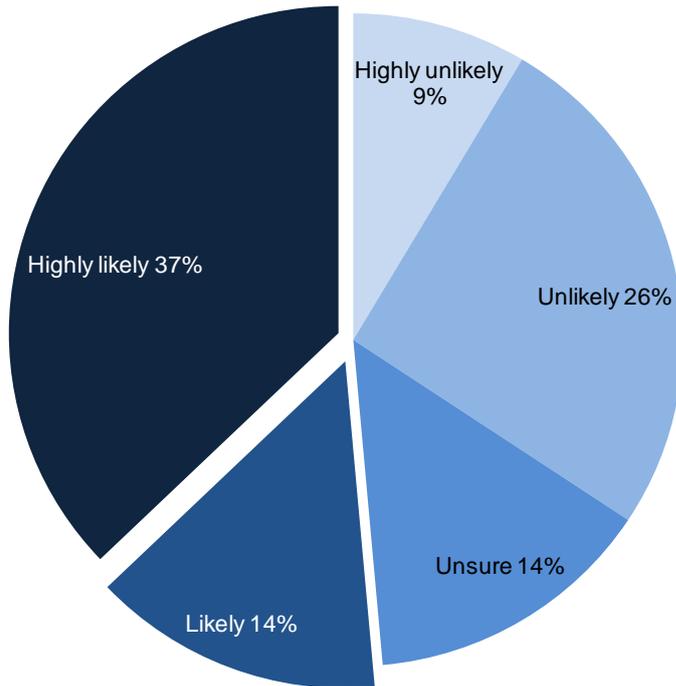
4.9   Other key issues

A number of other key issues were highlighted by councils as part of the survey. These included the lack of any state planning policy that is supportive of travel plans and concerns about the effectiveness of travel plans:

"The town planning process is very focussed on vehicular movements with little consideration towards other modes (apart from broad motherhood statements in the State Planning Policy Framework) therefore it is difficult to liaise with some developments in requesting extra info such as travel plans on top of the traffic assessment as it adds extra cost." [response from representative of outer metropolitan council]

"Travel plans are not effective when implemented by a statutory requirement, like many management plans." [response from representative of middle metropolitan council]

"We are very interested in exploring the use of travel plans for new developments, however we have not come across any cases where they have proven to be effective..." [response from representative of outer metropolitan council]

"I feel that travel plans are a bit of a toothless tiger because there is no process to follow up the implementation of them..." [response from representative of inner metropolitan council]

5.   Discussion

The survey findings have shown that while travel plans are not perceived to be as effective in comparison to other mechanisms for managing transport demand, half of the councils had previously required them for new developments, primarily to offset the impact of providing less car parking than the statutory requirement. However, due to the limited amount of monitoring that has taken place to date and the difficulties associated with this, it is not clear whether travel plans for new developments in Victoria have actually been effective yet in achieving their intended objectives and targets. This was also reflected by a feeling of uncertainty amongst council representatives about the effectiveness of travel plans in managing transport access for new developments.

The level of practical experience with using travel plans was not particularly high amongst councils (36%). This may therefore point to the need, in some cases, for specific training in this area for council staff and perhaps developers. In particular, such training would need to provide suitable guidance on how to assess the quality of travel plans received as part of planning applications to ensure they are robust and contain effective implementation and monitoring procedures. A similar recommendation was previously made in the UK in 2008 stating that a "lack of knowledge hindered the effectiveness of the travel plan work" and that "training was seen as much needed" (Addison & Associates 2008, p. 78).

Consideration should be given to translating best practice in monitoring and enforcing travel plans from the UK and other countries to Victorian conditions. The aim of this would be to assist councils with these aspects without the need for significant resources on their part. This could include, for example, methods of ensuring the costs of monitoring and enforcement are included in the travel planning process from the beginning. Looking more broadly, the development of state-wide travel planning guidance specifically for new developments would be a step forward in providing greater clarity to councils. This would need to be tailored to Victorian conditions with reference given to effective and appropriate use of the planning system.

The lack of any state planning policy in Victoria that refers to travel plans is clearly an inhibitor when expecting developers and subsequent occupiers to commit to implementing a travel plan, let alone preparing one in the first instance. In the UK, a strong policy context was the most cited 'assisting' factor by local authorities in securing travel plans for new developments (Addison & Associates 2008) and is also considered to be important in other European countries (Rye, Welsch, et al. 2011).

Finally, it is worth noting again that around half of the Victorian councils surveyed stated that they were likely to require a travel plan for a new development in the next 12 months. This clearly indicates an area of continued growth in the transport and land use planning profession in Victoria, and therefore one which deserves further attention as a research area to ensure there is a degree of consistency in the way that travel plans are required and subsequently implemented. It is also important that opportunities are taken where possible to identify best practice to guide councils in securing more effective travel plans through the planning process.

6. Conclusions

This paper has addressed a clear knowledge gap concerning the scale of travel planning practice in Victoria, specifically for new urban developments. It has shown that half of the councils had required a travel plan for a new development before, yet little monitoring of these has taken place to date.

From the results presented in this paper, it appears that Victoria is still somewhat at an embryonic stage with respect to travel planning for new developments. So, how can progress be made towards a more consistent and effective approach? For a start, greater leadership by the Victorian Government on promoting, supporting and guiding the delivery of travel plans for new developments would assist. A logical progression would incorporate specific training for council staff and other stakeholders, in combination with the development of clear state-wide guidance that can be applied consistently and easily by those involved in the travel planning process. In the longer term, changes to the Victorian state planning policy could help to ensure that travel plans for new developments are applied on a more consistent basis.

Future research directions arising from this paper include:

- Developing an appreciation for the types of new development (e.g. residential, office, retail, schools) that have required a travel plan

- Understanding perspectives of various stakeholders involved in the travel planning process for new developments, including state and local government, developers and their consultants, and the ultimate occupants of developments with a travel plan
- Assessing the effectiveness of travel plans for new developments, both in terms of their process and outcomes
- Understanding levels of travel planning practice for new developments and related issues faced elsewhere in Australia, potentially using the same approach as employed in this research.

Acknowledgements

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