

# **Incorporating the principles of psychological persuasion in communications components of travel behaviour change programs**

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## **INTRODUCTION**

The term Mobility Management (MM) has not strongly entrenched in the vocabulary of the transport profession within Australia. In contrast, the term Travel Demand Management (TDM) is better known, and is used to describe a variety of actions ranging from road pricing and physical restraint to community information and awareness (Wayte, 1991). TDM can be viewed as comprising a range of 'carrot' and 'stick' measures. The 'carrots', initiatives like staggered or flexible work hours, 'green travel plans', awareness raising and tailored marketing, involve little pain for individuals compared to 'sticks' such as parking access controls, congestion pricing and higher fuel taxes. The 'carrot' category of TDM measures are increasingly being promoted in Australia under the banner of TravelSmart.

The name TravelSmart originated in Western Australia which was a pioneer with a travel behaviour change program built round Individualised Marketing, or IndiMark®, (Brög and Schadler, 1998). There is now a national travel behaviour change program coordinated through the Australian Greenhouse Office with current implementations in several major Australian cities<sup>1</sup>. The development and evaluation of travel behaviour change programs has become an active area of research, development and application in Australia. The travel behaviour change programs deployed in Australia can be defined as a voluntary 'public engagement campaign designed to enable individuals to become more aware of their travel options and where possible exercise choices which reduce use of the private motor vehicle' (Rose and Ampt, 2003). These TravelSmart programs are being developed in three particular contexts: schools, workplaces and communities.

Since an underlying issue in all TravelSmart programs is trying to get people to consider their travel options, there is essentially an element of persuasive communications which underlie these programs. Research being conducted through the Institute of Transport Studies at Monash University, seeks to improve the uptake and effectiveness of a range of TravelSmart initiatives by incorporating the psychological principles of persuasion into the communication elements of these programs. In this paper the psychological principles of persuasion are outlined and the evaluation of the current projects where these are being applied is described. Those application contexts include a community based program built round IndiMark® in which personal contact is made with each household in the study area and they are then offered a range of services and information to help them try alternatives to the private car. In the second application, students entering first year at a major university are offered material to encourage them to consider options other than driving to campus.

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<sup>1</sup> The Australian Greenhouse office, which coordinates the national travel behaviour change program, hosts a national TravelSmart web page (<http://www.travelsmart.gov.au/index.html>) which provides details of TravelSmart initiatives underway in individual states.

## THE PSYCHOLOGICAL PRINCIPLES OF PERSUASION AND THEIR APPLICATION TO TRAVELSMART

In addition to the attractiveness of a requested activity such as considering travel options other than the private car, a number of psychological factors play a role in determining a person's response to the request. In the social psychological literature six persuasion principles are reported that can be systematically used as "heuristic rules" assisting people in their decision to yield or not to a request (Cialdini 1993; Cialdini, 2001; Groves et al. 1992; McKenzie-Moor and Smith 1999). These persuasion principles are of particular use in a situation of low personal involvement such as daily travel decisions, where information is processed in a routinized manner because the individual has no special interest to engage in effortful thinking. The following sub-sections outline the six principles and illustrate their possible application in a TravelSmart context.

**Reciprocation:** The principle of reciprocation is based on the deeply seated human need to establish strong social networks with perpetual and multiple forms of exchange because as noted by Groves et al. (1992) "... people thus feel obligated to respond to positive behaviour received (e.g., gifts, favours, services, concessions) with positive behaviour in return". However, the authors point out that according to the theory of reactance (Brehm 1966) compliance is inhibited when the earlier behaviour received is not viewed as a genuine favour but rather as a bribe. Thus, according to empirical evidence the strategy requires that an incentive is given UPFRONT and UNCONDITIONALLY, leaving the perception of a genuine favour and the voluntary character of successive decisions intact.

The mechanism of reciprocation is effective from the very start of an interpersonal exchange and that is why this strategy is particularly useful when addressing a target population for the first time. A policy intervention aiming at changing people's behaviour should include a service or gift of value to the target population to be handed out first, before the target population is asked to participate and engage in effortful tasks.

For the community-based TravelSmart campaign, a local community guide could be placed at the very start of the intervention. Containing a lot of detailed information about local retailers, services, leisure activities and locations, this would be a valuable gift provided unconditionally and upfront. However, such a community guide would have to be presented in the appropriate way in order to prevent the recipients from mistaking it for "junk mail" (e.g. by listing medical services and other community services before the retailers). For respondents who claim that external barriers prevent them from participating in TravelSmart, an additional form of reciprocation tactic could be used in the form of a concession: for example, the donation to a Government endorsed tree planting initiative designed to increase the carbon sinks from reforestation. In the current community-based TravelSmart trial in the Melbourne municipality of Darebin, a field experiment is testing the impact of a pre-intervention phase where an unconditional gift in the form of an environmentally friendly shopping bag and a discount voucher for the local shopping centre are being used to trigger a reciprocation response -once the household is contacted - for recruitment in the TravelSmart program. Likewise in a TravelSmart initiative targeting first year students at Monash University the upfront gift are five free public transport tickets and a professionally designed campus access map.

**Commitment and consistency:** The principle of commitment is narrowly linked to the desire to be, or at least appear to be, consistent. Once a freely chosen position has been taken by an individual, a tendency to act in line with the commitment will guide further actions. This tendency is even stronger when a person's values are identified first and the

communicator then is able to point out that the request is consistent with these values. The recipient of the message then has the opportunity to “own” the reason for accepting the request (Cialdini 2001). Hence, before the mechanism of consistency is activated, an initial commitment has to be generated in the target person. Even if the first commitment is very small, bigger requests later on will still be accepted because of the consistency requirement. This commitment-consistency mechanism has been reported to be self enforcing, especially when the commitments are written (Werner et al. 1995) or made in public (Pallak et al. 1980). Interestingly, empirical evidence also reveals that the initial commitment does not have to be closely related to the exact nature of the final request (e.g. environmentally friendly travel behaviour), but that it is sufficient to relate it to a similar area of concern (pro-environmental behaviour in general or in an area other than transport) (Freedman et al. 1966).

For the TravelSmart program being pilot tested in Victoria, the strategy of using a small initial commitment to induce further action consistent with the request has been used only marginally. A multitude of options are available, ranging from initial opinion surveys confirming the necessity of recycling, water saving, reduction of the use of plastic bags etc. to the signature of petitions to support specific pro-environmental communal policies. In the Monash University TravelSmart program students are asked to ‘enrol’ in the program as part of a process to ensure informed consent to participate in the evaluation component to follow the implementation. Signing the enrolment form is a tangible form of commitment.

**Social proof:** The principle of social proof states that beliefs, attitudes and actions of similar others are used as standards for one’s own beliefs, attitudes and behaviour (Festinger 1954). According to this heuristic process of social validation, the willingness to comply with a request is increased when supported by the belief or evidence that similar peers comply with it as well.

A very recent example of nature conservation demonstrates that social proof can operate in the unintended direction when applied wrongly. Because the Petrified Forest National Park in Arizona had been added to the list of America’s 10 most endangered national parks, park officials sought to run a campaign against the theft of petrified wood pieces by the park’s visitors. Thus, signage was installed that was intended to induce visitors to refrain from theft, reading: “Your heritage is being vandalized every day by theft losses of petrified wood of 14 tons a year, mostly a small piece at a time”. However, this message seemed to increase theft substantially, because the visitors learned that the negative behaviour was in fact performed by many other visitors, as well – social proof from similar others (Cialdini et al. forthcoming). Later controlled experiments by a team of social psychologists from Arizona State University demonstrated that a revised sign saying that “many past visitors have preserved the environment by not taking away any petrified wood” was able to correct the unintended intervention outcome by establishing social proof in the “right” direction (Cialdini et al. forthcoming).

For travel behaviour change initiatives, a reduction in uncertainty about modal options and wrong perceptions that people have (a view that is consistent with the initiators of IndiMark®), the promotion of modal alternatives to the car by similar peers or within peer-groups, and the support from many different community based stakeholder groups and associations, are some examples of how to use the principle of social proof. Again, using the Monash University TravelSmart initiative as an example, the program is delivered as part of the formal university enrolment process and through social proof demonstrates that all incoming students are part of an initiative to travel smarter to campus.

**Liking:** The principle of liking states that people are increasingly inclined to follow a request brought forward by someone they like. Factors that enhance liking have found to be similarity of attitude (Byrne 1979), background (Stotland et al. 1961), physical attractiveness (Benson et al. 1976), dress (Suedfeld et al. 1971) and finally the use of praise (Drachman et al. 1978) and cooperation (Aronson et al. 1987). In private sector marketing, the “Tupperware party” is a setting par excellence combining the different features mentioned above. Similar examples are the marketing strategy of connecting products with the Olympic Games or with national sports heroes.

A TravelSmart intervention should carefully select facilitators that are highly esteemed or liked by the target population and attempt to induce the thinking process about travel alternatives in a peer group setting (e.g. Green Transport Plan for the neighbourhood, for the Church group, etc.). The Monash University TravelSmart program is delivered by fellow students, recruited and trained to deliver the face to face engagement with first year students when they receive their travel to campus information kit as part of the enrolment process.

**Authority:** The principle of authority states that when making a decision it is common to seek expert advice from an acknowledged source, for example medical, legal, financial or any other professional expertise (Bushman 1984), or to comply with the rules of a properly constituted authority (Groves et al. 1992). Interestingly, the external appearance of authority represented by specific symbols such as a uniform, a professional title, etc. is often sufficient to establish expert appearance (Bickman 1974). The probability of compliance is increased for a request brought forward by a source whose authority is perceived to be legitimate and the credibility of the source is thus an important feature of the persuasive communication (Eagly and Chaiken 1975).

In TravelSmart it is of capital importance to involve mobility councillors that are familiar with the local conditions and that are able to efficiently support the individual in finding new solutions. A creative version of the authority principle is the home-visits of bus drivers (as applied in the IndiMark® program), who explain the local public transport options to the participants. Likewise, representatives from the local bus companies have been active participants in the TravelSmart initiative at Monash University since they are on hand to help provide the tailored travel information to the incoming first year students as part of their enrolment at the University.

**Scarcity:** The principle of scarcity reflects the fact that as opportunities become more scarce they are perceived as more valuable (Mazis 1975). This perception is based on the experience that valuable things are normally rare and that under these conditions hesitating to make a choice may result in a loss of future opportunities. Social psychology recommends the use of negative message framing for the promotion of pro-environmental behaviour (McKenzie-Moor 2002), and to emphasise losses which occur as a result of inaction rather than savings as a result of taking action. Yates (1982) demonstrated in a study on energy conservation that the response to the program was much stronger in those households who were told “how much money they would lose without the insulation” than in those households who were informed about possible savings.

This strategy might also be adopted for community based TravelSmart, for example on an individual level by demonstrating the loss in money and time spent on travelling and the loss in opportunities for physical activity when travel patterns remain unchanged. On a community level, the loss in neighbourhood quality and a pollution and noise free environment would be the negative message framing. In the University setting an

emphasis is placed on how much money the students are losing by driving to campus and having to pay parking fees thereby building on the scarcity principle and an aversion to loss to promote consideration of other travel alternatives.

Of particular interest in the research being conducted is the impact of combining the six principles. The recipient of the Green Bag uses it for reducing plastic bags, a rather small effort, and by doing so, starts to commit to environmental friendly behaviour. This is done publicly through being seen walking around with the Green Bag. In addition, using the logos of the major stake holder, the local traders association, the principle of social proof is used as well.

## **EVALUATING THE IMPACT OF PERSUASION PRINCIPLES IN CURRENT TRAVELSMART PROJECTS**

Comments in the preceding section have focussed on two application contexts for the persuasion principles. One is a community-based program and the other is a special workplace, i.e. a large University. In each case a scientific approach is being taken to measure the impact of the persuasion principles on the effectiveness of the TravelSmart programs.

Following earlier pilot studies in three Melbourne communities a major community TravelSmart program built around the IndiMark® program. This program is being delivered to 30,000 households in the Municipality of Darebin. A parallel PhD project is testing the impact of application of the principles of psychological persuasion on the uptake and effectiveness of the program. The field trial involves treating slightly over 800 households with a modified TravelSmart program which includes a pre-intervention phase and modifications to the communications with the household. The evaluation is focussing on a group of just under 400 households (of the 800 which are 'treated') along with a separate group of 'control' households. Program effectiveness is to be evaluated by recording the intervention up-take of TravelSmart and by using before and after panel measures of private vehicle use based on odometer readings.

The University TravelSmart initiative is building on a successful pilot conducted in 2002-03 (Cooper and Meiklejohn, 2003) which saw increased use of cycling and public transport use by students and a decline in the percentage of students driving alone to campus. As part of the 2004 enrolment process the TravelSmart program was targeted on first year students. This target group is ideal for a travel behaviour change initiative because the transition to University marks a dramatic change in their travel patterns. The experimental design for the evaluation involved creating a treatment group (about 3,000 students) and a control group (about 1,000 students). The evaluation of the effectiveness is being based on a five day travel diary implemented on line. In addition to drawing comparisons between the treatment and control groups in 2004, use will also be made of results from a campus wide travel survey conducted last year using similar methodology.

## **CONCLUSIONS**

Mobility management in Australia is largely operating under the banner of TravelSmart which encompasses voluntary travel behaviour change programs designed to reduce reliance on private cars by encouraging individuals to make choices to use other forms of transport. The development and evaluation of travel behaviour change programs is an active area of research, development and application in Australia.

The need for persuasive communications is a fundamental component of TravelSmart programs. Current research is focussing on the application of the -psychological principles of persuasion in this context. This research seeks to understand the impact of embedding the six principles of reciprocity, commitment and consistency, social proof, liking, authority and scarcity, on the uptake and effectiveness of TravelSmart programs. Current projects are taking a scientific approach to measuring the impact of the persuasion principles on the effectiveness of the TravelSmart programs being delivered in a community and University setting. The results of those evaluations will potentially have implications for a wide range of programs which seek to encourage individuals to voluntarily change their travel behaviour.

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