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A NEW APPROACH FOR TRAVEL BEHAVIOUR CHANGE IN UNIVERSITIES

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ABSTRACT

TravelSmart is a Victorian state government travel behaviour change program. It is voluntary and has three broad program streams covering schools, workplaces and communities. It has developed and implemented a variety of approaches across the three streams.

In 2002-03, TravelSmart tested new travel behaviour change methodologies for students at the Clayton campus of Monash University. This involved developing and delivering packs of tailored information and incentives.

This paper outlines the development of the intervention against the historical background of traditional travel behaviour change interventions, primarily in the United States and Europe.

It discusses problems faced during the intervention and provides results which saw increases in the use of cycling and public transport by students and a decline in the percentage of students driving alone to campus.

1. INTRODUCTION

University and college campuses are generally viewed as positive environments for the application of travel behaviour change programs.

Mirroring the growth in vehicle ownership and use in broader society, universities have faced increasing pressure to mitigate the effects of this traffic and, if, possible, restrict it.

For university administrations, the cost of providing parking to meet demand is a consideration not only in the immediate cost of installing and maintaining the spaces, but also in the opportunity costs of the land set aside for parking.

For students, cost savings are a key motivation for involvement in travel behaviour change programs. Other considerations, such as improved health and concern for the environment are much weaker factors as far as students are concerned in terms of them becoming actively involved in changing their behaviour.

For staff, and the assumption here is that they are generally older than the student population, health considerations may be a stronger motivation as with any employee.

This distinction between staff and students is an important one to be considered by those developing and implementing TDM programs for tertiary institutions. While staff can be covered by a green travel plan as for any other large employer, the behaviour and irregular movements of students make such a structured approach more difficult.

1.1 UNIVERSITY PROGRAMS

Travel behaviour change programs at tertiary institutions have covered a broad range of approaches, including:

- passes allowing free use of public transport (such as the U-PASS program);
- parking management mechanisms such as increasing charges and providing cash out options;
- banning students from owning or bringing cars to campus;
- active marketing of existing transport alternatives, and
- improving infrastructure and provision of existing services.

This section of the paper examines these approaches and discusses their advantages and disadvantages in application and effect.

1.2 PASSES ALLOWING FREE USE OF PUBLIC TRANSPORT

In the United States and Canada, many colleges and universities have offered free or subsidised public transport passes, usually under the banner of the U-PASS

program. Under U-PASS, a campus identification card effectively becomes a free public transport pass, purchased by the institution. More than fifty colleges and universities in the US and Canada currently run such programs offering free use of the local public transport system to more than 800 000 students at an average cost of $US30 per student per year.

There are multiple benefits for the various stakeholders in U-PASS programs. For the students, there is the benefit of gaining free passage on the public transport system during their years of study. The university or college also gains through reduced demand for parking spaces, improved access for students to get to campus and classes and also acts as a popular incentive to recruit and retain students.

Local public transport operators gain from increased short-term patronage numbers – on average, student patronage increases between 71 and 200 percent during the first year of operation of a U-PASS program, and continued to increase between 2 and 10 percent annually after that. Operators have also noted that the increased patronage flowing on as a result of U-PASS programs has reduced overall operating cost per passenger.

On the surface, a U-PASS program would appear to be an ideal win-win-win solution for student transport needs. However, there are a number of potential problems with the program. The biggest is cost. At an average cost of $30US per student, operating costs for the institution can quickly run into millions of dollars per year. When weighed against a one-off cost of constructing a car park in an attempt to solve what may be viewed as an access problem, such programs may not be seen as such a good long term investment as the infrastructure of a car park. Of course, the use of land by a university for car parking, needs to be considered in terms of the value of the land employed for other uses.

From a travel behaviour change point of view, the question that must be asked about such programs is “do they promote long term behavioural change?” Or are students likely at the end of their period of study to simply leave, say thanks for all the free rides and take up driving? Of course, this may be the best result in the circumstances.

1.3 PARKING MANAGEMENT MECHANISMS

As with any large employer, a university can manage the demand for its parking spaces by increasing the price.

The key to acceptance of such a policy is to set it within the context of visible improvements to transportation alternatives. The University of New South Wales increased prices for both casual and full time permit parking in 1999 and 2000 respectively.

Previously, the University had effectively subsidised parking for staff and students, while no such subsidy was available for public transport users. Space constraints on the site meant that any future parking expansion had to be through the provision of a multistorey facility.

The University commenced a Transport Program in 1998 which has seen a strong shift towards promotion of public transport and a 10 percent growth in bus patronage serving the campus in Kensington.

1.4 BANNING STUDENTS FROM OWNING OR BRINGING CARS TO CAMPUS

The renowned cycling culture of Cambridge, in the UK where 25 percent of local employees cycle to work on a regular basis, placing it on a par with Dutch levels of cycling, can be attributed to a number of factors, such as the medieval layout of the city and local government policies to actively encourage cycling and discourage unnecessary car use.

These are built upon a strong culture of student cycling which can be directly attributed to a University bye law which states that no student living within University accommodation can own a car within 10 miles of the centre of the city.

As the University and its colleges own the majority of student housing in Cambridge, this legislation underpins the cycling culture amongst students. As many students either go on to work within the confines of the University itself or for one of the many employers which have sprung up in Cambridge in recent years to feed off the intellectual vitality of the university, such as biotech and software design companies, students have often simply continued their cycling behaviour into their professional years.

In the US, the University of California campuses (Berkeley, Davis, Santa Barbara and UCLA) have all ban first year students from bringing cars to campus. These campuses have introduced these policies within the context of using the land previously set aside for parking for student housing, allowing more first year students to live closer to campus.

1.5 ACTIVE MARKETING OF EXISTING TRANSPORT ALTERNATIVES

All successful travel behaviour change programs, even those with a strong emphasis on improving infrastructure and services, involve a degree of promotion of those changes. Most often, they target a broad population through traditional mass marketing techniques, such as advertising of the services and benefits available to the broad campus population.

By contrast, the travel behaviour change intervention at Monash University was aimed more at individuals who were recruited for the program. Promotion to these participants has been carried out in much more depth and includes feedback from the participants themselves, than is possible through a mass marketing approach.

1.6 IMPROVING INFRASTRUCTURE AND PROVISION OF EXISTING SERVICES

Some universities and colleges work with local transport operators to provide improved services which more directly meet the needs of students attending the campus rather than as users of the overall system

For example, in the UK, the University of Southampton is working with the local operator, First Bus, to run a service linking the various campuses of the university with each other, and with the city centre. This service runs not only during class times but also on certain nights and weekends to entertainment and recreational venues.

Similar services are run by universities in the US, such as UCLA, Washington and Stanford.

1.7 TRAVELSMART AT MONASH UNIVERSITY

The development of coordinated TDM programs at universities and colleges has largely taken place in North America and Europe. While Australian and New Zealand tertiary institutions do have carpooling programs or run promotional campaigns for walking, cycling and public transport, often through student offices, there has been little work done on the development of comprehensive TDM programs, although this is now proceeding.

The TravelSmart program in the state of Victoria covers three sectors – schools, workplaces and communities. In the development of each, it has sought to build on existing best practice as well as trial innovative techniques.

In the workplaces sector, there existed a program of work on the development and application of green travel plans with Victorian employers, including one university – La Trobe University in the north of Melbourne.

TravelSmart had been approached by the Monash University student's association (MSA) which was interested in supporting any travel behaviour change program developed and applied on campus. The student association is funded out of student contributions and university central funding and supports student life on campus.

It has a transport office, with two staff, which supplies information about transport and services such as a carpooling scheme, as well as advocating for better services. This support from the MSA was an important factor in the selection of Monash University's Clayton campus in the TravelSmart trial.

The Clayton campus is located in Melbourne's south-east on an arterial road network. The nearest train stations are considered beyond walking distance for most students. The campus is well served by buses running to surrounding suburbs.

The campus itself has its buildings located centrally and surrounded by 13 000 car parking spaces. Students can buy an annual permit costing $77 to park on-site. This does not necessarily guarantee them a space each day.

An important factor to bear in mind is that university students in Victoria must pay for their annual public transport concession card. This carries an annual cost of $79.20. The concession card then allows holders to half price public transport fares.

Apart from the considerable administrative hurdles involved in getting a card, which students have reported is a disincentive, students effectively weigh up at the beginning of the academic year, whether they're going to spend their money on the parking permit or the concession card. Students report that they're unlikely to purchase both.

Anecdotal evidence clearly suggests that many students evade paying fares altogether rather than purchase a concession card. It should be noted that Victoria is the only state in Australia that charges tertiary students for a concession card. Part-time and international students are not eligible for a concession card.

2. METHOD

The TravelSmart process involved initial qualitative work, a small scale pilot and then a large scale pilot. The program lasted a year and targeted first students arriving at the beginning of the 2003 academic year in the large scale pilot.

2.1 QUALITATIVE RESEARCH

The qualitative research was carried out through focus groups which examined the perceptions of travel and transport by existing students at Monash and also considered what may motivate them to increase their use of public transport, walking and cycling in the future.

The focus groups identified money as the key motivator with the environment and health and fitness as being relatively unimportant to the students. It is clear that students are at a stage in life when they perceive themselves as largely indestructible but poor.

Another key finding was that decisions about how they were to travel to campus were made early in a student's time at university and that they tended to stick to that method throughout their years of study. As a result of this finding, it was decided that the roll out of a large scale pilot would be restricted to first year students as they were less likely to have ingrained travel habits than their older colleagues.

2.2 SMALL SCALE PILOT

The small scale pilot approached 31 students to test out the process and materials that had been developed in draft. The TravelSmart program for Monash focused on the provision of information, simplifying the complex network of bus routes serving the university and incentives of a high monetary value, essentially public transport tickets.

The approach taken was to devise a series of 'packs' aimed at encouraging the greater use of a particular mode identified as being of interest to the individual, and a consequent reduction in car use. The packs would combine information, incentives and gifts to help gain attention and interest from the outset. In this way only a small number of pack types would be needed reducing the work necessary in later stages of the program.

In addition it was decided to select participating students into a mode defined group on the basis of the travel options available to them, rather than asking them to nominate preferred modes. It became clear early in the program that many participants had little pre-existing knowledge about the public transport system and could not reliably judge whether their journey was feasible on public transport or not.

The small number of generic pack types and the move away from self selection were both important to the design of the program, the eventual outcome and the potential for rolling out the program in the future. By restricting the number of packs but making them as relevant as possible within their limitations, it was hoped that packs would not only prove to be effective in encouraging change but also be inexpensive to develop and distribute to as large a population as possible.

Other issues identified in the small scale pilot included a reinforcement of the message that the cost of the student concession card acted as a disincentive to use public transport. From this, it was decided to test this in a more quantitative manner by providing some of the students participating in the large scale pilot with free concession cards to determine whether they were more likely to use public transport as a result.

2.3 TARGET GROUP

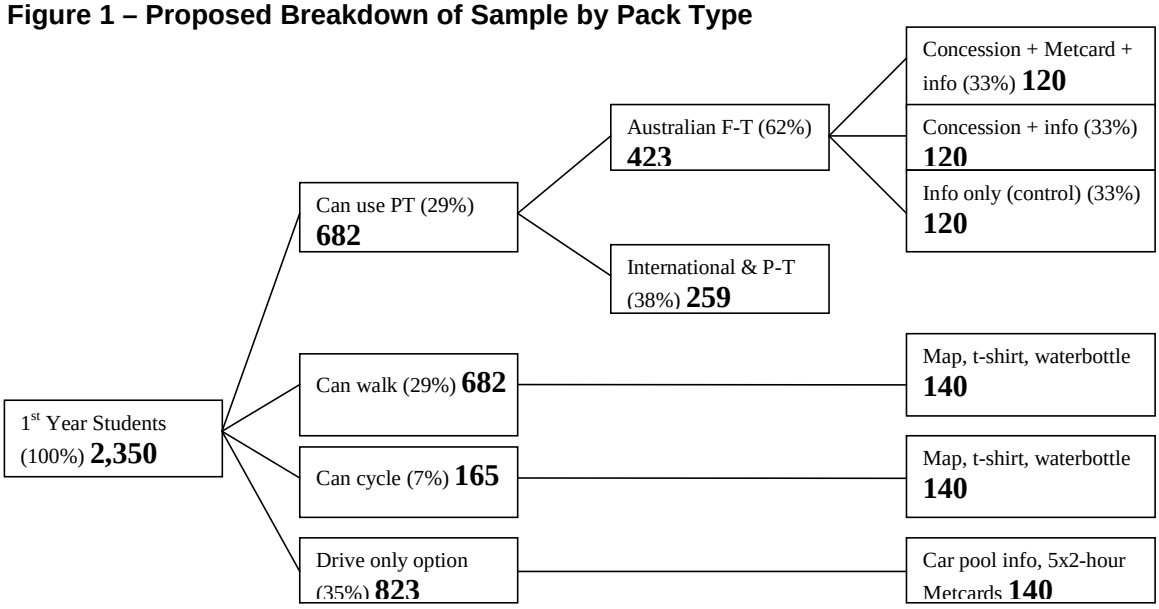
The large scale pilot selected only first year, full-time Australian students enrolling at Monash during January and February 2003. The pilot sought to reach 1000 students.

First years were selected to maximize the use of resources by focusing on students who had not yet formed ingrained travel habits. A second issue affected the decision to target first years. It was deemed unacceptable within the program to supply free Metcards to those already using public transport for the home – workplace trip. As no first years were already making the trip between Clayton Campus and their home they were not considered to be prior public transport users, thus simplifying the later stage of the program roll out. Within a university context, implementation of a TravelSmart program targeting first years will contact the majority of students within a three year period.

2.4 SEGMENTATION OF THE TARGET GROUP

Figure 1 shows the proposed breakdown of the sample and target numbers before the pilot commenced. This assumed breakdown informed the planning of the large scale pilot.

Figure 1 – Proposed Breakdown of Sample by Pack Type



It can be seen that at the outset first year students were assumed to fall into one of four groups defined by their potential mode of travel, which was based on home location, distance from Clayton Campus and availability of public transport:

- Can potentially use public transport;
- Can potentially walk;
- Can potentially cycle; and,
- Public transport, walking and cycling are not realistic travel options on a day to day basis and driving / car pooling are the only probable options ('drive' group).

The estimated percentages falling into each group were based on the small scale pilot. The public transport group was split into three to test the concession card issue. Minimum numbers were required in each group to allow for expected attrition and to ensure a robust analysis of the data.

This requirement for a minimum number (120) of potential public transport users drove the numbers of students required overall to be recruited and led to over-recruitment in the 'drive' group. It was expected that the walk group would also be over-recruited, however, this was not the case in practice.

2.5 TRAVELSMART PACKS

Five pack types were developed for the Clayton large scale pilot, based on travel options available and to test the implications of concession card availability on public transport use. Potential walkers and cyclists were combined as there would be little difference between the two packs and propensity to cycle and/or walk is affected by a range of factors including cycle ownership, fitness, weather, traffic levels and local environment.

The need for a small number of generic pack types was identified as necessary in the large scale pilot for ease of administration. Further, considering the future roll out of the program to much larger numbers of students, it was considered important to simplify the overall process as far as possible. The value of this became clear during the collation and collection phases of the program.

The pack contents for the Monash pilot were simplified to focus on information and the key incentives of a concession card and tickets where they were received. Some information was designed and produced specifically for the program. The information simplified the transport information available, presented it in a single leaflet and made it attractive to the students.

Organising bulk orders of train and bus timetables involved considerable planning and in some cases was simply not possible. This was identified as an issue for future programs.

It was decided to include a mix of concession cards and Metcards as incentives to trial public transport and to test the impact of concession card availability on travel choices. Concession cards were supplied to participating students at no cost and the administration process was simplified. Gifts of waterbottles and t-shirts were also included in some of the packs.

The packs contained:

- Pack 1 – Concession card, monthly Metcard, information, trip plan
- Pack 2 – Concession card, information, trip plan
- Pack 3 – Information, trip plan
- Pack 4 – Walk / cycle information, waterbottle, t-shirt
- Pack 5 – 5 2-hour Metcards, information

2.6 RECRUITMENT

Over 2,000 first year students were recruited at two on-site enrolment sessions, in January and February 2003.

Only full-time Australians enrolled during these sessions, with alternative enrolment options available to part-time and international students. This method of recruitment essentially excluded all part-time and international students from the large scale pilot. While this was considered appropriate for the large scale pilot, principally due to the desire to test the impact of concession cards on travel choice, it would need to be reviewed in a future roll out to all students, with additional recruitment options for part-time and international students.

Due to the large volume of students enrolling, a short A4 sized self-complete questionnaire comprising ten questions was designed. Students were asked about their likely home location during term time and their potential transport options. The aim of the questionnaire was to capture enough demographical and travel related information to assign a pack type.

In addition, an A5 TravelSmart brochure was produced as an awareness-building tool and to briefly outline the purpose and basic facts of the project. In total 2,184 students were recruited.

2.7 SELECTION

Following the completion of the recruitment exercise, students' details were placed on a database. The database provided the information required to select each recruited student into a group based on the most appropriate potential mode of travel. While a range of data was considered, ultimately selection was based entirely on term time address location and the trip to Clayton Campus by the modes identified. Potential cyclists were only identified if they also owned a cycle.

Initially walkers and cyclists were selected based on the distance between their home and campus. Walking was deemed to be possible for everyone living in Clayton and cycling was considered to be an appropriate option for distances of up to 7km. Ownership of a cycle was a pre-requisite for selection into this group if the participant was living beyond Clayton.

With the walkers and cyclists removed, public transport users were identified with the assistance of VicTrip, the public transport information service in Melbourne. VicTrip also provided personalised trip solutions for the students receiving packs 1, 2 and 3.

The drivers, to receive pack 5 were those people left after sufficient public transport users had been identified. This group was over-recruited and so some students were discarded at this stage, on a first come, first-processed basis.

In total 1,179 students were assigned a pack type, with the remainder being discarded.

2.8 CALL BACK

All the students recruited and selected to a pack type were identified on a database. The field team then made efforts to contact each by phone to conduct a further questionnaire and obtain a commitment to collect a TravelSmart pack.

Of the 1,179 students to be contacted at this stage it was hoped that the following targets could be achieved:

- Pack 1: 120 people
- Pack 2: 120 people
- Pack 3: 120 people
- Pack 4: 280 people
- Pack 5: 140 people

During the call back phone calls students were read out different text inserts depending on the pack types available. Interviewing was ordered so each pack quota was filled randomly, irrespective of pack number.

The survey captured further demographical information, whilst gauging current attitudes and behaviour towards public transport. It also provided information about the pack contents and collection, such as designated pack collection dates and place.

In the call back stage, 771 of 2,184 (33%) students agreed to pick up a pack, with all the quotas being filled except the walking and cycling group which was down by only 5%.

2.9 PACK COLLATION

The need for a small number of pack types was proven through the pack collation and collection stages of the program. The packs were collated by casual staff following made up examples that demonstrated pack content and presentation, ensuring the information was clearly visible to encourage further investigation by the participant. It was also necessary to place any free tickets in the ticket wallet and make sure they were clearly visible without opening the information wallet. This allows the tickets to be easily checked and also ensures the participant receiving the tickets is immediately aware of them.

To maintain simplicity, public transport users were supplied with a personalised letter containing a trip plan separately to their pack. In this way packs were not individualised which would have led to additional effort at the collation and collection stages. The other packs contained a general letter bringing the participants' attention to the contents of the pack and suggesting the identified alternative. These letters were placed inside the pack.

2.10 COLLECTION

At Clayton Campus participants were advised to collect their packs from the MSA office. A member of the project team assisted MSA in the distribution. Each confirmed participant was listed with the pack type against his or her name. Students had to sign for packs and concession cards on collection.

Each pack type was picked up over a set number of days so only one pack type was being handled at once. This reduced the risk of handing out the wrong pack.

Those students receiving packs 1 and 2 were eligible for a free concession card. Their packs contained a special TravelSmart application form. A simplified application process had been agreed with the public transport operators whereby the forms were collected by MSA, bulk processed by the local station and the cards were then colleted from a central point at the university.

A total of 491 packs were collected by students during this phase of the program. Figure 2 shows the packs collected by type.

Figure 2 - Pack collection results

Pack		Collection Target	Packs Collected	%
Public transport	**1**	120	107	89%
	2	120	109	91%
	3	120	64	53%
Walk/Cycle	**4**	266	130	49%
Drive	**5**	140	81	57%
Total		**766**	**491**	**64%**

Overall 64% of packs were collected. The highest proportion collected was for packs 1 and 2 – students knew they would be receiving incentives prior to pack collection. Pack 5 also included Metcards. Those packs with concession cards had much higher collection rates than the other packs.

3. RESULTS

3.1 EVALUATION

In order to evaluate the TravelSmart process and the impact of the packs on travel choice all the 491 students who collected a pack were recontacted approximately four weeks after pack collection.

A ten minute questionnaire was designed to evaluate perceptions and attitudes towards the TravelSmart pack/process. It included questions to collect specific pack related insights, a battery of attitudinal statements designed to reflect key social change behaviour components (i.e. aspiration, knowledge etc) and questions designed to assess behaviour change. As this was the last chance to speak to the participating students, it was considered important to cover off on as many evaluative areas as possible.

The results following the evaluation stage are shown in Figure 3. Overall 93% of pack recipients completed an evaluation questionnaire.

Figure 3 - Results of Evaluation Stage

Pack		Target Interviews	Interviews Completed	%
Public Transport	**1**	107	99	93%
	2	109	103	94%
	3	64	62	97%
Walk/Cycle	**4**	130	121	93%
Drive	**5**	81	71	88%
Total		**491**	**456**	**93%**

The greatest fall off in numbers was between the call back and collection stages. While many students agreed to pick up packs, many did not. Attrition at this stage was much lower for packs 1 and 2 where students knew they would be offered a free annual concession card.

Once students had collected a pack, it was found they generally completed the evaluation stage of the program.

3.2 PARTICIPANTS

Considering responses at the call back stage of the process, for just those that participated in the program, that is collected packs and completed an evaluation questionnaire, there are general similarities between each pack group.

The majority (over 90% in most groups) of participants live at home with their family. The exception is participants in the pack 4 (walking and cycling) group. While nearly 60% of participants in this group reported living at home, around 30% reported living in university accommodation. This group were selected on the basis of living close enough to campus to facilitate walking and cycling and as such it would be expected that a relatively high proportion would be living in halls of residence.

Most participants intended to use public transport to get to and from the Clayton Campus. Similar results were seen for participants receiving packs 1, 2 and 3 (public transport), with fewer potential public transport users in the pack 4 group and a relatively high walk proportion – unsurprising as this group live relatively close to Clayton Campus. Pack group 5 showed the highest proportion of potential car use and again this would be expected as this group were considered to have difficult public transport journeys between home and Clayton Campus.

Over 70% of all participants said they intended to purchase a concession card at the call back stage, with a small proportion (around 10%) in each group having already purchased a card. The pack 3 group of participants were the exception with nearly 40% reporting that they had already purchased a concession card. Interestingly a higher proportion of participants in the pack 4 and 5 groups either intended to purchase a concession card or had already purchased one than intended to use public transport for the trip to and from Clayton Campus. Clearly there is an intention among students in both these groups to use public transport for trips to other destinations.

3.3 PACK PERCEPTIONS AND USE

Section A of the questionnaire asked participants about the packs and the items they had received.

The questionnaire asked participants to estimate how much they had used the items they had received in their TravelSmart pack, that is, had they used the item a lot, a few times, once or not at all.

The free Metcards (received in packs 1, 2 and 5) and the concession card (received with packs 1 and 2) were used more than other pack items by those that received them. The concession card was used at least once by 98% of those who received it while the monthly Metcard and 2-hour Metcards were used at least once by 86% and 83% of recipients respectively.

All the packs contained the same general transport information and of the information received, the Melbourne public transport map was the most used item (69% of respondents had used it at least once), followed by the Monash train/bus timetable (61%), an item produced specifically for the program. The Monash transport guide, another item produced specifically for Clayton students, was less well used by participants – few students reported using it a lot with most using it a few times, once or not at all (50% used it at least once).

Several timetables produced by public transport operators were included in the packs. Each of the timetables rated similarly with the bus timetables being used more than the train timetable.

Potential walkers and cyclists (pack 4) were also given a Monash cycle map, produced specifically for the program. This item did not rate very well, being used relatively little (only 21% of those who received it had used it at least once).

In addition to tickets and information the packs included gifts. All the packs included a TravelSmart ticket wallet and this item was used by about half (49%) of the respondents, with a reasonably high proportion reporting using the wallet a lot.

Potential walkers and cyclists (pack 4) were also given a waterbottle and t-shirt. The waterbottle was well used with 74% of respondents reporting they had used it at least once. The t-shirt had not been quite as well used but still rated well with 55% of respondents saying they had used it at least once.

In comparing responses between the pack types it is interesting to note that the same items tend to be rated differently by the recipients of different packs. Packs 1, 2 and 3 were all aimed at potential public transport users and each included the same information, however, pack 1 included a monthly Metcard and concession card

and pack 2 contained just a concession card, while pack 3 just contained information. Recipients of packs 1 and 2 rated the information items in their packs consistently higher than the recipients of pack 3.

The inclusion of free tickets and, in particular, the concession card clearly influenced the use. In the previous section it was also seen that pack collection rates were much higher for packs 1 and 2 than for pack 3. It seems the inclusion of high value items influences participation and also engagement in the program.

All participants were asked if they thought a concession card would be a positive incentive when it came to incorporating public transport as part of their travel options. The responses were very positive with a strong agreement that the concession card was a positive incentive. This result is backed up by the perceived usefulness of the concession card and the much more positive responses from recipients of packs 1 and 2 in comparison to recipients of pack 3.

3.4 PACK IMPACT ON TRANSPORT CHOICE

The questionnaire also looked at the impact of the program on transport choices.

The questionnaire asked respondents how the pack had impacted on their transport choices in terms of actual behaviour. Consistently through all the packs the program had the greatest impact on public transport, with 69% of all pack recipients saying they had used public transport more as a result of receiving their pack. Pack 1 recipients recorded the best result with 91% saying they had used public transport more. Interestingly pack 5, aimed at those with few public transport options for the trip from home to Clayton Campus had a greater influence on public transport use (59%) than pack 3 which was aimed at public transport use (53%).

Pack 3 had the least impact on car use (23% of recipients said they used their car less) and pack 4 had the greatest impact on cycling (16% of recipients said they cycled more). Overall, 33% of respondents had used their car less as a result of their pack.

The final question asked respondents to gauge how much their use of each mode had changed following receipt of their TravelSmart pack. Overall recipients had used their cars 25% less and used public transport 50% more. The other options all recorded a 25% increase, with the use of the halls of residence bus increasing by 50%.

Recipients of packs 1 and 2 recorded the greatest impact on car use with a 50% drop. Interestingly pack 1 had no impact on cycling while recipients of packs 2 and 4 reported cycling 50% more. Generally packs 1 and 2 had the greatest impact on travel behaviour among program participants.

Although the participants were all new students, they had begun using specific modes of transport by the time they received their TravelSmart packs. However, it should be noted that the baseline of travel behaviour may vary between the different participants. For example, some may be coming off a low base of use of a particular mode and so a 25% increase may not be considered so substantial.

The questionnaire only asked about relative changes in attitudes and transport choice, hence if someone was already using public transport for most of their trips they may record little impact.

3.5 SUMMARY

The summary of the evaluation are:

- The concession card rated very highly in terms of use, usefulness and perceived importance as an incentive to change travel behaviour.

- Metcards also rated highly, being rated most highly after the concession card in terms of use and usefulness.

- Packs 1 and 2 had very similar impacts despite the inclusion of a monthly Metcard in pack 1.

- The inclusion of perceived high value items in the pack impacted on overall participation in the program and had a relatively greater impact on pack use.

- All the packs impacted most on public transport use, despite the focus towards other modes in packs 4 and 5.

- Pack 4, aimed at walkers and cyclists, had the greatest impact on cycling while pack 5, aimed at those with little choice other than driving, had the greatest impact on trip combining. Pack 2, aimed at public transport use, had a slightly greater impact on walking than pack 4.

- Of the information items, the publicly available public transport map rated best. This map is available at a cost of $2.20.

- Of the items specifically produced for the program, the Monash train/bus timetable, providing a handy credit card sized reference for buses and trains at the nearest two rail stations - Huntingdale and Clayton - rated best. Despite the range of information it contained, the Monash transport guide did not rate very well in terms of use.

- Of all the gifts included, the ticket wallet, which was lowest cost item, rated best. It was printed with the phone number and website address for VicTrip and provided an easy way of displaying some of the information items and tickets in the TravelSmart packs.

- The waterbottle and t-shirts were also well rated by participants in terms of their usefulness but were placed in pack 4 only.

- All the packs reduced car use among recipients, with packs 1 and 2 having the greatest impact and pack 3 the least. All the packs had a positive effect on the use of alternatives to the car, and again packs 1 and 2 rated best.

- The best results were obtained when information was combined with incentives. Pack 3 contained only information (except for the ticket wallet) and consistently rated lowest.

4. CONCLUSIONS

The TravelSmart intervention at Monash University's Clayton campus in 2003 achieved its goals of testing a new methodology to bring about travel behaviour change.

The pilot project successfully developed and distributed tailored materials for the student participants, which were useful in encouraging changes of a 69% increase in the use of public transport and a 33% decline the use of the car.

It should be stressed that while these results are encouraging, more work needs to be done both to better refine the measurement of the amount of use of various modes by participants, and to improve the overall context within which the methodology is implemented.

Currently, Melbourne's public transport ticketing system does not offer an accurate indicator of how often a ticket is used. Customers are encourage to validate their ticket each time they travel but in reality, few do so beyond the initial validation, unless they are passing through an element of the system, such as certain railway stations, where validation is necessary to gain entry to or leave from the premises.

Given this set of circumstances, which is unlikely to change before 2007 when a new ticketing franchise will be operational, the onus for measurement comes back to TravelSmart. The program is currently discussing options for electronic surveying of the participating students through their university designated e-mail addresses.

A greater degree of involvement and participation on the part of the university administration will be required if this particular travel behaviour change approach is to be strengthened. Monash University is currently developing an integrated transport plan for the Clayton campus, which includes the development of a green transport plan. This reflects an increasing awareness of and willingness to use travel behaviour change techniques, both for staff and students.

TravelSmart intends to refine, repeat and expand the travel behaviour change methodology used in 2003 with the aim of recruiting all first year students in the coming 2004 intake. It will also be expanded to cover another campus of Monash University.

The thinking is that rolled out gradually over a number of years, the program will eventually cover all students at the campus bringing about substantial travel behaviour change on a wide-ranging and thorough basis.

It will also allow the program to grow and prove its value to the university. This is essential as it is anticipated that for this work to be sustainable, it must be adopted by the university as part of the services it offers to students.