



Australian Government

Department of the Environment, Water, Heritage and the Arts

**PUBLIC DISSEMINATION REPORT
GREENHOUSE GAS ABATEMENT PROGRAMME**

TravelSmart Western Australia



It's how you get there that counts

PUBLIC DISSEMINATION REPORT

Project Name: TravelSmart Western Australia

Grant Recipient: Department for Planning and Infrastructure

Project Associates: Town of Victoria Park, City of Canning, City of Gosnells, City of Nedlands, Town of Claremont, Town of Cottesloe, City of Perth, Town of Vincent, City of Stirling, Town of Bassendean, City of Swan, City of Joondalup, City of Melville, City of Rockingham, PATH Transit, SWAN Transit, Southern Coast Transit.

Location: Perth, Western Australia

Contact):

Colin Ashton-Graham, Project Leader TravelSmart Household

Tel: (08) 9216 8493

Email: colin.ashton-graham@dpi.wa.gov.au

Background to Project:

The collective actions of individual consumers in Australia drive energy consumption in the home (including the use of cars), accounting for 14 tonnes of CO₂-e emissions per household per annum. The upstream effects (embodied in production and freight) of the consumption of goods and services add another 16 tonnes per household. In total, household consumption accounts for around 25 per cent of national greenhouse emissions¹.

The British Government Stern Review, released in 2006, recognises that one of the three main policy responses to climate change involves removing barriers to behaviour change. This includes "...informing, educating and persuading individuals about what they can do to respond to climate change Dangerous climate change cannot be avoided solely through international agreements; it will take behavioural change by individuals and communities, particularly in relation to their housing, transport and food consumption decisions". The Stern Review also recognises that governments, businesses and individuals can all help to promote action through demonstrating leadership.

There is broad international agreement with the views outlined in the Stern Report as demonstrated by themes emerging from the Australian Federal Government Garnaut Review.

Developed in Western Australia in 1997, TravelSmart is an example of a successful government program that helps the local community to overcome the barriers to behaviour change that have been identified by Stern and Garnaut. It does this by working with individuals at a household level. It also supports cross-sectoral leadership by helping the business community, institutions (such as universities and hospitals), schools and local governments reduce the car dependence of their staff and customers.

TravelSmart contributes to the establishment of new social norms and a more robust community that is better able to use the travel alternatives to the car (such as walking, cycling or public transport). The social and political value of assisting the community to access alternatives to the car is most relevant to the emerging market forces associated with the decline in peak oil and the necessary policy responses (carbon pricing) being developed to tackle climate change.

TravelSmart Household uses an Individualised Marketing technique to engage with the community directly in the home. Communications include an initial letter, an engagement telephone call, the offer of a printed 'menu' of information, personal delivery of the information (by bicycle!) and follow up support. The information content is tailored to the locality and to the needs of the individual.

Between 1997 and 2005 the TravelSmart Household technique was developed and tested in a number of socio-geographic settings across Perth. The conclusion of these trials was that TravelSmart could deliver, as a minimum, a 5% reduction in private vehicle kilometers (vkt) when deployed in areas with urban designs that do not readily facilitate access by walking, cycling or public transport. In areas with permeable street systems and transit oriented development vkt reductions of 10 to 15% were achievable.

With support from the Greenhouse Gas Abatement Program it became feasible to deliver a large-scale roll out of TravelSmart Household to carefully targeted suburbs of Perth.

Project Description

With co-funding from the Australian Government's Greenhouse Gas Abatement Program, TravelSmart Household has been delivered to a target population of 218,500 residents across the Perth metropolitan area.

The target areas include parts of:

- Town of Victoria Park (25,360 residents)
- Cities of Canning and Gosnells (31,200 residents)
- City of Nedlands and Towns of Cottesloe and Claremont (28,000 residents)
- Town of Vincent and Cities of Perth and Stirling (39,565 residents)
- Town of Bassendean and City of Swan (22,400 residents)
- City of Joondalup (19,475 residents)
- City of Melville (38,500 residents)
- City of Rockingham (14,000 residents)

A modified TravelSmart Household technique was deployed to target approximately 80% of households within each project area. By including a high proportion of households with publicly listed telephone numbers in the target group it was possible to increase the contact rate and to provide the opportunity for the diffusion of information between households. Both telephone and door knocking was utilized to make contact with households. Depending on the response to initial contact, households were taken through a process that informed and motivated them to replace car trips with walking, cycling and public transport trips. The participation rate (ie. ordering information materials or services) for the initiative varied between 50 per cent and 60 per cent of the population contacted (the 'target' households).

The process was delivered over a two month period for each target community and encouraged behaviour change by:

- addressing information barriers by localising and simplifying information to make it relevant to people's needs;
- providing motivation through dialogue and personalised communication; and
- assisting with system experience, particularly for new users of public transport.

TravelSmart empowered people by providing advice and encouragement relevant to their unique situation, leaving behavioural choices up to them. It encouraged people to consider their travel choices and to try an alternative to the car for one or two trips a week. It did not tell people to get rid of their car or to reduce their mobility around the city.

Regular users of travel alternatives were 'rewarded' with simple and practical gifts designed to acknowledge their positive choices, whilst the interested group (and regular users with information needs) were offered information resources on walking, cycling and public transport. All of the information was available only on request, tailored to the exact needs of the household, and hand-delivered to the home.

The range of information available included:

- Locality maps showing services, bus and bicycle routes
- Stop-specific (pocket sized) public transport timetables
- Individually-tailored public transport timetables for specific journeys as requested by households
- Discounts at local bike shops

Many households responded to the information and started to change a few car trips each week. A proportion (less than 5%) of households became motivated to make changes but required more knowledge to understand the travel alternatives. As a result 'household visits' were provided, to identify the barriers to travel behaviour change. To further encourage public transport use, a 'test ticket' was provided to allow the resident to trial the system.

The only system change introduced as part of the behaviour change program was the supply of stop-specific timetable displays at major public transport stops in the area. In

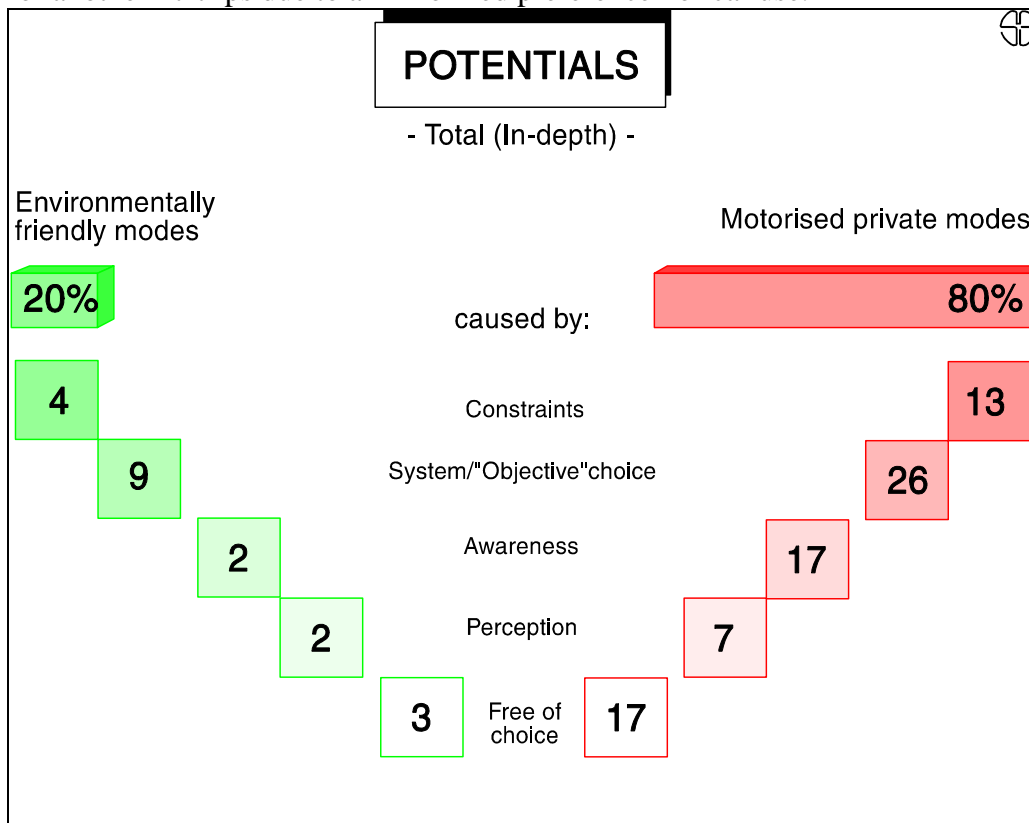
many cases, these also provided a more visible identification of the location of the bus stop.

Throughout the process both telephone discussions and written questionnaires were used to gain feedback from the participants.

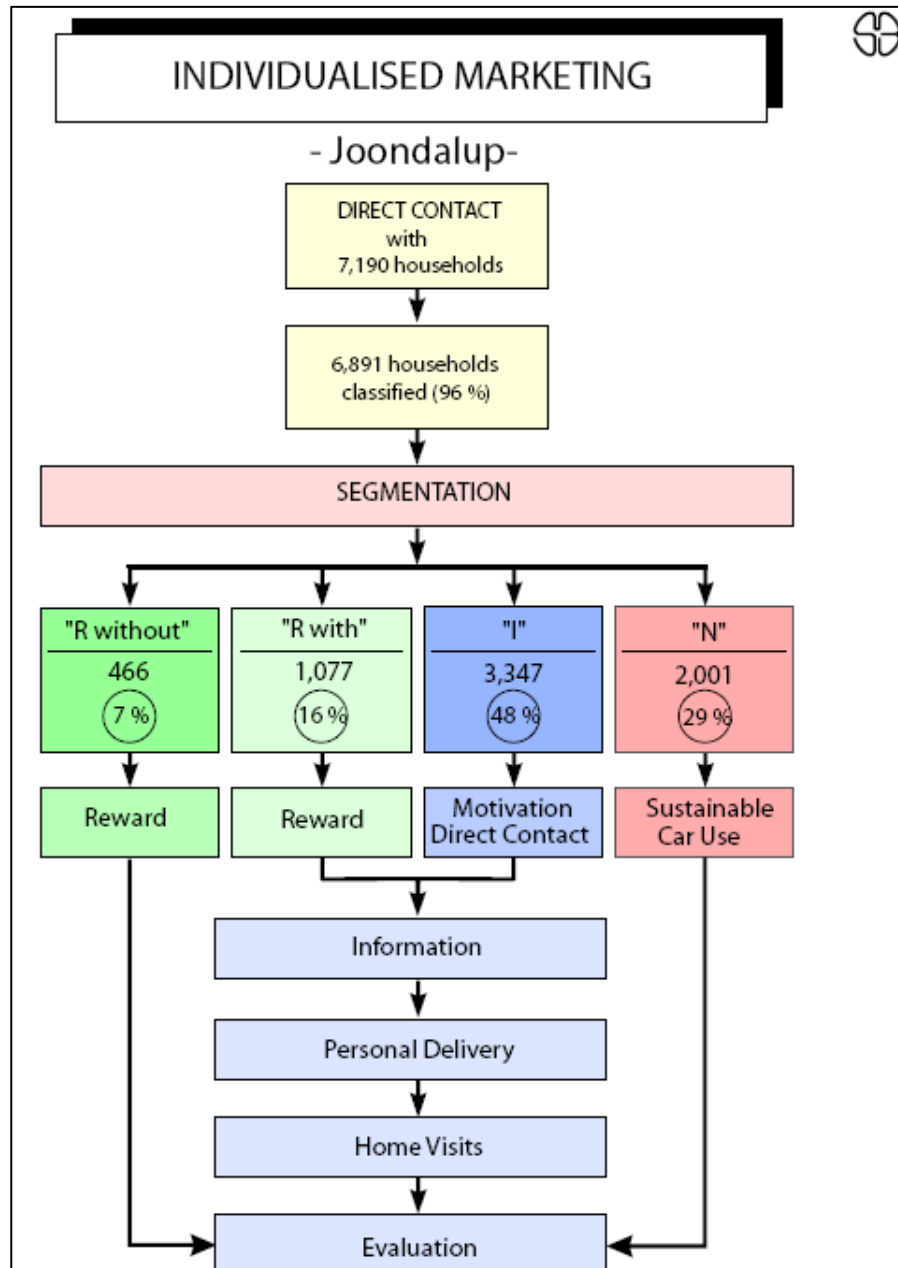
Evaluation was executed through random sample travel diary surveys conducted before and after the service delivery. The survey sample reflected the target households and included households that declined involvement in the TravelSmart program.

Implementation Methodology:

The Individualised Marketing technique employed by TravelSmart is based upon research identifying that 41% of trips (approximately half of all car trips) in Perth can be readily changed from the car to alternative options (see Figure 1 below: 'Potentials'). For the 80 in every 100 trips that are made by car, as a driver or passenger, 13 are 'constrained' to the car due to the need to carry heavy goods and 26 are only possible by car because the alternative options are not 'objectively' realistic (e.g. too far to bicycle). The remaining 41 in 100 trips do have an available alternative. The available alternatives are not used for 17 (of the 41 trips) because of a lack of 'awareness' of the alternatives, for 7 of the trips due to 'misperceptions' regarding the relative quality of travel options and for another 17 trips due to an 'informed preference' for car use.



In the case of TravelSmart Individualised Marketing, the 'technology' is the structured deployment of information and motivational tools to residents in such a way that the barriers to change (awareness, perception and choice) are addressed. The Individualised Marketing design is detailed in the flow chart (see Figure 2 below). Households are segmented on the basis of a contact telephone conversation and offered information that is tailored to their needs and house location.



Note: Table shown above depicts the segmentation from the Joondalup project only.

The segmentation types are:

“I” = Interested in the TravelSmart service

“R with” = Regular users of alternatives to the car who have further information needs

“R without” = Regular users of alternatives to the car without further information needs

“N” = Not interested in the TravelSmart service

What did the Project Achieve? (Technology/Infrastructure/Environmental/Consumer/Cost Saving)

The TravelSmart Household service was offered to 218,500 residents in 14 different Local Government areas across metropolitan Perth. Across all the projects the average contact rate was 93% with a segmentation of those households into 49% 'Interested', 21% 'Regular users' of alternatives and 30% 'Not interested'. The uptake of information and services was strong and overall feedback on the service very positive. The project demonstrated that a large-scale delivery of a household demand management approach to greenhouse gas abatement is achievable.

Evaluations have been completed for all of the 14 projects with a weighted average reduction in vehicle kilometers traveled of 10.3%. The immediate greenhouse gas abatement outcome for the 218,500 residents in the projects was a total of 64,900 tonnes per annum.

The (annual) outcomes in 2008 were:

- 203 million fewer car km
- 64,900 tonnes of CO₂-e abatement
- \$33 million reduction in car running costs
- Significant improvements in community participation in physical activity

All evaluation measures are based upon sample surveys of the target population and including a representative sample of households that were regular users of travel alternatives, those not interested in the service and those who actively took part.

Control group surveys were also conducted periodically throughout the program showing that Perth has seen an annual increase in vehicle kilometers of 1.3% on a per head of population basis..

The project is on track to achieve a Kyoto period CO₂-e abatement at a total project cost of less than \$28 per tonne and a GGAP cost of less than \$10 per tonne.

The profile of this large-scale Individualised Marketing program in Perth has stimulated other investments in trials of similar techniques in water demand management in WA. These trials have demonstrated metered reductions in water consumption (adjusted for seasonal control groups) in the order of 10%. The potential efficiencies of engaging households on the demand reduction of water, travel, energy and waste are now being trialed in a project entitled 'Living Smart' involving 15,000 households in two urban locations in Perth.

Key Facts:

Key Fact	Response
Total emissions without project (2010)	653,000 tonnes
Total emissions to date without project 2002, 2003, 2004, 2005 etc	2002: 575,000 tonnes 2003: 586,000 tonnes 2004: 597,000 tonnes 2005: 608,000 tonnes 2006: 619,000 tonnes 2007: 630,000 tonnes 2008: 642,000 tonnes Total:4,257,000 tonnes
Actual abatement to date, including 2002, 2003, 2004, 2005 etc	2002: 0 tonnes 2003: 0 tonnes 2004: 0 tonnes 2005: 0 tonnes 2006: 0 tonnes 2007: 25,000 tonnes 2008: 65,000 tonnes Total:90,000 tonnes
Abatement estimate for 2010	63,000 tonnes per annum
Abatement estimate for 2020	61,000 tonnes per annum
5 year abatement estimate - 2008-2012	317,000 tonnes
Estimate of post Kyoto abatement – 2013-2018	307,000 tonnes
Total Cost of project	\$8.8 million
Actual Cost to Date	\$8.4 million
GGAP Funding Received	\$3.0 million
Grant Recipient / Project Associates' Funding	\$5.8 million

Assumptions used in calculating actual abatement to date:

Abatement calculations are based upon the application of survey sample measures of relative vehicle kilometer reductions to the target population. The emissions factor applied is the fleet average city cycle, full fuel cycle emissions per kilometer as calculated by Apelbaum Australian Transport Facts. This factor (0.325 Kg CO₂-e per km) is agreed in the Deed for GGAP funding of the project and is assumed to reduce to 0.313 Kg CO₂-e per km by 2012 as fleet fuel efficiency improves.

Any other information you feel the public/industry would like to know:

The projected abatement costs for the Living Smart adaptation of TravelSmart are less than \$20 per tonne over a 10-year evaluation of the benefits (based upon a service cost of \$200 per household and an abatement of 1,500 kg per annum accumulating, with some

behavioural decay, to 10,000 kg over 10 years). If a two tonne per household per annum reduction is achieved, and the mix of technologies and behaviours results in a minimal decay in abatement, a cost to government of \$10 per tonne is achievable.

There are multiple socio-economic benefits to Living Smart including: superior health outcomes (from physical activity); equitable access; reduced household financial stress; reduced congestion; reduced demand for peak load electricity; reduced stress on water supplies; improved air quality and efficient public transport loadings.

ⁱ SMEC (2008). *DPI Living Smart Report*. Department for Planning and Infrastructure, Western Australia. <http://www.dpi.wa.gov.au/livingsmart>