



Australian Government

Department of the Environment, Water, Heritage and the Arts

PUBLIC DISSEMINATION REPORT
GREENHOUSE GAS ABATEMENT PROGRAMME

National Travel Behaviour Change Project

PUBLIC DISSEMINATION REPORT

Project Name: National Travel Behaviour Change Project

Grant Recipients:

- ACT Department of Territory and Municipal Services
- Queensland Transport
- South Australia Department for Transport Energy and Infrastructure
- Victorian Department of Infrastructure

Location:

Locations were chosen that offered householders a good range of transport options (including cycling and walking and public transport) and a number of local centers with services and businesses.

ATC - Belconnen district

QLD - Brisbane North

SA - Western and north-western region of metropolitan Adelaide

VIC - Alamein, Darebin, and Maribyrnong/Moonee Valley

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Background to Project:

The National Travel Behaviour Change Project (NTBCP), funded partly under the Greenhouse Gas Abatement Programme (GGAP), is a coordinated effort between the Australian Government, the Australian Capital Territory, and the States of Queensland, South Australia, and Victoria (jurisdictions) to reduce Greenhouse Gas (GHG) emissions nationwide. The project, using the TravelSmart branding, aims to reduce the impacts of passenger car use by facilitating voluntary change in behaviour towards more sustainable and less energy intensive transport modes (e.g. walking, cycling, public transport, smarter car use, and travel substitution).

Additional objectives of the project include:

- Demonstrating voluntary travel behaviour change methodologies on a large scale in the respective jurisdictions, with special emphasis on demonstrating their contribution to sustainability policy goals, reduction of transport's GHG impact, improving the viability of public transport systems, and public health policy goals through increase in the use of active transport modes such as cycling and walking;
- Promoting synergies between jurisdictions, stakeholders, and the community; and
- Improving cross-jurisdictional cooperation and coordination to maximise project benefits.

The NTBCP activities focus primarily on metropolitan regions and regional centres, with particular emphasis given to workplaces, communities and households, schools, and major destinations such as hospitals and shopping centres.

GGAP provided \$6.5 million in funding, with the grant recipients and third parties contributing \$10.4 million and \$4.5 million, respectively.

A total of 38 TravelSmart projects were funded (across Australian Capital Territory, Queensland, South Australia and Victoria), representing a total of 212,290 target households. Project implementation took place between 2003-2007. All project results were finalized in mid 2008.

The long-term monitoring (LTM) of the NTBCP commenced in October 2007. The monitoring is an important part of the NTBC project to ascertain whether the reductions in VKT and associated greenhouse gas abatement are maintained over time. LTM will monitor people's travel patterns up to 2012 in the four jurisdictions. Voluntary participants in the study will agree to have their travel recorded for 15 days using a GPS data logger, for some of the years between 2007 and 2012. The survey period is during October and November each year.

Project description:

A 'community development approach' was taken. This involved a TravelSmart team member facilitating discussions with each household. Through the discussions, participants "helped themselves" to improve their travel behaviour.

Households first received a letter which explained the project and that participation in the project was voluntary and free. Following the letter, they were contacted by telephone or by a door-knock visit.

Where the household was interested in participating, one of the TravelSmart Team discussed their current travel patterns and how they might be able to use their cars less often. The TravelSmart Team helped people identify more effective travel options and then encouraged them to change their habits.

Such options included:

- using the car more efficiently e.g. planning activities ahead and 'trip chaining', ride-sharing
- reducing the need for car travel e.g. by encouraging use of local shops, services and activities
- substituting car trips with more environmentally friendly options – walking, cycling or using public transport
- eliminating the need for some car travel – e.g. telecommuting, banking, bill paying etc on the internet or by telephone.

Participants were provided with personalized information and advice based on the results of the conversation. A wide range of information was provided including:

- Cycling and walking maps and bus timetables
- individual journey plans
- information on what shops and services were available locally
- information on recommended physical activity levels for various age groups
- TravelSmart activity sheets (targeting school aged children)

The Department of the Environment, Water, Heritage and the Arts (DEWHA) commissioned Maunsell AECOM to analyse the data from the four NTBCP jurisdictions with a view to deriving consistent and standardized GHG abatement results. The objective was to ensure results could be represented collectively to evaluate the overall success of the NTBCP in achieving the national GHG abatement goals.

The application of the methodology to calculate GHG abatement involved the calculation of the vehicle kilometers traveled (VKT) undertaken by the target households in each jurisdiction for each year in the analysis. This gave consideration to the average annual distance traveled by each household (in each jurisdiction) as well as other national and state greenhouse strategy measures that can impact on reducing VKT. The estimated reduction in GHG emissions from each project was calculated as the product of the estimated reduction in VKT (based on the percentage reduction in VKT achieved from

each project) and a GHG emissions factor for each year in the analysis. The GHG emissions factors used in the analysis were kept consistent with those presented in the project Deed of agreement, which took into account changes in the vehicle fleet composition and fuel efficiency and emissions profiles resulting from the implementation of advanced vehicle technologies over time.

Figure 1 shows the estimated reduction in VKT and associated GHG abatement over the project implementation period (2003-07) and the Kyoto reporting period (2008-12). During the project implementation period, a total reduction of around 1,900 million km was estimated to be achieved (with an associated abatement of 614,000 tonnes CO_{2-e}), whereas during the Kyoto reporting period, a total reduction of around 3,800 million km is estimated to be achieved (with an associated abatement of 1,204,000 tonnes CO_{2-e}).

Figure 1: Actual and Estimated Reduction in VKT and associated GHG Abatement for the Project Implementation Period (2003-07) and the Kyoto Reporting Period (2008-12)

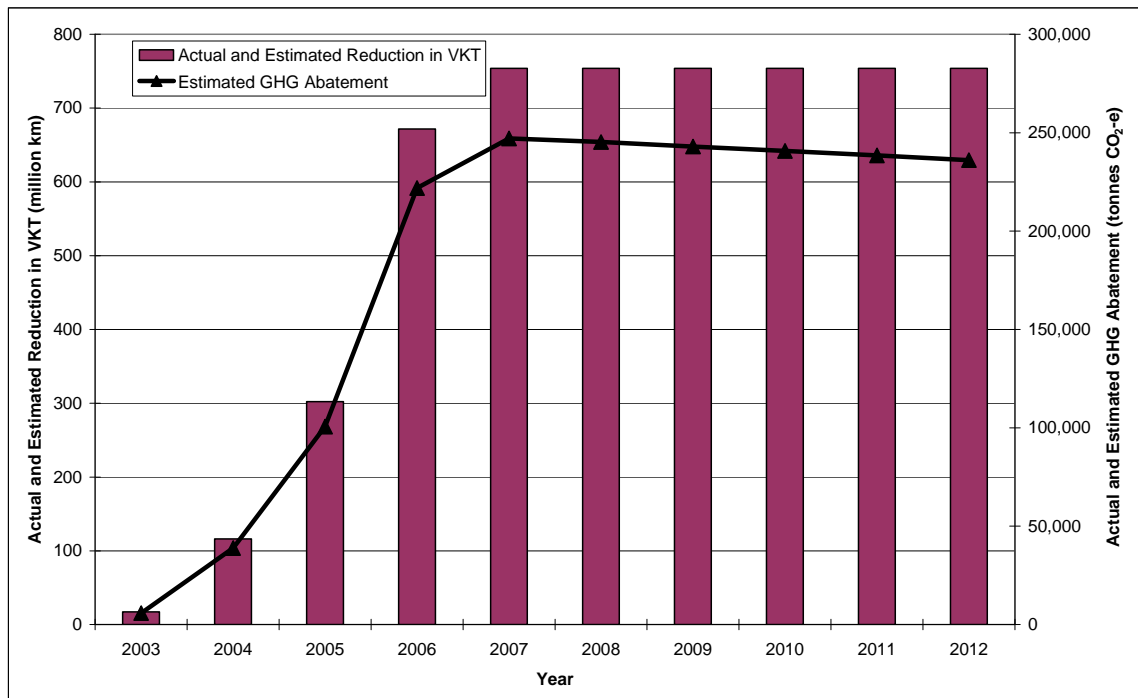


Table 1 provides a summary of key outcome measures for each jurisdiction, for the project implementation period (2003-07) and the Kyoto reporting period (2008-12). For the Kyoto reporting period, the percentage (%) of the GHG abatement goal estimated to be achieved by each jurisdiction is also provided, in addition to information relating to cost performance goals.

Table 1: Key Outcome Measures from the NTBCP (2003-07 and 2008-12)

Outcome	Results
Project Implementation Period (2003-07)	
Weighted average reduction in VKT (%) – all projects	11.8%
Estimated reduction in VKT (million km)	1,861
Estimated GHG abatement (tonnes CO _{2-e})	614,375
Kyoto Reporting Period (2008-12)	
Estimated reduction in VKT (million km)	3,770
Estimated GHG abatement (tonnes CO _{2-e})	1,203,554
GHG abatement goal (tonnes CO _{2-e})	1,232,600
% GHG abatement goal estimated to be achieved	98%
Total cost/tonne CO _{2-e} (goal)	\$17.35
Total cost/tonne CO _{2-e} (estimated to be achieved)	\$17.77
GGAP cost/tonne CO _{2-e} (goal)	\$5.26
GGAP cost/tonne CO _{2-e} (estimated to be achieved)	\$5.39

At the national level, the NTBCP is estimated to deliver an abatement of around 1.20 million tonnes CO_{2-e} over the Kyoto reporting period (2008-12), corresponding to 98 percent of the GHG abatement goal (1.23 million tonnes CO_{2-e}). For the purposes of this study, no decay in project results was assumed to occur, due to a lack of evidence to suggest otherwise. However, a sensitivity test was undertaken using a decay rate of 2 percent per year (deemed suitable for illustrative purposes). Under this scenario, the percentage of the GHG abatement goal estimated to be achieved at the national level would be reduced from 98 percent to 89 percent.

The Deed also specifies GHG abatement cost performance goals. Overall, the estimated cost per tonne of CO_{2-e} achieved is approximately \$0.42 higher than the initial goal (of \$17.35). With respect to GGAP funding, the additional cost per tonne of CO_{2-e} estimated to be achieved is approximately \$0.13 higher than the initial goal (of \$5.26). This additional cost reflects the fact that the overall estimated GHG abatement was not fully met. However, it is expected that the future implementation of TravelSmart projects will become more cost effective as their evaluation component costs are reduced.

Long-term monitoring of the impacts of the NTBCP commenced in October 2007 and will be undertaken until the end of 2012, using GPS technology on a small number of households in each of the jurisdictions. This monitoring will assist DEWHA and the participating jurisdictions to ascertain whether the reductions in VKT (and associated GHG abatement) are maintained over time, and if not, what level of decay in results is apparent. These findings can then be used to more accurately estimate reductions in VKT (and associated GHG abatement) from the implementation of the NTBCP.

What did the Project Achieve?

In addition to greenhouse gas abatement of more than one million tonnes, surveys of participants indicated that other possible benefits may have included reduced traffic and congestion, improved safety, improved health through increased physical activity and greater sense of community.

Benefits identified by participants included: monetary savings (42%), health (40%), environment (11%) and time savings (3%).

Key Facts	Response
Abatement estimate for 2003-2007	614,375 million tonnes CO _{2-e}
5 year abatement estimate - 2008-2012	1,203,554 million tonnes CO _{2-e}
Total Cost of project	\$21.4 million
GGAP Funding Received	\$6.5 million
Grant Recipient / Project Associates' Funding	\$10.4 million and \$4.5 million respectively

There are a few assumptions and limitations involved in calculating abatement attributable to behaviour change. These include:

- There is limited evidence to suggest that a decay occurs in the impact of project results over time, however the effect of a decay of two per cent per year was assessed for illustrative purposes.
- It has been assumed that vehicle kilometers travelled will not grow over time.
- It is assumed that all vehicles in a household travel the same average yearly distance.
- Survey techniques included GPS, odometer, travel diary and others. These can give different evaluation results for the same project.
- Evaluations were conducted over time.
- Workplace and school travel surveys can receive responses from participants with an interest in the survey that may have changed their travel behaviour.
- Abatement methodology has been applied to a range of TravelSmart projects including communities, workplaces, destinations and schools.