

The practical implementation of behaviour change theory in Auckland Transport's travel demand programmes

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ABSTRACT

Auckland Transport (AT) implements behaviour change theory to achieve Single Occupant Vehicle (SOV) trip reduction in the morning peak. Customer segmentation analysis helps AT to target travel behaviour change when people embrace major change in their lives in tandem with the traditional 'stick and carrots' approach. Customer segmentation is used to target people who will be receptive to increase uptake of public transport (bus, train and ferry), walking and cycling through analysing a simple questionnaire. The New Movers and Tertiary campaigns target people when they are embracing change in their lives e.g. moving house and changing jobs, or transitioning from school to tertiary education. A series of customer focussed mode specific events e.g. walk / cycle to work months encourage behaviour change through competition, challenges and rewards. Public transport promotions are implemented through the Give it a Go public transport initiative. Infrastructure incentives include the allocation of road capacity to transit lanes (T2 and T3) to facilitate faster trips by bus and carpooling, and dedicated carpool parking is provided AT carparks at Park & Ride sites, ferry terminals and at the Downtown carpark. The results show that a customer segmented targeted approach delivered through integrated packages rather than just through travel plans is a successful approach to reducing SOV trips in Auckland.

INTRODUCTION

Auckland Transport's Commute Programme is used to promote travel demand management programmes and SOV trip reduction activities. In the past three years AT has gradually changed the emphasis from encouraging organisations to implement comprehensive travel plans that promote the full range of travel options, to promoting stand-alone mode-specific packages that any organisation can partake in, whether or not they have a travel plan in place. This has widened the scope for delivering Travel Demand Management (TDM) activities to a much broader spectrum of the Auckland population.

Success is measured through a Statement of Intent target to reduce daily SOV trips in the morning peak (between 7-9am). In order to do this AT developed the Commute Programme's package approach based on what motivates people to change their travel behaviour. The aim was to encourage less SOV trips whilst enabling greater uptake of other modes of transport, changing the time people travel, or encouraging them to not travel at all. The focus is on commuters and tertiary students. Schools are included in a separate AT programme.

Behaviour change often takes place when people make a major adjustment in their personal circumstances for example, progressing from school to university, moving house or changing the location of their employment. As a consequence the programme targets segments of the population that are in a 'progressive' or 'dynamic' state.

The New Movers campaign targets people when they have moved house; the tertiary campaigns targets students at tertiary institutions at the start of the academic year in March and with an additional campaign at the start of the second semester in July. The programme also focusses on working with organisations when they change location, although any organisation can join the Commute Programme at any stage in their development.

Each mode of transport is promoted through a behaviour change package which can include campaigns. The campaigns are carried out at times that are most conducive to encouraging people to use a particular mode: for example, the cycling campaign takes place in February when the weather is settled and people are getting back into the swing of work after the Christmas/New Year break.

The behaviour change campaigns encourage change through competitions, challenges and rewards for participation.

Carpooling is supported through the provision of transit lanes dedicated to vehicles carrying two/three or more occupants (T2 and T3 transit lanes) which increases capacity for multi-

occupancy vehicles and maximises the potential number of people who can be accommodated in that road corridor. T2 and T3 lanes reduced journey times for multi-occupant vehicles. Additional incentives include: dedicated parking for carpoolers at AT controlled car parks; the provision of a carpool matching system; and incentives to join the AT carpool programme, 'Let's Carpool'.

The Commute Programme is evaluated each year and the 2014/15 results showed that targets had been exceeded for:

- Businesses signing up to join the Commute Programme
- Let's Carpool sign-ups, and
- Measurable behaviour change for the 'Give it a Go' package

CUSTOMER ADOPTION AND SEGMENTATION

The results of the customer adoption and segmentation analysis demonstrate that over a third of current SOV commuters do have the potential to change.

Customer adoption and segmentation model is used to estimate the proportion of Aucklanders who would be most likely to change mode from SOV travel in the morning peak to an alternative (walk, cycle, PT or carpooling). Those that are willing to change are the programme's target audience.

This is undertaken through the market perceptions survey, using two simple questions to a random sample of 1,000 adults. The combination of possible results are cross-tabulated (Figure 1) to evaluate how responsive commuters are to change.

The two questions asked are:

1. How often do you travel by car (e.g. private or company car, van or Ute) by yourself between 7 and 9am weekdays?

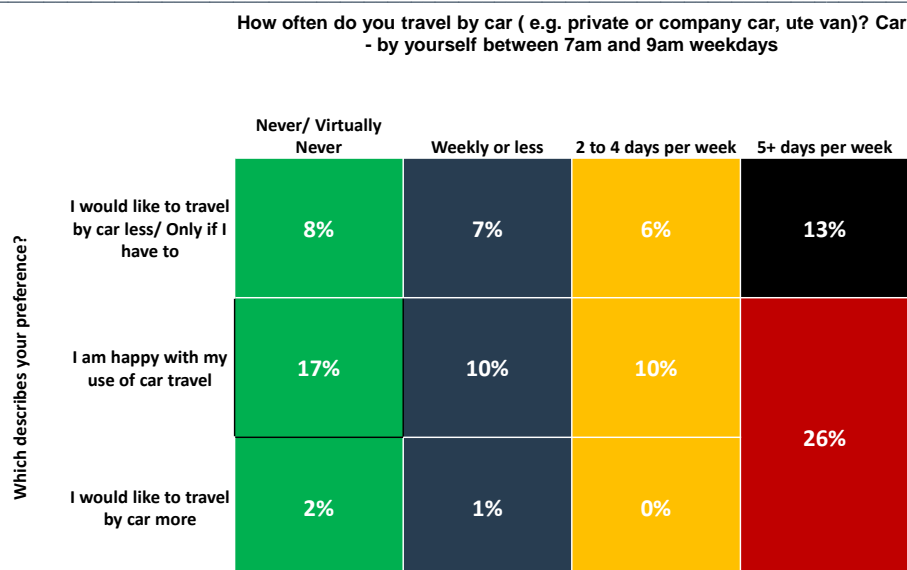
With the possible responses being:

- Never/virtually never
- Weekly or less
- 2-4 days per week
- 5+ days per week

2. Which describes your preference?

With the possible responses being:

- I would like to travel by car less/only if I have to
- I am happy with my use of car travel
- I would like to travel by car more



Key: Red= Rejecters; Black=Considerers; Yellow=Occasional; Blue=Medium; Green=Regular users of other modes

Figure 1: Auckland Transport Customer Preference Survey (Sept 2015)

The results show that 26% would never change their mode of transport as they drive alone 5+ days a week and are both happy with driving or would like to drive more (the red segment). Therefore, they would reject any proposal to change and are termed 'Rejecters'.

The green segment are those commuters who never or virtually never make SOV trips in the morning peak. They could be captive PT users, with no alternative but to travel by PT. For example, people who don't own a car, or have a driving licence, or they could be people who are already using an alternative mode of transport and are happy with their choice of transport for their daily commute. Therefore, these 'Regular users' would not be part of the programme's target commuters.

The blue and yellow segments identify people who occasionally use another modes of transport (yellow), or are medium users (blue). These commuters are open to trying something different. A total of 34% of adults in Auckland could use a different mode of transport from SOV trips occasionally or more often. If these results are applied to the whole working population of Auckland (650,610 people) then 221,207 people have the potential to change their travel mode from SOV at least once a week (or more often).

TARGETING CHANGE

New Movers

The target audience for the New Movers trials are people who currently drive alone to work/study in the peak times for their commute to work

The New Movers campaign is designed to encourage commuters to make sustainable travel choices. Residents who have recently moved to a new area in Auckland are mailed a welcome message which encourages the use of local transport services including public transport, walking and cycling. New Movers data is obtained from change of address information held by New Zealand Post. A promotional flyer is sent to the resident at their new address, inviting them to partake in trialling an alternative mode of transport. In order to qualify for the programme residents have to commute by SOV in the morning peak (7-9am)

Participants are invited to register their interest in trialling an alternative mode to their car on the [AT website](#). Incentives can range from a 'Give it a Go' public transport pass, to

pedometers, umbrellas for walking trips or cycling equipment to encourage and incentivise cycling.

Initial results of the pilot programme showed that the programme had raised awareness of local travel options to over 2,700 Auckland residents. The pilot is providing a platform to test the logistics of the programme, with the introductory 'greeting card' flyer being well received by the customer base.

The trial is set to continue until April 2016.

The Tertiary Sector

The focus of the tertiary programme targets students at five major universities and tertiary institutions across multiple campuses. The programme is launched at the start of the academic year at orientation events that are held in February/March and with an additional campaign at the start of the second semester in July. During the February/March 2015 campaigns 25 events took place including three run by North Harbour Business Association and two run by Auckland University of Technology; 20 events were organised and delivered by AT. In terms of raising awareness of travel options the campaign was very successful. It achieve:

- Over 2700 face-to-face interactions with students
- 19 people attended an Orientation by Bike and went on an escorted ride which included an element of cycle safety training
- 77 students signed up to an Orientation by Bike
- 277 Lets Carpool sign ups
- 982 students entered one of our competitions (either walking competition or find my bus stop competition)
- 107 greenscreen carpool photos were uploaded to the AT Let's Carpool Facebook page as part of the promotion
- 26 uploaded to their own personal Facebook pages. This equals 2600 impressions (Facebook impressions are based on Facebook Insights data that indicates an image posted on Facebook is viewed an average of 107 times).

COMPETITIONS CHALLENGES AND REWARDS

Delivery of a series of competitions, challenges and reward schemes to continually raise awareness of commuter travel options take place throughout the year.

Bicycle Challenge

In February 2015 AT trialled the international Love to Ride Challenge in Auckland. Building on the experience of the trial, AT is using the Love to Ride platform to launch the Auckland Bike Challenge for February 2016 with the focus being on engaging with workplaces.

Promotion for the Auckland Bike Challenge started in November 2015 with workplaces being approached to register their participants. The Auckland Bike Challenge (ABC) takes place from 1 – 29 February 2016 as an Auckland Transport promotion for Bike Wise Month with workplaces. It is a fun workplace competition to encourage more people to ride a bike and will use an online database and app based platforms. By the start of the ABC, 181 organisations registered to partake in the challenge, including 2,444 individual bike riders.

To increase the reach and buy in from the wider community the project is being supported by wider community networks including Healthy Auckland Together, Sustainable Business Network and Auckland Regional Public Health.

Walk Challenge

The aim of Walk2Work month will be to encourage people to drive a shorter distance and complete their journey on foot. In addition, most public transport journeys start and finish with a walk and therefore walking and public transport can be promoted in tandem.

The 2015 campaign was, in essence a pilot, to determine the most effective way to engage businesses to participate in the challenge. Six businesses participated in the Walk2Work day, and it was decided that the effort involved in planning and organising the challenge for one day, could bring greater engagement with businesses if extended to one month. As a consequence, the Walk to Work campaign in 2016 will be extended to a month and will support Walk2Work day. The objectives of the campaign are to:

- promote walking as something fun, social and exciting to do
- raise awareness of walking as a viable transport option, and
- increase awareness of Walk2Work day.

One of the most successful competitions that was run for the 2015 campaign was the photo competition whereby commuters who walked were encouraged to take a photos of their walk to work and submit it to AT along with an explanation of why they loved to walk. The winner and runner up said:

- "I love walking to the train station (15min) and to work from the bus stop (5 min) because I can greet people and see smiles on their faces. I love seeing the sun rise and enjoy every moment spent outside being thankful for another day while being able to spend it in such a beautiful country. Life is amazing and walking to work in the morning while listening to the birds sing makes me smile." (1st place winner)
- "I really enjoy walking to work for a few reasons. It's such a good way to get myself moving and energised in the morning, and it puts me in a really good mood for the day. Some people enjoy going to the gym for their exercise, but for me, walking early in the morning air just seems more organic then running on a treadmill or lifting weights in a crowded gym full of other people. It's almost meditative. Another really great aspect is the people I see regularly. There are 4 other people who I see almost every day and exchanging a nod and a smile is so pleasant. Living in the city, it's common for people to keep to themselves. But being able to exchange a "good morning" with someone else, never fails to make me smile, and reassures me that the community which I'm part of contains many, many good people. For me, walking to work in the morning feels as essential as eating breakfast. Maybe even more so." (Runner up)

These quotes highlight some of the most effective motivators that AT 'advertise' to encourage more people to walk to work. These also dove-tail with the five measures of well-being (give, take notice, be active, connect and keep learning). In relation to walking these embrace:

- taking notice of the environment around you
- connecting with other people
- organic or 'utilitarian' exercise built into one's daily routine rather than making a special effort to attend the gym
- the feel-good factor of healthy exercise, and
- quiet time to meditate.

Public Transport Incentive

The 'Give it a Go' incentive provides people the opportunity to trial public transport for their commute to work, for two weeks, at no expense to themselves. This incentive is made available to driving commuters at all journey planning events. Commuters can qualify for a pass if they currently drive to work in a SOV during the morning peak between 7 and 9am. The Give it a Go incentive is a travel pass that is loaded with 2-weeks value for each individual's personal commute trip. The Auckland on-line Journey Planner is used to establish the optimum public transport trip for the commuter and the pass is issued, via post, for the commuter to use.

1200 Give it a Go passes were distributed through 29 businesses including Waitemata District Health Board, Smales Farm, ASB and AUT staff and four personalised journey planning projects with a result that 46% of participants that trialled public transport are continuing to use their passes¹ This indicates that long term behaviour change is achieved through uptake of the Give it a Go programme.

Feedback from people who continued to use their pass was positive and included the following quotes:

- "I really appreciate this trial, as it got me motivated to check out how to use the public transport system to get to my job. I will be seeking to transition to more utilization of the bus rather than my car, as it is nice to not have to deal with the stress of driving." WDHB staff member.
- "We have used public transport on numerous occasions and loved the experience, we have travelled by bus, ferry and train all of which were a breeze to use. Using the AT app on my phone for timetables has made this really simple and functional." Takapuna business employee.

Carpooling in Auckland

In the 2014/15 financial year the target was to achieve a total of 6,500 carpool registrants on the Let's Carpool website (this is a cumulative target year on year). By the end of June 2015 the target had been exceeded by over 500 new sign-ups. The behaviour change motivation includes messages that carpooling:

- reduces the cost of travel (shared by carpool partners)
- reduces the cost of parking (shared by carpool partners)
- is a fun way to meet new people
- can save time, you can use T2 and T3 lanes to bypass congestion
- allows you to use priority carpool parks.

The evaluation survey demonstrated the impact of the programme. 19.5% of people who signed up to carpool found a carpool match as compared to the general population whereby only 11% found a carpool match. This shows that the Carpool programme increases carpooling by 8.5% over and above carpooling nationally.

Commuters are encouraged to sign up to Let's Carpool at business/organisation events, tertiary campaigns and District Health Board promotions. The programme is supported by a Facebook page that is used to run competitions and incentivise interaction between potential and existing carpoolers.

AT provides further incentive by prioritising car park spaces at bus interchanges, ferry terminals and Downtown car park.

¹ Auckland Transport Annual Report 2015

Dedicated transit lanes (T2 and T3) prioritise road capacity for multi occupant vehicles and provides them the opportunity to bypass traffic congestion thereby improving journey times and journey time reliability.

SUPPORTING TOOLS AND AWARENESS-RAISING CAMPAIGNS

In 2014/15 the TD team developed a number of tools and resources that are freely available to Commute Programme partners and can be downloaded from the AT/Commute website. These included advice and information to promote:

- public transport
- cycling to work
- walking to work
- travel planning (for companies and organisations)
- carpooling
- personalised journey planning (for individual commuters)
- flexible working
- sustainable business travel, and
- sustainable travel to employees of organisations moving premises.

In addition the AT provides:

- a travel plan template to assist developers and organisations with the preparation of travel plan strategies and travel plans for resource consent purposes
- a travel plan 'action/implementation plan' outlining a comprehensive list of mode-specific actions that can be undertaken to promote walking, cycling, public transport (PT) and flexible working, and
- flexible working guidelines.

An on-line video campaign encompassing all modes of transport listed above has been designed to make commuters stop and think about whether or not they need to use their car every day, or whether they can chose other options. Auckland Transport's video campaign consisted of five short videos prompting Aucklanders to 'cool your love affair with your car' and 'find new love' with a different mode of transport. The videos were promoted through TrueView, Google Display Network, YouTube, Facebook, the Auckland Transport website and through Auckland Council's Our Auckland magazine. The campaign concluded on 22 November 2015. Over the eight week campaign the videos received over 700,000 views. A further online promotion period is planned for April 2016 to promote peak hour travel alternatives to SOV trips.

SUMMARY & RESULTS ACHIEVED BY THE AUCKLAND TRANSPORT COMMUTE PROGRAMME

A number of 'aim' targets and 'action' targets were established with Key Performance Indicators (KPIs) being used to measure the over-all success of the Commute Programme. Aim targets are targets that are set with a measurable indicator for example, a reduction in Vehicle Kilometres Travelled (VKT) or a measurable reduction in CO2 emissions. Action targets are those that measure the level of activities or actions that have been carried out such as recording the number of new registrants to the carpool programme or the number of TDM promotional events.

The KPIs help to inform the SOI calculation and included measuring and recording the following:

- VKT reduction
- CO₂ reduction
- new organisations signing up to the Commute Programme
- delivering TDM events
- new registrations to the Let's Carpool programme
- behaviour change recorded through the Give it a Go Programme
- behaviour change recorded through the Personalised Journey Planning programme.

Both the KPI targets and the successful results for the 2014/15 AT Commute Programme are shown in Table 1.

Commute Programme Focus	KPI	2014/15 Results
VKT reduction (million km per annum)	12	14.3
CO ₂ reduction (tonnes per annum)	3595	4629
New organisations signing up to the Commute Programme	10	17
TDM events delivered	50	181
New registrants with the Let's Carpool Programme	6500	7001
% behaviour change recorded from Give it a Go Programme	30%	46%
Total SOV Reduction	4043	5565

Table 1: KPIs and actual behaviour change achieved in 2014/15

14.3 million km of travel have been reduced due to the combined activities that come under the umbrella of the Commute Programme. This equates to a reduction of 4,629 tonnes per annum of CO₂ emissions.

Overall 17 new organisations joined the Commute Programme some of whom requested assistance with providing travel choice information to their staff when they relocated premises in Auckland whilst others were obliged to implement TDM plans as a condition of a resource consent. The Commute Programme engaged with a total of 105 employers and organisations across Auckland encompassing over 218,000 employees and 100,000 students. This shows that there is a growing trend for TDM plans and activities to be put in place to assist commuters to find alternatives to SOV commuting.

In terms of delivering journey planning events to businesses, tertiary institutions and District Health Boards a target of 50 was set when in fact 181 were actually delivered. The journey planning events give AT the opportunity to engage directly with commuters and allows them to sign people up for specific initiatives such as carpooling and Give it a Go passes, and hence the success of both Programmes. The Carpool Programme achieved a cumulative total of 7,001 sign-ups, over 500 above the KPI target, whilst the Give it a Go Programme recorded a 46% uptake of public transport.

The personalised journey planning programme targeted a 30% behaviour change from SOV trips to other modes and actually achieved a 67% behaviour change from those people who were eligible for the programme and who actually participated.

Overall the Commute Programme was set a target to reduce SOV trips in the morning peak by 4,043 per day. It actually achieved an SOV trip reduction of 5,565. To put this into perspective, this equates to over 22 kilometres of average-sized cars lined up bumper to bumper (no gaps), or four lanes of motorway blocked solid for more than five kilometres (based on a 4m long average car).

Based on the success of the 2014/15 programme, the SOI target for 2015/16 has been set at 6,000 SOV trips removed from the road network in the morning peak and current indications show that AT is likely to exceed the target, thereby demonstrating the success of the Commute Programme's package approach.