

# Change to Walking Program

## Background Review

### Introduction

VicHealth, in partnership with Victoria Walks, is seeking to support local councils to deliver behaviour change projects to increase walking. It is interested in the application of behavioural insights, or 'nudges' that may prompt increases in walking for local trips.

This background review looks at the recent developments in 'Nudge theory' through its application by the UK Government's Behavioural Insights Team (BIT). It reviews and presents examples of behaviour change interventions to increase walking for transport and physical activity. It looks at the potential to apply behavioural insights to the complex behaviour of walking and considerations for the Change to Walking program methodology.

This paper introduces some concepts and models of behaviour change to help councils in developing expressions of interest for the Change to Walking program.

### Nudge theory and behaviour change

Thaler and Sunstein (2008) described behavioural nudges as the practice of influencing choice by changing the manner in which options are presented to people but without restricting any options or significantly changing their economic incentives (Quigley 2013).

Thaler and Sunstein talk about this as changing people's 'choice architecture'. To count as a 'nudge' the behavioural intervention must be easy and cheap and it should not be mandated. So providing incentives and prompts to walk to work are nudges but removing parking access is not as it constrains choice and, as such, is seen to be forcing a change of behaviour.

'Nudge theory' has been applied across a number of public policy areas to support more efficient and effective outcomes to government services such as increasing rates of tax returns and reducing unpaid parking fines.

It has been applied to a range of behaviours in the health sector. For example, reducing missed outpatient appointments by sending advance text messages that note the public cost of missed appointments. Another example is increasing healthy eating choices in canteens by the prominent location of healthier options, or setting them as the default for side dishes (a salad instead of chips) with less healthy options still available.

Walking is a 'lifestyle' health behaviour so the 'nudge style' interventions within the health sector are the most relevant examples to look at when considering their application to the Change to Walking program.

## Behavioural Insights Team's approach

The UK Government's Behavioural Insights Team (BIT) has developed models to help guide practitioners in designing more effective behaviour change interventions that are informed by 'Nudge theory'. Its 2010 'MindSPACE' model was a distillation of behavioural science literature insights into a "practical checklist" of some of the most 'robust influences on behaviour' (Quigley 2013); behavioural principles that can be used to improve program design.

BIT more recently simplified MindSPACE into the action-oriented 'EAST framework', which focuses on techniques that make change 'Easy, Attractive, Social and Timely'. The EAST framework is shown below.

Behavioural Insights Team's EAST framework	
<b>Make it easy</b>	<ul style="list-style-type: none"><li>• Use the power of defaults – making people opt out rather than opt in.</li><li>• Reduce the 'hassle factor' of taking up a service</li><li>• Simplify messages (to reduce errors; grow response rates)</li></ul>
<b>Make it attractive</b>	<ul style="list-style-type: none"><li>• Attract attention (use of salience, personalising information)</li><li>• Design rewards and sanctions to maximum effect (use of lotteries, scarcity, gamifying activities)</li></ul>
<b>Make it social</b>	<ul style="list-style-type: none"><li>• Show that most people perform the behaviour you are seeking</li><li>• Use the power of networks (reciprocity and mutual support)</li><li>• Encourage people to make a commitment to others</li></ul>
<b>Make it timely</b>	<ul style="list-style-type: none"><li>• Prompt people when they are likely to be most receptive</li><li>• Consider the immediate costs and benefits</li><li>• Help people plan their response to events (goal-setting, breaking down complex goals)</li></ul>

These nudge principles and approaches provide valuable insights for making behaviour change interventions more effective. They could be used to facilitate specific physical activity behaviours but without an overall model for assessing *how* they might be applied it can be difficult for non-behavioural science practitioners to identify which principles are most relevant or useful to improve an intervention.

BIT recognises this issue and notes in its paper *EAST: four simple ways to apply behavioural insights* that **these tools cannot be applied in isolation of the nature and context of the problem.**

To design a behaviour change intervention requires:

**Defining the outcome:** this means identifying exactly what behaviour is to be influenced; how can it be measured; how large a change makes it worthwhile; and over what time period.

**Understanding the context:** assess the situations and people involved and from their perspective.

**Trialling and evaluating:** an intervention may consist of two or more variations, to trial what might work best. There is a big emphasis on evaluation; to understand what is and is not effective.

The message is that it is **not easy to just cherry pick behavioural insights and apply them without first considering the context and specific behaviours** that you wish to influence. And it is important to test, learn and refine the intervention.

It is important to breakdown larger goals and complex behaviours, such as ‘getting more people walking’ into simpler, specific actions that respond to the problem. Here is a couple of examples:

General problem / understand the context	Specific problem	Behaviour response
Reduce demand for parking at a train station (investigate who is parking; where the opportunities for changes in behaviour)	People who live within 800 metres that currently drive to the station.	People who live within 800 metres of the station walk to the station at least three times a week.
Employees are sedentary at work (investigate who, when, where and how people can be more active at work).	Manager-level employees regularly make a 2 minute drive to meetings at a nearby client.	Manager-level employees regularly walk to the nearby client meetings.

Rather than coming up with a ‘catch all’ response to a general problem, such as a poster in the tea room encouraging employees to “walk more each day!”, an effective intervention would focus on how to facilitate the identified behaviour, utilising a behavioural model and applying ‘nudges’ to make it effective. An intervention may address more than one specific behaviour.

For the workplace example, some nudges to facilitate the desired behaviour could include:

- **Make it easy:** demonstrate door-to-door walk times are close to or less than the time it takes to book a work car, collect the keys, drive, find a car park and walk from the car into the client office.
- **Make it timely:** when an employee makes a car booking send a prompt to ask whether walking is an option instead.
- **Make it social:** build social norms by promoting senior managers who regularly walk to their meetings.

## Applying nudges in the health sector

BIT's most recent work in the health sector is useful for the Change to Walking program.

While it mostly focuses on behavioural interventions within public health institutions (such as reducing error rates on dispensing prescriptions), it also considers the application of behavioural insights to broader health-related lifestyle behaviours such as smoking cessation, healthy eating and physical activity.

In its 2016 publication *Making the Change: Behavioural Factors in Person- and Community-Centred Approaches for Health and Wellbeing* BIT explains that for a (new or changed) behaviour to occur requires three main components:

<b>Capability</b>	<ul style="list-style-type: none"><li>• Knowledge and skills, including perseverance.</li></ul>
<b>Opportunity</b>	<ul style="list-style-type: none"><li>• All the factors that lie outside the individual that prompt the behaviour or make it possible.</li></ul>
<b>Motivation</b>	<ul style="list-style-type: none"><li>• Conscious goals and decision-making as well as habits and emotional responses.</li></ul>

This behavioural model is an application of Michie's behaviour change wheel model for designing behaviour change interventions (<http://www.behaviourchangewheel.com> 2011). There are quite a few models in use by researchers and consultants to support behaviour change intervention design. BJ Fogg's Behaviour Model is another which focuses first on carefully defining the specific behaviour/s to influence, then considering a person's ability (their physical ability and the environmental context) and then their motivation and behavioural triggers in order to shape an intervention to effect changes to the behaviour.

The BIT paper presents findings from applied health research. It notes that each of the three components of 'capability', 'opportunity' and 'motivation' in turn have several factors that can improve participation in positive lifestyle behaviours (ie they are useful in interventions to encourage walking). Some of these factors overlap with the EAST framework but there are a few extra ones relating to opportunity and motivation that are relevant, which are outlined in the following table.

Behavioural insights for health interventions		
<b>Opportunity</b>	Removing friction costs	Small increases in the effort ('friction costs') required to perform a behaviour can make a surprisingly large difference to whether that behaviour takes place.
	Social connections	Social networks within communities enable reciprocity and knowledge sharing and support. They also help to reinforce positive social norms.
<b>Motivation</b>	Intrinsic motivation	Intrinsic motivation relates to our own personal values and what each person finds inherently satisfying. It generally drives longer term behaviour change. Understanding intrinsic motivations can help frame appropriate messages. Extrinsic motivation comes from a desire for an external reward to avoid punishment. This can be a motivational tool (eg through gamification) but generally has shorter-term impacts.
	Goal-setting and feedback	Achieving a goal requires motivation. By setting realistic goals and breaking it down into manageable chunks and receiving timely feedback along the way can make it more likely that a person will get started and stay on track to realise their goal. Focusing on 'small steps' rather than significant changes and using coaching techniques are effective.

Walking behaviours are more complex than those targeted in earlier nudge-style interventions. They are influenced by many external environmental factors as well as our own interests and personal motivations and in relation to the people around us.

These complex behaviours will require going beyond adjustments to 'choice architecture' where people are passive participants (they don't really know they are being influenced) to apply more interactive nudges, which directly engage people. This may include using the supportive techniques of social connections, building motivation and using goal setting and feedback techniques.

Bird et al (2013) did a systematic review of behaviour change techniques used to promote walking and cycling. They found that the most common techniques in interventions that measured a statistically significant change in behaviour towards more walking were those listed in the table below. They also noted that effective interventions most often had multiple behaviour change techniques.

Behaviour change technique	Examples
Prompt self-monitoring	Use pedometers to track steps. 'Hands up' surveys to monitor self in relation to other students' school travel mode.
Prompt intention formation	Using 'if-then' strategies that support the behaviour and help manage set backs or specific situations. Such as 'if I am running late and can't walk all the way to work, then I will get off the tram two stops early to walk the last part.'
Provide instruction	Prepare specific, door to door walking times and directions to key business meeting locations.
Prompt specific goal setting	Personalised journey plans that are developed face to face to enable a conversation about how the plan will be put in place, including setting a specific goal to trial the plan by a certain date and what is required to achieve the goal.

## Related project examples

Following are examples of behaviour change projects that relate to walking and physical activity, drawn from a scan of systematic reviews; a couple are included because they were referred to by BIT; and there are several Australian examples. The main behavioural insights factors or strategies have been summarised.

It is important to note that very few behaviour change interventions have been adequately evaluated. A number of projects have shown positive results in process evaluation (such as participation rates etc) but may not have reliable outcome measures. Even for those with effective evaluations, it is not possible to separate out the impact of specific techniques or nudges.

A key lesson for the Change to Walking Program is to ensure that evaluation is treated as a central component of any project development and intervention.

Project	Description	Behavioural insights
<b>Your Move Cockburn, WA Department of Transport and Department of Sport and Recreation</b>	Large-scale intervention (10,000 households) delivered over six months. People received tailored resources, including stop-specific bus timetables for each household and incentives plus up to three coaching calls Evaluated against a control group: effective increases in physical activity, average daily increase of 12 minutes/per person per day.	Coaching and goal setting to get people started and to set specific actions; identify intrinsic motivation. Use of social networks as support and motivation (through community events, social media and coached identification of support people to help maintain new behaviours). Prompts in follow up reminders. Making it easy by providing relevant information about local groups and services.

<p><b>Hounslow: making the most of life changes, London Burrough of Hounslow</b></p>	<p>Referenced by Behavioural Insights. London Borough targeted families with children commencing school several months prior to the school year to prepare families with planning for active travel to school instead of driving. Once term started they followed up with an incentive-based campaign. No evaluation of impact.</p>	<p>Timely: targeted message when people most receptive at a key change in life. Personalised advice. Gamifying engagement through competition to increase motivation and participation.</p>
<p><b>Geelong Active City, Healthy Together Geelong, City of Greater Geelong</b></p>	<p>1,200 employees and 1,000 residents engaged to become more physically active, including use of active travel. Large scale intervention delivered over 12 months. Phone-based coaching intervention supported by referrals to local services and facilities.</p> <p>Evaluation against a control group: 8.6min increase in average daily activity (20% increase in activity). 40% of people choosing more walking (for exercise)</p>	<p>High participation rates by using opt out (every employee is invited to participate). Coaching and goal setting to get people started and to set specific actions; identify intrinsic motivation. Use of social networks as support</p>
<p><b>Try Walking, City of Boroondara</b></p>	<p>Focusing on the Camberwell activity centre, the campaign encouraged residents to replace short driving trips with walking. Residents logged their walking journeys on a smartphone application. The app was used to then measure the changes in walking activity following infrastructure upgrades in key locations.</p> <p>Evaluation: 140 people participated; 88% walked more often and 64% drove less. Significant increases in walking on upgraded streets.</p>	<p>Prompting self-monitoring and goal setting by recording walking information. Receiving timely feedback on walking distances and times. Wayfinding and capital works reducing ‘friction costs’ of walking by making it more direct, informative and pleasant.</p>
<p><b>Love Living Local, City of Darebin</b></p>	<p>Project focused on neighbourhood centres to reduce car use for local trips. Well received within the community. Utilised a broad range of behaviour change interventions focusing on shopping trips. Had a very wide audience. Delivered over three years.</p> <p>Process evaluation, no outcome evaluation data available. Unable to determine whether there were measurable increases in walking.</p>	<p>Footpath stencils (prompts), pedestrian wayfinding (prompts and timely information, also building social norms), newsletters to residents, kits for new tenants provided to real estate agents, a ‘Transport Café’ stall (relevant and timely information). Strategies for making walking easier included an incentive-based home delivery service</p>



<p><b>Greenlight Project, City of Port Phillip</b></p>	<p>Increasing pedestrian signal phasing and reducing waiting times to improve safety (by reducing unsafe crossing on red) and provide additional crossing time, which benefits people at a slower walking pace (important for children, groups, people with disabilities and elderly). Sub-goal to increase walking trips by making local area walking easier.</p> <p>Project evaluation showed safety improvements. Supported related behaviour change projects of walking school bus.</p>	<p>Nudge approach in adjusting the local context to makes it easier to walk. Reduces hassle of multi-stage crossings for more people. Also removes barrier for those unable to cross within allocated time. Automatic phasing of pedestrian green reduces ‘friction cost’ of walking</p>
<p><b>Liverpool Hospital workplace travel plan, NSW South West Primary Health Care Service</b></p>	<p>Workplace travel plan for 3,000 staff aimed to reduce private car trips to work. Multiple interventions undertaken, with a focus on personalised journey planning, end of trip facilities, subsidised public transport tickets. Events and active travel campaigns. Delivered over three years.</p> <p>Evaluated outcomes (statistically significant) using travel survey data: 5% reduction in car trips and associated increase in walking and cycling trips.</p>	<p>Providing timely and relevant information and making it easy through personalised journey plans. Face to face journey planning also enabled some coaching of participants. Active travel days helping to build social connections.</p>
<p><b>Workplace pedometer programs (systematic review)</b></p>	<p>Pedometer programs within workplaces are most often used to increase physical activity but also facilitate an increase in walking over non-active travel. Pedometer programs are usually team-based or have some element of competition which may include achieving daily step counts, individual and team goals. Programs are delivered over short periods of time, (less than a month is optimal) and in conjunction with other measures</p> <p>Systematic review found programs were not effectively evaluated to assess physical activity outcomes.</p>	<p>Builds self efficacy by ease of tracking progress. Provides tangible and timely feedback, enables goal-setting and gamification as a team-based campaign. Regular prompt.</p>
<p><b>Piano stairs in Stockholm</b></p>	<p>Referenced by Behavioural Insights. Metro station stairs covered in ‘piano keys’ that play as people walk up the stairs to encourage people to walk instead of using the escalator. BIT notes this was only a one-day intervention which makes it unlikely to effect sustained change</p> <p>No extended intervention or evaluation of ongoing changes in behaviour.</p>	<p>Prompts and fun make stairs the preferred choice but no measure of how long this would last. Could be incorporated as one component of a follow on campaign.</p>



## Change to Walking program considerations

The learning from this review is that Change to Walking projects will need to target specific walking behaviours, and within a local context (of people and place), which will then define the specific target participants of a project. From there, behavioural insights (nudges) can be applied to shape an effective intervention.

The main considerations for the program methodology are:

- **Projects will need to be developed within an effective behavioural model** or framework to help with issue analysis, consideration of local context (people and place) and identification of participants and specific behaviours. Behavioural Insights applies the Behaviour Change Wheel to its health behaviour interventions. This model will be used in the project scoping workshops to refine project concepts.
- **Behaviour change concepts and interventions are still relatively new work areas for many councils.** Past projects have often had limited or no outcome evaluation. For these reasons, councils are likely to need some direct support and capacity building in shaping up suitable projects for this program and in their delivery. Calling for project concepts (through an expression of interest) that can then be developed and refined in a **scoping workshop will give councils the needed support and advice to develop and evaluate interventions.** The program manager and evaluation manager will provide one-on-one support at key steps in the project and councils will be invited to participate in two community of practice meetings to support project delivery and capacity building
- **The timing of the delivery phase may impact on the interventions.** Many of the project examples presented were delivered over one or more years. The short project timeframe is a potentially constraining factor for some types of intervention.
- **Interventions are likely to involve more direct engagement with people,** rather than exclusively focusing on passive participants being influenced by nudge-style changes to their surroundings. Nudge-style interventions that could alter the design and physical cues of a local area to promote walking, such as the Greenlight project, would strongly support other behaviour change techniques.
- **Effective interventions are likely to include some form of:**
  - **Personalised engagement:** either through face to face, online or phone conversations or interactions. These help to build relationships and local relevance/connections to support walking and may incorporate goal-setting
  - **Personalised advice/information:** such as personalised journey planning or very tailored information that applies behaviour insights to how messages are conveyed.
  - **Incentives or gamification:** using campaigns and challenges to build motivation and participation.
- **The program emphasises the central nature of evaluation:** it is about real-world testing and learning to understand what works. The program's evaluation framework will guide the development of projects, and councils will be supported in shaping their project scope and evaluation.

## A few other things to be aware of...

- Awareness-raising does not equal behaviour change. Simple approaches of advertising to raise awareness, such as posters and pamphlets about “walking to the shops will save you money on parking” will not be effective in influencing people’s travel choices.
- Information provision is likely to be a useful tool as part of an intervention but should not be considered the whole intervention. The wording and how messages are conveyed is a critical component of an effective nudge.
- Experiencing a new behaviour may generate motivation to then repeat the new behaviour (benefits of experiential interventions, eg ‘pop up’ parks and events such as Walk to Work day). This could be a valid approach for a behaviour change intervention to test whether experiential changes to physical locations influence walking trips.
- Incentives and rewards need to be used with caution. Reward-based programs may only generate extrinsic motivation, people being active only to get the reward (eg big prizes or financial rewards). Need to be careful how incentives are used to help foster intrinsic motivation, such as walking for personal satisfaction (whether that is satisfaction in saving time, being with friends, or being outside etc.) Target-based incentives and gamification are often effective in fostering intrinsic motivation.
- Environmental outcomes are not a strong motivator (community-wide) for physical activity and reducing private car use. Stronger motivators are money lost in time, petrol and parking as loss is twice as powerful as people’s perceptions of the value of gaining something (money, time etc). Personal health goals are also strong personal motivators for walking behaviours.

This paper was prepared by Alice Woodruff on behalf of Victoria Walks to support the Change to Walking Program’s development and implementation.

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