Chapter 9 Evaluation of education, promotion and marketing

9.1 Overview

Introduction

This chapter describes methods for economic efficiency evaluation of education, promotion and marketing, which may comprise the whole of a programme or may be a component of a wider programme. The following TDM initiatives (as described in chapter 2), incorporate education, promotion or marketing:

- alternative work schedules
- cycle and walking promotion
- car sharing
- guaranteed ride home
- non-motorised transport
- ridesharing
- telework.

Programmes that employ education, promotion and/or marketing techniques to encourage changed behaviour, including alternative mode use, on a voluntary basis are typically categorised as travel behaviour change (TBhC) programmes. TBhC programmes may also have components of infrastructure provision or improvement, passenger transport provision or improvement, or financial incentives or subsidies.

Reference 1 provides advice on developing and implementing TBhC programmes, and evaluating, assessing and monitoring the programmes.

Simplified procedure SP12 in chapter 13 can be used to evaluate TBhC proposals.

In this chapter

This chapter contains the following topics:

9.2 Travel impacts

Introduction

Overseas experience shows that the most effective (and lowest cost) way to encourage people to change their travel behaviour is to provide them with customised information about what is available locally. Travel plans targeting workplaces, schools, or households and communities are one type of programme for doing this.

The impact on travel is dependent on factors such as:

- actual features of the plan
- commitment of the target population
- availability of material that assists people's understanding of the implications of different forms of travel behaviour
- availability of suitably trained and experienced people to establish and manage the project.

Cost efficiencies and effectiveness are enhanced when school, business, household and community initiatives are implemented simultaneously rather than separately in an area. These programmes should, therefore, be implemented by geographic area rather than by type.

Target population for travel plans

The target population is the total population of the workplace, school, or community in which the programme is being implemented. It includes the people who do not participate in the programme and those who participate but do not change their behaviour.

Type of programme	Definition of target population
Workplace	The total workforce (number of employees) at the workplace covered by the travel plan. Make appropriate adjustment if a significant proportion of employees work more or less than the standard five days per week.
School	The total school roll. If this is expected to vary significantly in the next few years use an appropriate average.
Household and community	The total population of the community/suburb/area in which the household or community based initiative is being implemented.

Diversion rates

Standard diversion rates between modes have been derived for TBhC projects based on experience to date. These are described in the following sections.

When conducting initial indicative evaluations for project development funding for workplace and school travel plans the diversion rate should be selected based on the proponent's knowledge of the organisations involved and the area. For the final evaluation for implementation funding the diversion rate will be based on the actual features of the completed plan.

9.2 Travel impacts, continued

Workplace travel plans

There are two sets of diversion rates for workplace travel plans: standard – where no passenger transport improvements are proposed and alternative – where there are proposed passenger transport improvements. Within these two sets of diversion rates, a scoring system is used to select the appropriate profile for a given workplace travel plan. The score, out of six, is assigned based on the responses to the questions in the table below.

	Yes	No
Is car-parking availability constrained at the workplace?	1	0
Does the proposed workplace travel plan include:		
• One or more parking management strategies*?	1	0
• Improvements to cycling/walking facilities?	1	0
• Ridesharing matching service?	1	0
• Public transport service improvements or company transport?	1	0
• Public transport subsidies?	1	0
Total score		

*Strategies for managing parking demand include initiatives such as parking charges, reduced supply of parking spaces, parking 'cash-out' scheme, etc.

Default diversion rates (percentage point change in mode share)						
	Score	Car as driver	Car as passenger	Passenger transport	Cycling	Walking
Standard – without passenger transport measures						
Low	1 or 2	0.0%	0.0%	0.0%	0.0%	0.0%
Medium	3 or 4	-5.0%	1.3%	1.3%	0.6%	1.8%
Alternative – with passenger transport measures or improvements						
Low	1 or 2	0.0%	0.0%	0.0%	0.0%	0.0%
Medium	3 or 4	-5.0%	1.3%	2.6%	0.3%	0.8%
High	5 or 6	-12.9%	3.3%	7.4%	1.0%	1.2%

The standard diversion rate values are applicable in most situations where no significant public transport measures are included in the workplace travel plan. The alternative 'with public transport service improvements' diversion rate values are applicable when significant public transport service improvements (including company provided transport), subsidy schemes, or other similar measures (covered by the last two questions in the scoring table) are part of the workplace travel plan.

9.2 Travel impacts, continued

School travel plans

There are two default diversion rate profiles for schools, one for primary and another for intermediate and secondary schools.

Default diversion rates (percentage point change in mode share)					
School type	Car as driver	Car as passenger	Passenger transport	Cycling	Walking
Primary	0.0%	-9.0%	0.0%	1.5%	7.5%
Secondary/ intermediate	0.0%	-9.0%	5.0%	0.5%	3.5%

Household and community-based initiatives

The standard diversion rate value is applicable for most projects.

The low diversion rate is applicable in situations where:

- the proposal will implement fewer measures than 'usual' household based programmes, eg a community travel awareness campaign on its own would not achieve the standard diversion rate
- public transport services and cycling/walking facilities in the area are poor and no significant changes to these are envisaged as part of the TBhC proposal.

Default diversion rates (percentage point change in mode share)					
	Car as driver	Car as passenger	Passenger transport	Cycling	Walking
Low	-1.0%	-0.2%	0.5%	0.3%	0.4%
Standard	-3.1%	-0.5%	1.4%	0.9%	1.3%

9.3 Costs

Introduction

Refer to chapter 3 for the components of cost that should be considered.

The availability of suitably trained and experienced people to establish and manage travel plans is an important aspect of this type of intervention. This can be a sizeable part of the cost and must be allowed for.

The cost of annual expenditure required to maintain the benefits of travel plans over the evaluation period following completion of the project should be estimated based on local experience and knowledge. For household/community based initiatives this is generally zero unless the proposal contains specific plans for follow-up measures. For workplace and school travel plans it is likely that some ongoing maintenance expenditure will be required to maintain benefits.

9.4 Benefits

Introduction

The evaluation procedure for TBhC projects include the following main benefit categories:

- benefits to people that change their travel behaviour
- benefits to remaining road users (congestion reduction and safety)
- health
- other monetised impacts including environmental effects.

Road capital, maintenance and operating cost savings

These are assumed to be negligible for the number of private vehicle trips and/or vehicle kilometres that are likely to be removed by TBhC projects.

Composite benefit values

Composite benefit values have been derived for a range of TBhC project types and situations. The composite benefit values include benefits to the person changing their travel behaviour as well as benefits to remaining road users and the general community, such as reduced health costs and accident risk, congestion reduction and environmental benefits. Composite benefit values are the average annual benefit for all people in the workforce, school or community targeted by the TBhC project (and take account of the proportion that do not participate or change their travel behaviour).

The composite benefits also incorporate the default diversion rate assumptions for each TBhC project type (see the previous section on Travel Impacts) as well as the average trip length for each mode affected by the project. If analysts consider they have strong reasons why a different diversion rate is more appropriate for their situation they can interpolate a composite benefit value (based on the values given below and their project situation compared with the default diversion rates) for workplace travel plans, or use a computer spreadsheet programme (available from Land Transport NZ) to forecast a diversion rate and calculate a composite benefit value for any TBhC project.

9.4 Benefits, continued

Workplace travel plans benefit per employee ($/annum)

	Workplace	CBD			Non-CBD		
	Diversion	Low	Medium	High	Low	Medium	High
Auckland	Standard	0.00	160.88		0.00	137.88	
	Alternative	0.00	201.17	588.00	0.00	178.17	528.66
Wellington	Standard	0.00	142.31		0.00	119.31	
	Alternative	0.00	178.21	525.78	0.00	155.21	466.44
Christchurch/ other	Standard	0.00	40.84		0.00	40.84	
	Alternative	0.00	47.95	173.12	0.00	47.95	173.12

Based on 100% of changed trips being in peak period

Standard = without passenger transport improvements or subsidies

Alternative = with passenger transport improvements or subsidies

School travel plans benefits per student on school roll ($/annum)

	School type	
	Primary	Secondary/intermediate
Auckland	25.87	106.98
Wellington	23.21	92.42
Christchurch/ other	15.34	43.21

Based on 55% of changed trips being in peak period

Household/ community based initiatives benefit per head of target population ($/annum)

	Level of diversion	
	Standard	Low
Auckland	85.06	25.46
Wellington	92.84	28.21
Christchurch/other	65.65	18.76

Based on 15% of changed trips being in peak period

9.5 Period of analysis

Travel behaviour change projects

A 10-year evaluation period is to be used for travel behaviour change and other education, promotion and marketing-based TDM programmes. This reflects the assumption that benefits are sustainable largely without maintenance but there is an absence of experience with the durability of benefits beyond about 5 years. This could be reviewed in future in light of ongoing monitoring of this type of programme.

9.6 Cost benefit evaluation

Simplified procedure

Simplified procedure 12 provides a standard procedure with worksheets for evaluating the economic efficiency of TBhC programmes.

9.7 References

1. Land Transport NZ/EECA, *Travel behaviour change guidance handbook*, December 2004.