Promoting Mobility Behaviour Change

Practical guidance for inspiring more walking, cycling and public transport and minimising car use

URBAN AGENDA FOR THE EU — WORKING TOGETHER FOR BETTER CITIES — URBAN MOBILITY

Walk21

MINISTRY OF REGIONAL DEVELOPMENT CZ

Karlsruhe

FOREWORD

There are many existing resources to help European cities develop behaviour change campaigns. For example, there are 49 case studies on Civitas; 149 case studies on Eltis; more than a dozen relevant resources on EPOMM; and academic papers, webinars, and tool boxes are quite easy to find too. While reassuring that it is a popular technique being used to manage mobility choices it can be rather overwhelming and difficult to know what lessons can be learnt from past experiences and how to develop future initiatives that are likely to be successful.

As such, the **Partnership for Urban Mobility** set out to understand what common approaches, processes and techniques could be 'cut and pasted' to help future projects improve their impact. More than a dozen European funded consortium projects have been analysed to underpin this action. The projects include Mobi, Segment, Stars, Switch, Commerce, Astute, Chums, Bambini, PTP Cycle, Trendy Travel, Moma Biz, EPOMM and MUV Mobility. Each has produced detailed and helpful monitoring and evaluation reports as well as tried and tested tools and resources many of which, we felt, can be useful to steer future initiatives going forwards. Collectively they have had an enormous influence on mobility choices in towns and cities across the entire European Union and it is hoped that this publication will extend that reach even further.

Unlike other guidance, our aim is to give less space to the interventions themselves - however inspirational - rather, provide templates that support any city authority, business, institution or charity that wishes to effect a positive change in mobility behaviour.

Our assumption is that the overall priority is to encourage as much walking, cycling and public transport use as possible and minimise the use of private vehicles for journey choices. We hope that this guide is a helpful digest, improves confidence in those considering a campaign and most importantly helps improve impact at every level.

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THE PARTNERSHIP FOR URBAN MOBILITY CONTEXT

Urban mobility is currently facing changing circumstances globally including congestion, air and noise pollution, climate change, the search for alternatives to fossil fuels, urbanisation and the impacts of new technology. Cities are facing ever greater social challenges in respect of the environment, transport, health and social cohesion. The Urban Agenda aims to address those challenges.

The Urban Agenda for the EU was officially established by the Pact of Amsterdam, agreed by the EU Ministers responsible for urban matters in May 2016. The Urban Agenda aims to promote cooperation between Member States, cities, the European Commission, European organisations and other stakeholders in order to achieve a sustainable, socially inclusive, innovative and economically powerful Europe. The Urban Agenda sets out a new way of working together to stimulate growth, liveability and innovation in the cities, gain maximum benefits from their growth potential and successfully tackle current and future challenges.

This new approach includes the creation of a range of European partnerships to focus on twelve agreed priority themes of the Urban Agenda for the EU. One of these is the Partnership for Urban Mobility (PUM).

The Urban Agenda sits within a framework of 17 Sustainable Development Goals (SDGs), including SDG 11.2 (Sustainable Transport for All), with the explicit goal of investing in more accessible, safe, efficient, affordable and sustainable infrastructure for walking and public transport.

A consortium of PUM Partners agreed to create better knowledge, to support more behaviour change campaigns as a contribution to the Urban Agenda and SDGs. The partners involved in the action include the Czech Ministry of Regional Development, City of Karlsruhe, City of Gdynia, City of Malmo, City of Nijmegen, Slovenian Ministry of Infrastructure, European Commission, Eurocities, European Cyclists' Federation, POLIS and Walk21.

Other PUM partners are exploring parallel issues including urban mobility indicators.

Cities have proven people can be lured out of their cars to walk and cycle more with the right support and encouragement. May the benefits to urban mobility continue to be felt across Europe because of this guide

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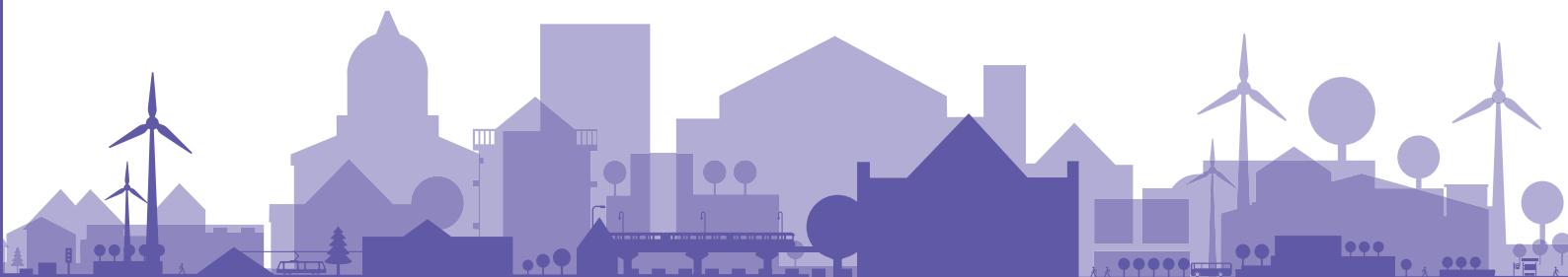
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THE THEORY OF CHANGE

Customised campaigns derive from 'realistic choice theory' in the 1970s. The concept is that most people have mobility habits that they consider unrealistic to change. So it is cost-effective to identify those who show a flexibility to change, and to focus resources on this group with information that is customised to meet each individual's needs.

In any given population, some people are more susceptible to changing their travel behaviour than others. This partly relates to more subjective factors such as their attitudes and perceptions towards their current travel choices. For some people the barriers to modal shift are more objective: for example, if there is no bus service operating on the route for their journey, or if they have a disability that prevents them switching car trips to walking or cycling.

In most instances behaviour change is observed as a series of stages which individuals progress through in order to reach the final stage, a new habitual behaviour. Thus, more subtle changes in attitudes and perceptions towards alternative modes (reflecting a greater propensity to change behaviour) will occur simultaneously to obvious behavioural changes.

In order to obtain a 'fuller picture' of what an intervention has achieved it is important to measure these more subtle changes in attitudes and perceptions as well as overt behaviour change per se; evaluations that focus solely on actual behaviour change would not show this and therefore their success in moving people towards behaviour change would be understated.

Measurements of people's position on this scale of potential change can therefore be used before a project starts to help inform the selection and design of subsequent measures, which may provide the 'final push' that will result in the ultimate goal of actual behaviour change. For example, a mass-media travel awareness initiative may increase some individuals' awareness of and propensity to use alternative transport modes. This new knowledge may inspire individuals to start considering the possibility of using these alternative modes, although further initiatives (perhaps personalised travel advice or reduced fares), may be necessary for them to actually switch to other modes.

INCENTIVES, INFRASTRUCTURE, MONITORING

PUBLICITY AND INFORMATION

LONG TERM TRAVEL BEHAVIOUR CHANGE

ADVICE, SKILLS, ACTIVITIES, EVENTS
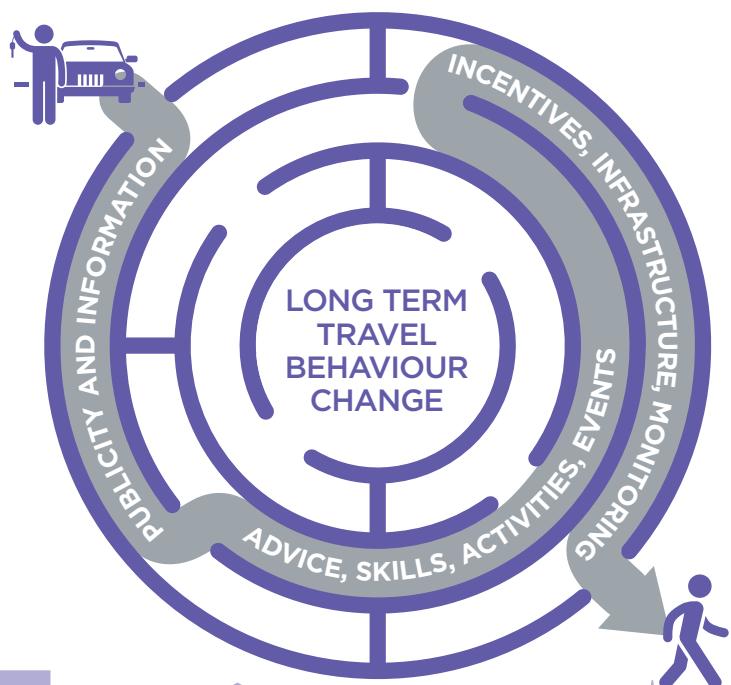
STAGE		DESCRIPTION
STAGE 1	Pre-contemplative stage	Individuals typically make most of their trips by car and are quite happy with the way they currently travel (i.e. as car drivers). At the moment, they have no wish, or desire to change to another mode, or feel that it would be impossible for them to do so at the present time.
STAGE 2	Contemplative stage	Individuals typically make most of their trips by car, but are not as content with their current travel behaviour and would like to reduce their level of car use and change to another way of travelling (mode), but at the moment are unsure of which mode to switch to, or perhaps don't have enough confidence to do so.
STAGE 3	Preparation/action stage	Individuals typically make most of their trips by car, but have decided which mode they intend to switch to for some or all of their trips, have the confidence to do so and may have already tried this new mode for some of their trips.
STAGE 4	Maintenance stage	Individuals typically make most or all of their trips by walking, cycling and public transport. These can either be people who do not own or have access to a car for their trips (and therefore are already dependent on non-car modes for travelling), or people who do own/have access to cars but for various reasons use them only for some of their trips, very infrequently, or not at all.

Report http://www.max-success.eu/downloads/MAX_SoA_AnnexB1_1.pdf.

A common framework underpinning the behaviour change process in Europe is the MaxSumo approach. This was developed by a consortium of experts and has been used by many countries and cities to help frame their behaviour change actions by explaining an individuals' readiness to change travel mode by categorising them in one of four stages:

Before deciding on an intervention, many cities have found it helpful to ask a common set of questions before and after interventions are designed and delivered so that the progression of people to later stages of readiness to change behaviour can be mapped. The appropriateness and relevance of a particular intervention can then be evaluated.

The common intention of any intervention is to promote sustainable travel and manage the demand for car use by changing travellers' attitudes and behaviour. Typically this will involve either 'hard' measures within urban transport (e.g. new footpaths or bike lanes, safer crossings, or investment in more comfortable public space) or 'soft' measures like information and communication campaigns, organising services and coordinating activities of different partners.

'Soft' measures can enhance the effectiveness of 'hard' measures, yet, in comparison, are often relatively inexpensive, which can attract some organisations to give priority to campaigns without investing in supportive infrastructure.

While behaviour change can be the result of the intervention itself there are a range of factors that may influence mobility choices over time: personal reasons such as a change in home or work location, retirement; transport system characteristics such as objective improvements in service provision (higher frequencies, new buses) or subjective improvements brought about by changes in the perception; or other external factors such as fuel price increases, parking fee increases.

Value for money therefore can only be measured when the scope, goals and targets of the planned behaviour change are set at the start, reviewed regularly and evaluated at the end.

03

A FRAMEWORK FOR PLANNING BEHAVIOUR CHANGE

Informed by the experiences of cities across Europe, a practical framework for delivering a behaviour change project follows 7 distinct steps:

STEP 1: DEFINE SCOPE, OVERALL GOALS AND TARGETS OF PROJECT

STEP 2: COLLECT BASELINE DATA

STEP 3: DEFINE THE TARGET GROUPS

STEP 4: DEFINE THE MOBILITY SERVICES PROVIDED AND MOBILITY OPTIONS OFFERED

STEP 5: SET TARGETS AND DEFINE INDICATORS FOR ASSESSMENT

STEP 6: MONITOR THE CHOSEN ASSESSMENT LEVELS

STEP 7: EVALUATE THE PROJECT AND EXPLAIN OBSERVED CHANGES
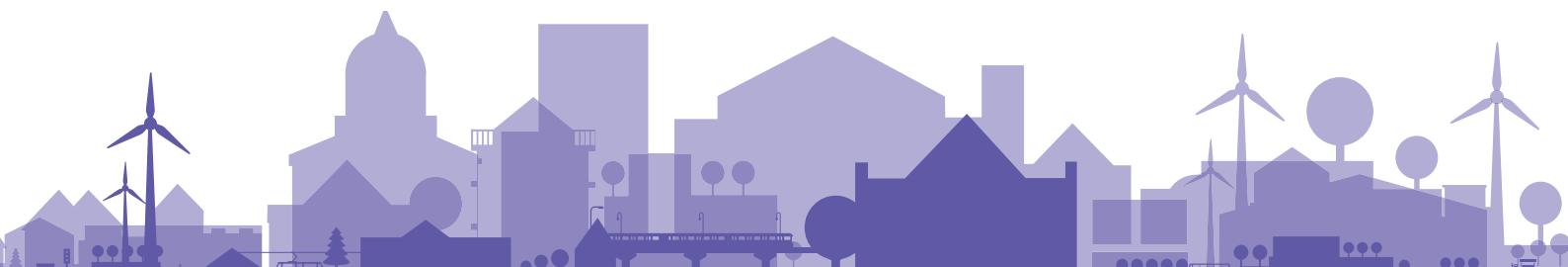
CASE STUDY: PROJECT PLANNING FRAMEWORK (MOMA BIZ)

Cities report that the main benefits of robust monitoring of the behaviour change framework are:

1. IMPROVED PROJECT MANAGEMENT AND TRACKING ACHIEVEMENTS OF OBJECTIVES

Projects benefit in efficiency if monitoring and evaluation is used both in initial planning and throughout the implementation stages, and as a permanent process to help in steering the project and reaching real results. The result provides feedback to the work team, decision makers and the people affected by the measures. Early results are also helpful in establishing whether the project is actually coming closer to its objectives or not. Sometimes the direction or focus of a project must be changed. Monitoring helps to see where adjustments might be necessary. In this sense, project evaluation is a management tool providing feedback and aiding accountability.

2. EVALUATION HELPS IN THE LEARNING PROCESS

Monitoring and evaluation provide a chance to compare results with similar projects that have also been evaluated. This benchmarking provides a build-up of knowledge that would otherwise not be possible. Sharing experiences also helps others learn what worked, as well as about what did not work out so well.

3. ENHANCE KNOWLEDGE ABOUT CAUSE AND EFFECT RELATIONSHIPS

Better measurement, documentation, monitoring and evaluation can provide better insight into the impact on behaviour change. In the longer term this offers significantly improved opportunities to produce verified cause and effect relationships. These can then be used to calculate and predict the expected results of future mobility projects.

4. PROVIDE DATA TO HELP FUTURE DECISIONS AND INVESTMENTS

Measuring the cost-effectiveness of measures implemented is an explicit goal for decision makers and funders, and evaluation helps establish these costs and benefits.

The Moma Biz project targeted business and industrial zones across Europe offering them packaged solutions for supporting more walking, cycling and public transport use. The project aims reflected this target audience with a focus on Corporate Social Responsibility and employee healthcare and stress, beside more traditional mobility objectives. A mobile app tracked users daily routes and identified potential opportunities for more walking, cycling and public transport use.

The project used a 7-step planning framework to support companies with mobility behaviour change:

1. Evaluate the company's existing commitment

2. Survey the employees to understand their mobility behaviour and potential for change

3. Decide on the areas in which to intervene to improve the mobility of the company

4. Consult the relevant mobility solution tools and resources to make a Mobility Plan

5. Control whether your local/national government or any other organisation offers assistance and/or incentives for the implementation of Mobility Plans

6. Implement the Mobility Plan

7. Evaluate the company impact.

LIST OF PROJECTS REVIEWED

PROJECT EXAMPLE	SCALE	PARTNERS	LINK
1	MOBI	5 countries, 16 examples (900 employees in 30 organisations)	Portugal (ANA Airport + Nokia + Lisbon City), Netherlands (Capgemini + Erasmus Uni + Spijkenisse + Bernisse); Romania (Bistrita + Siemens + Brasov), Bulgaria (Jewel + Sofia + Uzana Festival), Belgium (Joker + Floordam + INZ)	http://www.mobi-project.eu/site/assets/files/1071/d1_3_mobi_final_report_-_results_and_lessons.pdf
2	SEGMENT PROJECT	7 countries, 7 cities	Hounslow (UK), Almada (ES), Sofia (BG), Utrecht (NL), Gdynia (PL), Munich (DE), Athens (GD)	https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/segment_final_publishable_report_en.pdf
3	STARS EUROPE	7 countries, 8 cities (180 schools, 79,141 students, 7,940 staff)	Bielefeld (DE), Budapest (HU), Edinburgh (UK), Hackney (UK), Krakow (PL), Madrid (ES), Milan (IT), Noord Brabant (NL)	http://starseurope.org/assets/D_5_4_MONITORING%20%20EVALUATION%20REPORT_v%20f.pdf
4	SWITCH TRAVEL	5 countries, 5 cities, 25 followers	Antwerp (BE), San Sebastian (ES), Gdansk (PL), Hounslow (UK), Vienna (AU)	https://www.switchtravel.eu/resources
5	COMMERCE	25 case studies		http://www.epomm.eu/docs/1524/Mobility_Management_evaluation_tools_and_methodologies.pdf
6	ASTUTE	6 cities	Budapest, Dublin, Granada, Graz, London and Siracusa	https://ec.europa.eu/energy/intelligent/projects/en/projects/astute, https://www.eltis.org/sites/default/files/trainingmaterials/maxsumo_english.pdf
7	CHUMS	5 cities	Craiova, Edinburgh, Leuvern, Perugia, Tolouse (Jaguar landrover, Ocado)	http://chums-carpooling.eu/about-chums/
8	BAMBINI	11 countries	Austria, Belgium, Bulgaria, France, Germany, Greece, Italy, Poland, Romania, Slovenia, The Netherlands	https://ec.europa.eu/energy/intelligent/projects/en/projects/bambini
9	PTP CYCLE	6 partners	Antwerp (BE), Riga (Latvia), Greenwich (UK), Haringey (UK), Ljubljana (Slovenia), Burgos (ES)	http://ptpcycle-europe.eu/
10	TRENDY TRAVEL	9 cities	Denmark (DK), Bolzano (IT), Cork (IE), Graz (AT), Gyor (HU), Martin (SK), Plovdiv (BG), Netherlands (NL), Vilnius (LT)	http://www.trendy-travel.eu/index.phtml?ID1=1180&id=1180
11	MOMA BIZ	6 partners	Tartu (Estonia), Ponferrada (Spain), Plovdiv (Bulgaria), Asti (Italy), Atarfe (Spain), Cannock Chase (UK)	http://moma.biz/en/documentation/what-are-boxed-solutions
12	EPOMM	90 case studies	Netherlands (2), United Kingdom (3), Belgium (4) Switzerland (5), Austria (6), Germany (7), France (8), Italy (9), Portugal (10), Sweden (11), Finland (12), Norway(13)	http://epomm.eu/docs/file/epomm_book_2013_web.pdf
13	MUV – MOBILITY URBAN VALUES	6 partner cities	Buitenveldert (Amsterdam), Sant Andreu (Barcelona), Fundao (Portugal), Muide-Meulestede (Ghent), Jätkäsaari (Helsinki) Centro Storico (Palermo).	https://www.muv2020.eu/about/
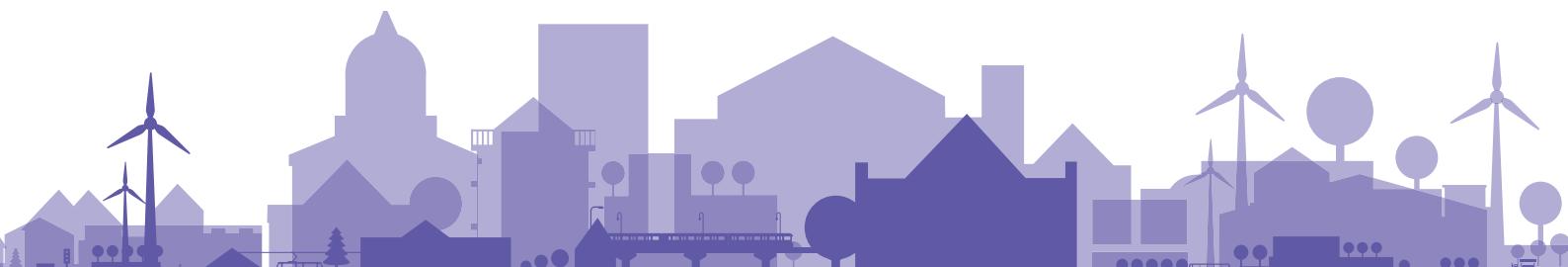
STEP 1:
DEFINE THE SCOPE, OVERALL GOALS AND TARGETS

It is assumed that the overall aim of a mobility behaviour change intervention is to induce citizens to practice what some cities call 'reasoned mobility', i.e. organising their daily activity patterns in an efficient way, in terms of costs, energy savings and environmental conservation.

Overall goals for mobility projects (although varied) therefore usually include improving air quality by reducing emissions, reducing the number of people killed and injured in traffic, reducing energy consumption and carbon emissions and/or easing congestion and parking pressure by persuading car drivers to switch to more sustainable transport modes.

CASE STUDY:
SUMMARISING THE OBJECTIVES AND IMPACTS OF BEHAVIOUR CHANGE PROJECTS (COMMERCE)

The COMMERCE Project research showed that out of 51 mobility intervention case-studies more than half had an impact on mobility behaviour (typically reducing car use by 11-30%) with a third also impacting on benefits to economic and environmental conditions too. Their review of travel plan examples in Europe identified the main motivations for developing mobility policies as:

■ parking problems (employees and visitors) (51%)

■ congestion (27%)

■ accessibility (24%)

■ environmental awareness (23%)

■ planning condition requirement (16%)

CASE STUDY:
CRITERIA FOR APPROPRIATE INDICATORS AND TARGETS (MUV)

The MUV Project promotes that a good indicator should be:

■ politically relevant: it should address an important policy question or issue, but not necessarily politically driven, since answering only to a particular political agenda may give a very partial picture of a situation under examination;

■ robust: in this respect, an indicator has to be related to global and lasting characteristics of the system, to avoid too much sensitivity to accidental fluctuations;

■ connected with priorities and significant issues;

■ coherent: an indicator should be connected/connectable with other indicators;

■ feasible: the data to construct an indicator should be readily available and affordable to collect;

■ accessible to a large audience;

■ valid, reliable, accurate, which implies a high quality the data sources. The evaluators should be sensible and practical in applying these criteria.

No indicator will satisfy all criteria equally well. Ultimately, the choice of indicators is determined through a holistic assessment of validity and practicality.

STEP 2:
COLLECT BASELINE DATA

How to collect the data of interest depends often on the types of measures that are implemented. Several different methods can be used. It is usual to make a division between qualitative and quantitative methods as these are used to answer different types of questions.

Qualitative methods are used to acquire a deeper understanding of an occurrence and its context, e.g. by using in-depth interviews. These can also be used to gain insight ahead of a quantitative study.

Quantitative studies are carried out to gain statistically reliable results through written questionnaires, telephone interviews, counts, face-to-face interviews or tracking of mobile devices. Questionnaires are a popular method, but some experience and knowledge is necessary to prepare and execute a reliable questionnaire.

Several cities recommend to carry out a pilot study or 'pre-test' before the real study, for example to test a draft questionnaire in order to see if it is understandable. A well-designed (and short!) questionnaire is more likely to be completed and returned. Pilot studies include only a small number of participants, who should be similar to those people who will participate in the main study. A pilot study gives valuable information about data collection methods and the estimated response rate, which helps to estimate the sample population in the real study.

When deciding on methods and planning of surveys several factors have to be taken into account, e.g. sample size, response rate and timings of surveys. If the target population is small (say less than 100), then everyone can be surveyed and a high response rate should be aimed for. However, if the population is large (more than a few hundred), then random sampling is recommended to ensure that the group surveyed is representative of the target population. Sample size determination can be calculated using standard formulae.

A number of external factors can influence changes in travel behaviour, especially in projects conducted over several years. In some case it is therefore good practice to consider collecting data from a control sample population that is not targeted by the interventions proposed. Survey bias can occur if more actively engaged participants are more likely to respond to repeat surveys over the course of a project. The specification of data collection methods should therefore demonstrate how this effect can be minimised through the sampling framework adopted.

It is important to decide upon and define specific target groups whose behaviour the project is attempting to change, which in part allows a focus of resources onto groups that are likely to produce the greatest effects.

The target group can for example be all employees at a company but also a more specific selection can be useful. The selection of target groups can be based on various criteria, including:

- trip purpose (e.g. work, leisure and school);

- specific routes (i.e. different combinations of origin and destination points);

- geographical regions, such as living in a certain area;

- specific transport modes, such as car or public transport;

- attitudes towards transport modes or different interventions;

- socio-demographic variables (e.g. age and gender);

- major life changes (such as people that have recently moved house, changed work or had children); and

- current stage of behaviour change (pre-contemplation, contemplation, preparation / action, maintenance).
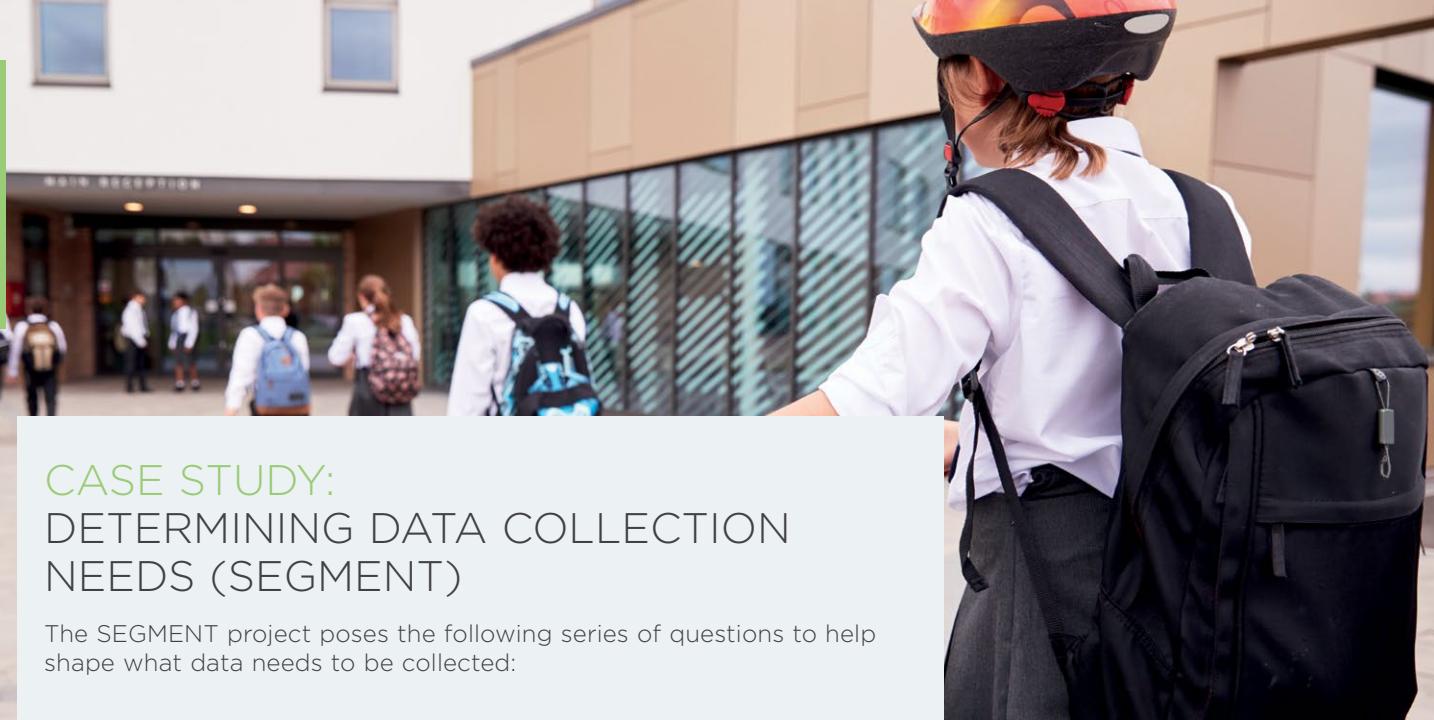
CASE STUDY:
DETERMINING DATA COLLECTION NEEDS (SEGMENT)

The SEGMENT project poses the following series of questions to help shape what data needs to be collected:

1. Who are the people you want to adopt the new behaviour? (Age, gender, lifestyle, where they live, what they do or don't do)

2. What or who do you think influences them? (Social groups, the media, products or services used)

3. What benefits do you feel they get from the problem behaviour? (What do they gain? How do you think the problem behaviour makes them feel?)

4. What do you think stops them from choosing the desired behaviour? (Are there any barriers? What costs are incurred?)

5. What contact do you have with them? (Are you in contact with the audience through other services or activities?)

6. What information, or research, exists about the audience? (Do you have any statistics or market research – by you or others?)

Embracing change is all of our responsibility to deliver better urban mobility in Europe

Anke Karmann-Woessner, PUM Co-coordinator and Head of Planning Department, City of Karlsruhe

Simple quantitative assessment tools can be used. The STARS project targeted school journeys to reduce congestion and emissions. A 'Hands-Up' survey at the start and end of the school year was used to identify travel habits of both pupils and teachers before and after the programme. The survey recorded mode of transport, willingness to change and distance travelled.

STEP 3:
DEFINE THE TARGET GROUPS

Market Segmentation is a common tool used by cities to help target people to change their travel behaviour. By adopting attitudinal segmentation techniques several cities' creative interventions have been reported as being more effective at directly reaching target audiences.

The purpose of segmentation is to produce a rich understanding to know how to target each group of people differently in order to have the best chance in influencing their behaviour. Such an exercise is likely to identify certain groups which are unlikely to change behaviour under all but the most draconian of policy measures. Therefore, in order to optimise resource allocation, only a few segments should be chosen to inform the design of the incentives, initiatives and messages of a campaign.

A questionnaire can be used to help cluster users into relatively homogenous groups (in terms of their attitudes towards car use, walking, cycling, public transport, electric vehicles or wider issues such as climate change and health etc.) so that bespoke campaigns can then be devised.

Overall it makes sense to focus on those segments who are 'ready and willing' to change. However, the exact choice of which segments to choose depends on the current state of the transport infrastructure and the 'hard' infrastructure and service improvements that are being introduced. For instance, some people are likely to be walking and cycling as much as they feel able to do and require new infrastructure to be encouraged to do more. So, if a campaign cannot include the improvement of this infrastructure, it may not be worth targeting this group.

A campaign can focus on only one segment or a few segments if the initiatives are likely to be attractive to more than one group. However, every opportunity should be taken to use communication messages which appeal to each group individually.

Another consideration is the size of the segments in each location. It is unlikely to be a good use of resources to target a very small segment of the population (<5%) unless there is a very clear way of finding and targeting this group.

Cities stress that the messages and initiatives are likely to be very different from city to city even when the same segments are chosen. The campaigns need to be tailored therefore to the current transport environment and social norms of any given location.

According to one recent overview of European behaviour change projects, students and drivers are most frequently targeted in European campaigns targeting the daily trips to school and work respectively. Student campaigns typically aim to influence future mobility behaviour through education, but most only evaluate impact on travel choices during the campaign. Invariably there is an impact on parents' behaviour and therefore there may well be wider impacts from the 'household education' approach which again rarely gets evaluated. Furthermore, journeys to work campaigns often aim for a permanent behaviour shift but again rarely evaluate impact beyond the life of the campaign.

Several European cities worked collaboratively to write a set of 'golden questions' that can be used in questionnaires or online surveys to help any organisations to conduct behaviour change baseline data. These 'golden questions' represent the smallest number of survey questions required to identify the defining and distinguishable characteristics of car owners and non car-owners. Each golden question uses a point scale of one to five, with one being 'strongly disagree/very unlikely' and five being 'strongly agree/very likely'.

THE GOLDEN QUESTIONS

On a scale of 1-5 how much do you agree with the following statements (with 1 being 'strongly disagree/very unlikely' and 5 being 'strongly agree/very likely')

Q1. Have you driven a car or van in the past 12 months?

Yes

No

Q2. For most journeys, I would rather use the car than any other form of transport

Q3. I like to drive just for the fun of it

Q4. I am not interested in reducing my car use

Q5. Driving gives me a way to express myself

Strongly disagree; disagree; neither/nor disagree; agree, agree; strongly agree

Q6. How likely are you to drive in the next 12 months?

Very unlikely; quite unlikely; neither/nor likely; fairly likely; very likely

Q7. I am not the kind of person who rides a bicycle

Q8. I feel I should cycle more to keep fit

Q9. I find cycling stressful

Q10. Cycling can be the quickest way to travel around

Q11. I like travelling by bicycle

Q12. I am not the kind of person who likes to walk a lot

Q13. I feel I should walk more to keep fit

Q14. I like travelling by walking

Q15. I am not the kind of person to use the bus

Q16. In general, I would rather cycle than use the bus

Q17. I feel a moral obligation to reduce carbon emissions

Q18. People should be allowed to use their cars as much as they like

Strongly disagree; disagree; neither/nor disagree; agree, agree; strongly agree

CASE STUDY:
DEFINING TARGET GROUPS BY THEIR PROPENSITY TO CHANGE (SEGMENT)

The SEGMENT project developed a questionnaire to help identify target groups and their propensity to change. Although their focus was on those in 'life change' moments - which forced consumers to question their travel habits and consider alternatives - the questionnaire is a relevant tool that can benefit the planning of most mobility changes.

Which of the following statements best describes how you feel about your current level of car use for daily trips and whether you have any plans to try to reduce some or all of these car trips?

Please choose which statement fits best to your current situation and tick only one box

1. As I do not own / have access to a car, reducing my level of car use is not currently an issue for me.

2. As I am aware of the many problems associated with car use, I already try to use non-car modes as much as possible. I will maintain or even reduce my already low level of car use in the next few months.

3. At the moment I use the car for most of my trips, but it is my aim to reduce my current level of car use. I already know which trips I will replace and which alternative transport mode I will use, but as yet have not actually put this into practice.

4. At the moment I do use the car for most of my trips. I am currently thinking about changing some or all of these trips to non-car modes, but at the moment I am unsure how I can replace these car trips, or when I should do so.

5. At the moment I do use the car for most of my trips. I would like to reduce my current level of car use, but feel at the moment it would be impossible for me to do so.

6. At the moment I use the car for most of my trips. I am happy with my current level of car use and see no reason why I should reduce it.

People choosing statement 1 or 2 belong to Stage 4 (see Theory of Change stage table): Maintenance. Individuals in this stage have successfully replaced some or all of their trips to the 'new' mode and this new behaviour (way of travelling) becomes the dominant mode they use for most of their trips (a new habit has been formed). Statement 1 is used to identify those, who currently – voluntarily or not – don't own/ have access to a car and therefore currently depend on other modes; they belong to the maintenance stage as well ('captive non-car users'). Statement 2 is used to identify those non-car drivers or those who only use the car very infrequently.

People choosing statement 3 belong to Stage 3: Preparation / Action. Individuals in this stage have decided which mode they intend to switch to for some or all of their trips, and may have already tried this new mode for some of their trips.

People choosing statement 4 belong to Stage 2: Contemplation. Individuals in this stage are not as content with their current travel behaviour (as pre-contemplators). They would like to change to another way of travelling, but perhaps are unsure of which mode to switch to, or don't have enough confidence to do so at this stage. Statement 4 is to identify those who currently use the car for some or all of their trips and would like to use other modes instead. They are not really sure which modes they could use, or when they will begin replacing their trips.

People choosing statement 5 or 6 belong to Stage 1: Pre-contemplation Individuals in this stage are quite happy with their car use and at the moment have no wish, or desire to change to another mode. Statement 6 aims to identify those pre-contemplators, who use the car for some or all of their trips and currently see no reason as to why they should change their level of car use. Statement 5 helps to identify those people who would like to reduce their level of car use, but currently see no possibility to do so; these 'captive car-users' are pre-contemplative as well.

In response to the questionnaire the SEGMENT project generated eight main attitudinal segments identified as being useful for the design of mobility management campaigns. Many cities have found these segments, based on results from over 10,000 comprehensive attitudinal surveys containing over 100 questions, to be very helpful to categorise their population.

The eight audience segments are:

DEVOTED DRIVERS

Characteristics: Would rather use the car and have no intention of reducing car use; think successful people use the car; not the kind of person to use the bus or to cycle; see no benefit to cycling and think walking is too slow; are not motivated by fitness and have a very low moral obligation to the environment

European demographic data: Highest percentage of men of all the segments and high level of full-time employment

Transport availability and travel behaviour: Highest percentage of households with three or more cars available to them; have on average the longest walk to the nearest public transport; highest percentage of frequency of car use (5 to 7 days per week); highest proportion reporting never having used public transport in the last 12 months

Intention: Devoted drivers showed the least intention to change their travel behaviour, with the highest percentage of 'strongly disagrees' across a range of questions

IMAGE IMPROVERS

Characteristics: Like to drive and see the car as a way of expressing themselves; do not want driving restricted and do not want to cut down car use; not the kind of people to use the bus; think cycling can be a form of self-expression and a good way to keep fit; would like to walk for fitness, but are worried about the time it takes; have neutral or moderate environmental attitudes; are motivated by fitness – especially cycling

European demographic data: Highest proportion of 25-34-year-olds and high proportion of employed or self-employed individuals

Transport availability and travel behaviour: Highest proportion of people owning two cars; least likely to be a member of a car club; highest proportion to have one bicycle available for their child; highest proportion reported never having used the tram/metro in the last 12 months; highest proportion of people reporting to have used a bicycle less than once a month over the last 12 months

Intention: Moderate intention to cycle, walk and reduce car use; low intention to use public transport

MALCONTENTED MOTORISTS

Characteristics: Do not like driving and find it stressful; want to reduce driving but still prefer the car; would rather use the bus than cycle, but see problems with using the bus; do not identify as cyclists, and see no benefit to cycling other than fitness; walk, but do not see any advantage to walking except for fitness; have a small level of environmental consciousness

European demographic data: Around two-thirds of this cohort are aged between 25 and 44 years old have a moderately strong intention to reduce car use, but not to increase use of public transport; highest proportion of women car drivers

Transport availability and travel behaviour: High proportion reported having used a car five to seven days a week over the last six months; most likely to use tram or metro two to four times per week

Intention: Most people within this group are unclear or unsure (neither agree nor disagree) about making any lifestyle change in their individual car use

ACTIVE ASPIRERS

Characteristics: Feel guilty using their car on short journeys, so would like to cut down on car use; agree that using the bus can be quicker, but are not bus users and see lots of problems with using the bus; see themselves as cyclists and believe that cycling is quick and provides freedom and fitness; regard walking as healthy, do walk, and would like to walk more for fitness; have a high moral obligation to the environment; believe reducing their own car use will make a difference and intend to reduce car use

European demographic data: highest proportion of 45-54-year-olds; 85% are 25-54; twice as many women as men in the segment; many have undertaken further education; many in full and part-time employment

Transport availability and travel behaviour: Highest proportion of households owning only one car; highest proportion of car club members; highest proportion of three bicycles per household

Intention: Most likely to agree about the need to reduce car use for environmental, health and social reasons; over 40% unclear about making any lifestyle change in car use

PRACTICAL TRAVELLERS

Characteristics: Use the car only for getting from point A to point B and when necessary; think that cars reduce our quality of life; would much rather cycle than use the bus as it is much quicker; identify as cyclists but do not as a form of self-expression; see walking as moderately healthy and will walk when it seems more practical than cycling; are not motivated by climate change; see local pollution and congestion as issues; believe they are already fit

European demographic data: Over 80% between 25 and 44; highest proportion still in further or continuing education at the age of 20; highest proportion of part-time workers

Transport availability and travel behaviour: Highest proportion with three or more bicycles; highest proportion with a five-minute or less walk time to public transport; highest proportion using a bicycle to get to and from work/school

Intention: Least likely to have a plan to reduce car use; if no constraints, highest proportion would wish their child to travel to school by bicycle; most likely to say they would rather cycle than use the bus

CAR CONTEMPLATORS

Characteristics: See cars as status symbols, and support unrestricted car use; want to increase car travel; would rather use the bus than cycle, but see problems with the bus and find it stressful; are neutral about cycling; might want to walk a bit more for fitness; have a neutral or moderate attitude towards the environment; not motivated by fitness but believe walking is healthy; intend to use other transport modes but are most likely to say they will start driving

European demographic data: Youngest segment with highest proportion under 24 years old and highest proportion of students; more likely to be women; highest proportion unemployed/seeking work

Transport availability and travel behaviour: Highest proportion without a driving licence; highest proportion citing bicycle use as their main mode of transport

Intention: Most likely to say they would like to travel more by car; cost, availability of a car and not having a licence the main barriers; over 50% expect to become car drivers in the next 12 months

PUBLIC TRANSPORT DEPENDENTS

Characteristics: Do not like driving and want less congestion; believe that more roads are needed to relieve congestion; would like to travel more by car; use public transport, but think it slow ; believe bus is better than cycling, and walking often better; see no benefits to cycling as stressful; walk and would like to walk more for fitness; are not motivated by the environment

European demographic data: Over 80% are women; highest proportion 55+ and highest proportion retired; least likely further education; most likely to have a disability that affects travel options

Transport availability and travel behaviour: Least likely to have a bicycle or to ride one; most likely to think that travelling by car is expensive

Intention: Most likely to think they should walk more to keep fit; least likely to start driving, as 'owning a car is too much hassle'

CAR-FREE CHOOSERS

Characteristics: Do not like driving and think cars lead to unhealthy lifestyles; believe car use should be reduced; like bus but would rather cycle; see cycling as beneficial as a self-expression; see walking as healthy and would like to walk more for fitness; have high moral obligation to the environment, and believe reducing their own car use will make a difference; are keen to walk and cycle

European demographic data: Over 70% women; one of the youngest groups with 75% <34; high proportion of full-time students at college or university

Transport availability and travel behaviour: 75% do not hold a driving licence; highest numbers with a bicycle; high levels of bus, bicycle and walking with the highest response rate for having walked five to seven days a week

Intention: Strongly agree that over the next six months they intend to make sure that they (or their child) cycles to work/school more often than is currently happening; very likely to have had a plan to reduce car use before they moved to their current home

The mapping of segment profiles to different cities illustrates that not every place in Europe has the same profile mix and indeed the more focused the data set (e.g. company employees, hospital visitors, school users etc) the more likely the profiles are to help identify what investment is most likely to resonate with who to have a measurable impact.
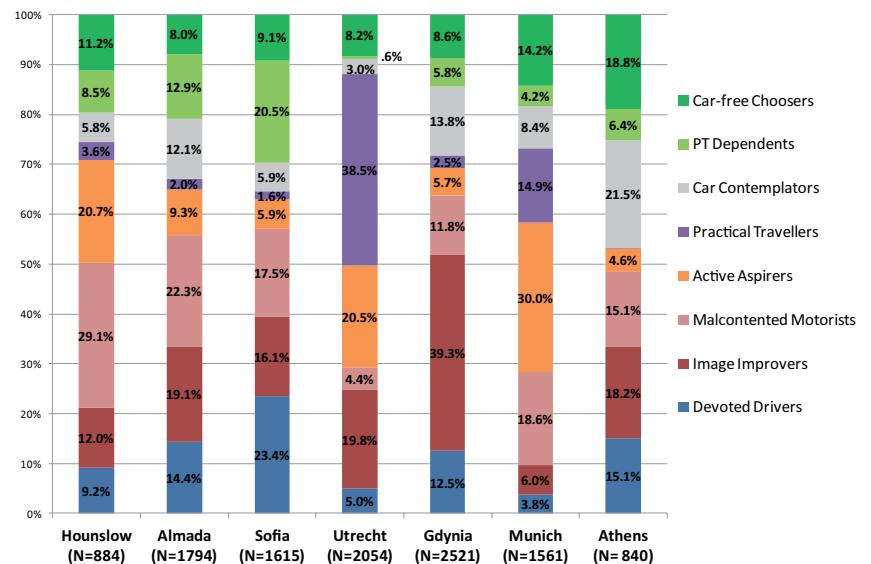
CASE STUDY:
TARGETING HIGH PROPENSITY SEGMENTS AT LIFE CHANGE MOMENTS (SWITCH TRAVEL)

The Switch Travel project aimed to reduce car use for short journeys in favour of walking and cycling by: targeting life changing moments; providing customised information that responds to their specific circumstances and needs; focusing on personal and public health benefits; and using apps to engage and inform. The target was set to reduce car use by 10% and increase walking and cycling by 50%.

25% participants already walked and cycled as main modes of transport; 22% of car users saw no reason to reduce their car use and so the project targeted the 42% of the car users that wished to reduce their car use.

This value underlines the high proportion of people in the population that have some inclination to reduce car dependency and take-up healthier mobility.

48% of those who wanted to reduce car use felt it impossible to do so (1 in 5 of all campaign participants). The remainder were split between two sub-groups that wanted to reduce car use 'but did not know how' or' had not done anything about it'. Clearly these two latter groups were those most likely to be influenced by the campaign. They comprised 14 per cent of all campaign participants.

The project targeted people at life change moments including:

• People moving residence into the city (home or university)

• Parents of children (i) starting school for the first time and (ii) those starting a new school year

• People who have received medical advice to do more active mobility

• People having to change mobility habits for commuting as the result of major disruption in the city due to road construction and re-alignment

• People self-reporting that they have recently experienced a life change

STEP 4:
DEFINE THE MOBILITY SERVICES PROVIDED AND MOBILITY OPTIONS OFFERED

Mobility interventions often consist of a range of measures, these measures can be categorised into:

MEASURE	DESCRIPTION	EXAMPLES
Information	information and advice before and during a trip to influence mode choice	Advertising, leaflets, maps and timetables
Promotion	targeted encouragement to entice more walking, cycling and public transport	Personalised travel assistance, advertising campaigns, incentive and reward programmes (e.g. bike repairs, bike kits and breakfast at work)
Organisation	improvements to the efficiency of walking, cycling and public transport	Carpool schemes, area-wide car sharing, shuttle services (if PT not present), cycle hire services, public transport ticket refunds.
Training	integration of walking, cycling and public transport skills	cycle training and eco-driving
Site-based	investments in new services and infrastructure	New footpaths, crossings, bike paths, bike storage, showers and lockers, company bikes, bus stops, bus shuttles and work buses.
Substitute travel	Reorganisation of working practices	Changing opening times, flexible working hours, compressed weeks, teleworking.
Supportive	Indirect activities that improve the effectiveness of direct measures	Parking management, (pricing, rationing, limiting, cash-out) tax changes to make travel benefits more or less attractive, planning permission requirements

CASE STUDY:
DEVELOPING A CHECKLIST OF BEHAVIOUR CHANGE OPTIONS FOR BUSINESSES (MOMA BIZ)

The Moma Biz project developed a checklist set of indicators that businesses could benchmark themselves against in order to score an overall sustainable mobility rating using answers to a series of positive statements. As well as providing a benchmark for change (before and after the project) the list of statements can be helpful summary of potential mobility services and options that could be packaged and delivered to have an effective impact :

CYCLING:

- We could be reached by an employee or a visitor with a bicycle - less than 10 km from home.

- We have a clear strategy and facilities for preventing bike theft.

- We provide changing rooms, showers and lockers for employees who use bicycles for home-work trips and for work-related trips.

- We provide bikes for the employees/visitors to use

- We provide a pool of bikes to the employee for work and non-work trips.

- We promote cycling for work-related trips.

- We offer a Bike & Ride service and the corresponding facilities.

- We have an internal bike network with safe bike lanes, bike ramps, bike racks, etc. and offer services for cyclists such as bicycle maintenance.

- We are aware of the current cycling infrastructure in the surrounding area and collaborate with the local authorities in order to improve them and make them safer.

WALKING:

- We can be reached by an employee or a visitor on foot - less than 3 km from home.

- We provide on-site lockers and showers for employees who walk to work.

- We provide safe infrastructure for pedestrians, road signs, pedestrian routes, etc.

- We have erected signs indicating the accessible areas.

- We have infrastructure for people with reduced mobility ensuring easy access.

PUBLIC TRANSPORT:

- We are well connected to the nearby residential areas by public transport.

- We provide up-to-date information on the existing public transport service to its employees, i.e. timetable, route maps, etc.

- We co-finance public transport tickets (bus, train, tram, metro, etc) for employees.

- Bus stops are close to us, with shelters, seating, selling of bus tickets etc.

- We have a clear idea of the transport needs of our employees and promote public transport policies that help meet these needs.

- The area is safe for pedestrians using public transport.

- We facilitate a shuttle bus service for the employees.

CAR POOLING/ CAR SHARING

- We offer standard vanpooling

- We provide employees with a service for carpooling in the forms of an online platform, a notice board, an employee matching service etc.

- We guarantee a parking space for carpoolers.

- We provide incentives for those who carpool - financial and non-financial.

- We offer a carsharing service

- We provide incentives for people who use carsharing - financial and non-financial.

- We are well connected by public transport, bike etc. to the nearest carsharing location (when the carsharing service is not located onsite).

PRIVATE CARS

- We can be reached with a car.

- We have a scheme for decreasing the number of business trips carried out (i.e. teleconferences, software, paper-based scheme, orally arranged scheme).

- We promote a more efficient use of cars for work-related trips.

- We have an internal pool of vehicles made available to people for non-work related trips (individual or collective).

- We offer a Park & Ride service

- We apply a parking fee scheme within our premises.

- We pay attention to the area made available for parking purposes within its environs and implement a parking management scheme.

- We have allocated car-free areas inside our grounds

- We prioritise certain types of means of transport, e.g. walking, cycling, public transport users and carpoolers.

- We apply access restriction measures based on the emissions of the incoming vehicles.

- We own energy efficient cars, or cars on alternative fuels, or electricity.

- We have a policy for the use of alternative fuels; or offer incentives to those who use vehicles run on alternative fuels.

- We offer eco-driving style training or give incentives to drivers who apply it.

- We use Intelligent Transport Systems for our fleet of vehicles; or have integrated it with the private vehicles.

- We have established a route planning service or are in possession of such software.

- We offer a service/software that provides information on real time traffic and the possible solution to traffic jams.

FINANCIAL INCENTIVES

- We offer financial incentives to employees who are using sustainable modes of transport.

- We offer a "guaranteed ride back home" service for employees using sustainable modes of transport in the event of the mode of transport not being available.

- We provide personal trip advice for optimisation of the home-work trip.

- We support flexible working hours and/or the possibility to work from home.

- We have established and run a Mobility Centre/Office for people to use

- We have a vision for the continual development and potential expansion and integrate sustainable transport networks within our mobility policy.

- We offer the facilities for an e-shopping service.

- People have access to a wide range of services on site, i.e. shops, gyms, bank, post office, childcare, etc.

http://moma.biz/labelling/data-entry

The COMMERCE Project research into 57 European case studies identified that 60% had invested in site based measures (e.g. more bike storage, facilities and bikes); 40% in site based infrastructure improvements; 17% in promotional campaigns and personal travel planning and 15% in organisation measures (ticket discounts, shuttle services, and carpooling).

CASE STUDY:
USING CREATIVE MESSAGES AND POSITIVE EMOTIONS (TRENDY TRAVEL)

The Trendy Travel project used emotional messages to make walking, cycling and using public transport more attractive in their promotional campaigns to improve the impact of 'information only' activities. They identified that more than 50% of human decisions are emotional and therefore feelings like fun, freedom and sex-appeal can be used to help convince people to change mobility behaviour.

The project presented positive emotions: evoking excitement, a lust for life and pride in participation to create a world that everybody strives to be part of. The five different emotional approaches used (and lessons learnt) were:

1. STORYTELLING TO CAPTURE PEOPLE WITH ABSORBING STORIES

humorous stories with surprising endings; stories with a hero and a villain; a core memorable message worth passing on; and surprising correlations that produce an: 'I would never have guessed' effect; keep video clips to <2 minutes.

2. RITUALS THAT PROVIDE STRUCTURE AND EVENTS THROUGHOUT THE YEAR

Restrict story length to help retelling; establish professional jury's for competitions; plan time for reminding potential contributors to submit stories.

3. RAISING THE IMAGE

Evaluate all events and adapt; partner with local groups; photograph events for next years publicity; use Car-free day and Mobility week. Don't only concentrate on people who already walk and cycle; children are influencers - "walk and bike to school" can impact family behaviour too; organise events that can be repeated.

4. GOOD DESIGN AND EMOTIONAL VISUALS

ask people to register for events with online calendars; encourage people to tell their friends and family to promote events; organise highly visible drop-in events to catch passers-by; art exhibitions can inspire and promote; use strong visual images for emotional impact; create a mystery to stimulate investigative interest; don't exclude people.

5. PESTER POWER OF CHILDREN CAN MOTIVATE

inform parents using information leaflets and scientific inputs and handouts with exercises are particularly helpful; teach in groups and promote widely in the local media; Don't make the children that are dropped off with a car feel bad; be appropriate with language and technical expectations; ask permission of parents before taking images and data from children.

CASE STUDY:
PROMOTING WALKING AND CYCLING FROM A YOUNG AGE (BAMBINI)

The Bambini Project created toys and books promoting walking and cycling targeting three different audiences by age: Pre-birth - Early Months (0-1 years); Crèche (1 – 3 years; and Kindergarten (4 – 6 years).

Partners used established networks to facilitate the promotion including: the merchandise industry (motivating the industry to produce merchandise for babies depicting energy efficient transport modes not just cars); child care facilities (promoting alternative transport in antenatal classes); educational bodies (motivating parents to bring their children to the child care facilities without a car through stories and games); and municipalities (initiating projects that transformed streets into play streets and traffic calmed areas).

The MOBI project found that the motivation of participating companies and their employees differed significantly, and messages needed to be targeted accordingly. Companies sought to enhance their corporate image and improve employee satisfaction, health and productivity. Employees were motivated by environmental and quality of life concerns as well as their own health and fitness goals.

STEP 5:
SET TARGETS AND DEFINE INDICATORS FOR ASSESSMENT

Most European behaviour change projects aim to increase general awareness or tailor solutions to a specific mobility problem. Emphasis is often put on the social benefits of reducing car use - with environmental protection being the most frequently used messaging and health improvement and economic savings the two other most frequent goals. Time savings, safety and economic benefits are also commonly used.

A robust monitoring and evaluation framework needs to be based on targets and indicators that are well-defined, relevant to the specific project objectives and measurable. Project indicators may relate to the monitoring of project outputs (e.g. participation rates), as well as evaluation of the wider objectives relating to the reduction in car use.

CASE STUDY:
DEFINING PROJECT-SPECIFIC INDICATORS (MOBI)

The Mobi Project set the following indicators:

- Number of participants registered

- Number of participants regularly participating (more than 70% of days filled in)

- Profile of participants in terms of attitude segments: % of participants per segment

- Baseline profile of trips made: average distance; modal split for 3 different distance groups - short (up to 2 km), medium (between 2 km and 6 km) and large distance (more than 6 km)

- Final profile of trips made: modal split for 3 different distance groups - short (up to 2 km), medium (between 2 km and 6 km) and large distance (more than 6 km)

- Variation of number of trips by each mode (absolute and %)

- Variation of (absolute and %): CO2 emissions; energy consumption; calories burnt; savings; estimated rate of absenteeism.
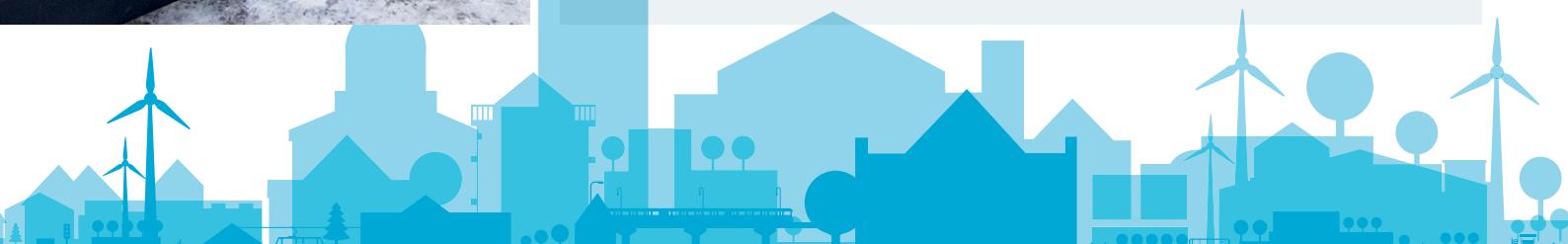
STEP 6: MONITOR THE CHOSEN ASSESSMENT LEVELS

Project monitoring refers to measuring what has happened as a result of the interventions. Project evaluation refers to measuring why these changes have occurred. Monitoring criteria can include:

■ Attendance and participation counts

■ Modal split data, or before and after counts of vehicles and people

■ Vehicle km saved during the action

■ Acceptance and satisfaction surveys

The specific contribution of an awareness-raising measure on modal shift might be difficult to prove too. Yet the initiatives with clear and well-defined objectives, targets and methodologies are consistently able to demonstrate tangible impacts.

Long-term changes in individuals' modal choice can provide lasting impacts on the road transport system, for example in the form of reduced air pollutants / noise emissions, less vehicle mileage, reduced energy consumption and carbon emissions, fewer accidents or reduction of car-parking spaces. The sum of these changes within a target group shows the impact at a system level. This is estimated using data collected from the target population sampled.

Based on the modal split changes, the distance travelled by each mode and the size of the actual group, a change in the vehicle km travelled by each mode can be calculated. A reduction in vehicle mileage could be an overall target at system impact level but can also be converted into reduced emissions and less fuel consumption. Data collection must, however, ensure that the distribution of vehicle km between the different modes of transport is visible. Translating the vehicle km split by mode into reductions in emissions can be difficult.

System impact is calculated by comparing the situation before and after an intervention. It can also be useful to measure impacts during the intervention, which is calculated by comparing the situation before and during.

Core aspects of travel behaviour to be measured include: travel mode, trip length, trip purpose and frequency of travel. This information can be obtained in many different ways, like: · recording travel over a given time period (one-day to multi-day survey);· "use of modes"- matrix· "in the course of a trip"- survey

Travel behaviour can be measured by asking questions about the use of all travel modes over a given time period (complete travel diary) or by asking questions about the use of travel modes for specific travel (simplified travel diary) over a given time period.

For research projects and some specific projects that need a very precise evaluation, a complete travel diary is recommended. A complete travel diary gives the most detailed answers concerning travel, but it tends to involve long questionnaires and can also be very expensive to manage and analyse.

In many mobility management projects, resources are limited and the intervention often aims to influence a specific type of travel. In this case, a simplified travel diary can be used. In such a simplified travel diary questions about the travel modes and travel distances are asked.

How many days that should be included in the simplified travel diary depends on the size of the target group, the need for detailed answers and the normal variation in travel modes. If the target group is at a scale of several hundred it is often enough to ask about the travel modes used during a one or two day survey. If less than 50 it might be better to ask for the travel modes used for an entire week (seven days).

When asking about the travel mode for specific travel the survey can ask about the main travel mode and the total distance or ask for the distance travelled with all different travel modes used during the survey period which gives a more detailed answer and permits the analyst to measure even small changes in travel mode. Both alternatives can be used for one or several travel days. It is possible to add in or specify any other potential modes specific to the location being studied (e.g. underground, light rail).

EXAMPLE METHOD FOR MEASURING A SYSTEM IMPACT:

REDUCED VEHICLE MILEAGE

Travel mode 1: Number of trips by travel mode 1 per week * average kilometres per trip by travel mode 1 * 45 weeks per year = km travelled per year by travel mode 1

Repeat the multiplication for each travel mode until the annual km travelled with each travel mode is calculated

REDUCED EMISSIONS

Km travelled per year by travel mode 1 * emissions in gram per kilometres by travel mode 1

Repeat the multiplication for each travel mode until the annual emissions with each travel mode is calculated.

SUMMARISE THE TOTAL EMISSIONS BY ALL TRAVEL MODES.

Compare the before with the during/after situation. Compare the amount of emissions per Euro spent on the project.

STEP 7:
EVALUATE THE PROJECT AND EXPLAIN OBSERVED CHANGES

At present, the evidence base regarding behaviour change initiatives in Europe is relatively poor. There is a need for systematic monitoring and reporting of behaviour change initiatives so that robust measures of costs and outcomes can be reliably identified. There is also a need for methodological development to accurately conduct such evaluations given the complexity of behaviour change initiatives.

The message from cities very often is to apply a behaviour change methodology if a clear problem can be identified where a change in mode choice would provide a solution.

Simple imitation of an apparently successful initiative is unlikely to be effective. Attempts to transfer initiatives need to be sensitive to local factors: natural endowments, social norms, existing material infrastructure, and institutional arrangements. Seeking advice from those involved in previous initiatives from other locations will facilitate learning opportunities and provide access to the tacit knowledge developed through the implementation process.

The financial resources required for behaviour change initiatives can be provided by governments, firms or through community groups. But, there are a range of institutional innovations that can be employed to incentivise up-front investment or to spread the financial costs over longer periods of time. Who leads an initiative (government, firm or community) is likely to influence how the initiative is perceived and has potential to affect outcomes.

The most successful actions are those with continuity over time. When actions are repeated regularly (e.g. annually) they reinforce previous successful results especially if the objectives are reinforced by parallel other activities, even after the campaign has finished. Long actions with large budgets are impactful. It is helpful too if there is an adequate policy context to enable awareness raising to be effective, e.g. application of a road user hierarchy.

CASE STUDY:
IDENTIFYING BARRIERS THAT NEED TO BE ADDRESSED TO SUPPORT BEHAVIOUR CHANGE (ASTUTE)

The ASTUTE project evaluation identified common barriers and sub barriers that needed to be addressed to support behaviour change. It is a useful list, and can be interpreted more positively as an evaluation framework of measures:

SAFETY AND SECURITY CONCERNS

- Unsafe routes for cycling/walking

- Lack of definite regulations on cycling

- Fear of theft or criminal damage to bicycles

INADEQUATE INFORMATION

- Lack of information on how to reach destination safely

- Lack of information about walking/cycling routes

- Lack of convenient signage on walking/cycling routes

INEFFECTIVENESS OF PROMOTIONAL CAMPAIGNS

- Lack of information about walking and cycling facilities

- Lack of skills to promote walking and cycling amongst businesses and citizens

- Insufficient communication between city departments and citizens

- Purchasing and keeping political support behind project

INADEQUATE URBAN ENVIRONMENT AND DESIGN

- Lack of penetrability of city areas to walking and cycling

- Low level of importance of pedestrian use in the city centres

- Unattractiveness and poor quality of urban environment for walking and cycling

CLIMATIC AND TOPOGRAPHICAL BARRIERS

- Lack of infrastructure and support

- Lack of integrating existing networks

- Ineligible or lack of cycle parking facilities in the city reduces the modal share

- Inadequate public transportation accessibility

- Lack of cycle tracks

- Lack of facilities for cyclists (loaning, storage and repair facilities)

- Lack of maintenance of the infrastructure

POOR PUBLIC PERCEPTION AND LACK OF AWARENESS

- Lack of public interest

- Public approach of walking/cycling

- Low attractiveness of bicycle for longer journeys (e.g. commuters)

- Cultural barriers against cycling

ACCESSIBILITY AND HEALTH

- Low level of environmental and health awareness among citizens

- Lack of competence/power of citizens/organizations to enforce their interests

- Exclusion of people with reduced mobility/minority groups/older persons/residents living in areas difficult to access

- Low fitness levels among citizens

LACK OF PUBLIC SECTOR SUPPORT

- Transport policy prioritising private car/public transport

- Lack of co-ordination between city departments and NGOs responsible for walking and cycling

- Lack of appreciation of the value of marketing campaigns

- Lack of integrated planning of cycling and walking/ pedestrian traffic

- Purchasing and keeping political support behind project

LACK OF PRIVATE SECTOR SUPPORT

- Lack of financial incentives to develop a travel plan for employees/school

- Lack of skills to implement actions for sustainable transport

- Insensitivity of companies towards employee transport preferences

- Inadequate resources and knowledge by employers to implement travel plan

- Inadequate facilities for walking/cycling in the workplaces (cycle parks, changing rooms, showers)

- Inadequate incentives by employers to encourage walking/cycling to the workplace

CONGESTION AND AIR POLLUTION

- Unbalanced level of utilization on public transport vehicles

- Level of car traffic and air pollution

- Reduced accessibility for businesses due to congestion

LACK OF EDUCATION AND TRAINING

- Lack of cycling and bicycle maintenance skills

- Children with inadequate road safety skills

The PTP CYCLE Project found that impact was greatest where campaigns were supported by new or existing infrastructure. Their tips for successful behaviour change projects include understanding the target audience (segmentation), working with the willing, motivating people and increasing their autonomy, targeting transitions such as moving house and making campaigns fun!

CASE STUDY:
LESSONS LEARNED FROM PROMOTING BEHAVIOUR CHANGE TO BUSINESSES AND EMPLOYEES (CHUMS AND MOBI)

The CHUMS project focused on commuter trips as, on average, 70% of these trips in the EU are made by car, with over 85% of these commuting car trips having only one occupant. The aim was to 'attract carpoolers, to match them and retain them'. At all stages, they reiterated the benefits for the employee by addressing the question "what's in it for me?" They found that promoting the social experience can be a strong motivator for younger groups, such as students. They also discovered that:

■   Less affluent workplaces are motivated by financial rewards and technology gadgets (such as smart phones and tablets) were as affluent workplaces are more motivated by special treats (such as a meal for two in a good restaurant).

■   Target groups should ideally be more than 2,000 persons to gain critical mass

■   Best results occur where there are workplace mobility advisers to maintain momentum and engage with staff

■   Sites with abundant parking are not best suited for carpool take up

■   Surveys are needed to gain an understanding of the baseline and impacts of measures but need to be carefully considered and concise. Long surveys will not be answered

■   Communications and messages need to be continually evolved to ensure they remain fresh, relevant and engaging

The Mobi Project goal was to change travel behaviour amongst employers and employees throughout Europe and decrease the number of single occupancy car trips for one day a week. Project partners found that its biggest challenge was engaging organisations to take part: only about 10% of all contacted organisations decided to follow through. Organisers say that these numbers can be improved by targeting the right companies and suiting the approach to their goals and needs.

The project learned it is better if the top management decides from the very beginning to be an active supporter of behaviour change and sets an example. They also found that personal contact works best when recruiting companies and that having a 'door-opener' on the inside can engender real support and interest quickest.

CASE STUDY:
LESSONS LEARNED FROM INCENTIVISING PERSONAL TRAVEL BEHAVIOUR CHANGE (SEGMENT)

The SEGMENT project recognised that if you are in a country that is lucky enough to have high levels of sustainable travel, it might be a challenge to improve the results beyond the existing good behaviour. They also found that regularly 'refreshing' campaigns is essential to maintain good behaviour as well as to encourage further transport mode shift. Sometimes this means simply introducing new commuter challenges or incentives, rather than initiating a new campaign.

SEGMENT also identified that people respond well to incentives and prizes. Incentives can range from free public transport tickets, free membership to car clubs or a bike to try for a limited period. All these incentives help to make it easier for people to move to more sustainable choices. Prizes also give people the opportunity to 'try before they buy'.

Habits, good or bad, are not easy to break. Free travel helps to shift the person's incentive to saving money rather than changing their habits or improving their behaviour. However, when considering prizes or incentives, sometimes a transport-related prize, such as a free bike, is not the most appropriate offer. People who travel unsustainably will not always respond to specific travel-mode prizes.

Sometimes it is best to think of different desirable prizes – items like a free music player and headphones are often good incentives. These prizes can help with improving your campaign numbers by grabbing the attention of a much wider audience.

Raising awareness is a great way to introduce sustainable travel modes. But simply telling your audience that something is good is not enough. A 'call to action' may seem obvious but they do not always appear in campaigns. Rather than just asking people to cycle or walk more, it would be better to set a challenge. Friendly competition is a great way to motivate people. When teamed with prizes, competitions such as a commuter or pedometer challenge, attract a good amount of attention.

The Switch Travel project achieved a 32% decrease in the weekly frequency of car use and a 27% increase in the number of days per week people walked during the campaign and three months after a 21% decrease in car use was sustained and there was 60% more walking. However personal and family time management emerged as a strong deterrent to reducing car use and the greatest impact was when the project focused on where time and location habits were being reconsidered (life changing moments).

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