

## Evaluating the Impact of Innovative Cycling Measures in EU cycling cities

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### 1 Abstract

The impact of “softer” measures to improve cycling mode share are often difficult to quantify and assess. The CHAMP project is an Intelligent Energy Europe funded project which brings together a range of cycling cities across Europe which are all cycling “champions” in their local context; Groningen (NL), Orebro (Sweden), Bolzano (Italy), Edinburgh (UK), Burgos (Spain), Kaunas (Lithuania), Ljubljana (Slovenia). All cities have developed an updated cycling strategy after conducting a self-assessment and engaging in peer reviews and as part of the strategy each city selected two innovative cycling measures to be implemented within the CHAMP project. The implementation phase for the measures ended in January 2014 and this paper presents the evaluation and assessment of these measures.

A range of evaluation indicators were developed with the city partners and customised where necessary to the individual measures implemented. The measures include the creation of bicycle accounts; marketing to improve co-existence of pedestrians and cyclists; route promotion marketing, innovative parking solutions, healthy cyclist campaign, cycle website improvements and safety strategy improvements. The impact of such “softer” measures is difficult to analyse and assess and hence the evaluation indicators include media exposure, user awareness and satisfaction, political engagement and stakeholder feedback in addition to cycle usage figures and cycle mode-share figures.

This paper will present and discuss all the measures chosen by the cities and will review the outcomes of the evaluation undertaken. The City of Edinburgh route promotion campaign will be presented as a case study and will be discussed in more detail. The relative impact of the measures undertaken will be assessed and presented in the context of the city in which they were implemented with commonality and differences experienced by cities engaged in implementing similar measures being highlighted. Finally the usefulness and usability of the evaluation indicators developed for the project will be assessed.

### 2 Background

The benefits of walking and cycling as a means of daily transport are numerous and well documented (de Nazelle et al 2011, Cavill et al. 2008). Cycling can be considered the most energy efficient urban transport mode in terms of the amount of energy a person must expend to travel a given distance. In addition it is fast, flexible, healthy, non-polluting and cost efficient (PRESTO 2012)

The health benefits of cycling outweigh the safety risks by a factor of 20 to one (Hillman 1992) with cyclists living on average 2 years longer and being absent from work due to illness 15% less, than non-cyclists (CTC 2009). Rabl & de Nazelle (2012) calculated the health benefits of cycling to be worth about €1300/yr for a driver who switches to cycling for a commute of 5 km (one way) 5 days/week 46 weeks/yr and in a large city (>500,000) the value of the associated reduction of air pollution to be in the order of 30 €/yr.

Cycling has great potential to reduce energy-consumption and to enhance the liveability of European cities by reducing pollution and congestion and supporting local economies – as cyclists tend to shop locally and more often. However, the question remains as to the most effective and cost-efficient means of influencing travel behaviour in favour of sustainable modes such as cycling. Evidence suggests that hard policy measures, such as changes to infrastructure, services, pricing or engineering, are not sufficient enough alone to influence mode choice (Stopher 2004). Instead, a combination of hard and soft measures are believed to be the key to bringing about a long term shift to sustainable modes, where soft measures try to influence individual choice by means of information and persuasion (Bamberg 2008). Soft transport measures can take numerous forms: marketing campaigns, travel diaries, facilitating testing new behaviours, work travel plans etc. This, and their relative ease of implementation, makes them ideal for choosing the right solution for a given local context. In this way cities can take measures tested in other cities and adapt them to suit their own needs. Multi-national projects can be an effective way of transferring knowledge, policy and measures between cities (O'Dolan 2012) and it was within this context that the CHAMP project was established.

### 3 CHAMP overview

The CHAMP project runs from October 2011 until September 2014 and brings together 6 champion cycling cities – Groningen, Orebro, Bolzano, Edinburgh, Burgos and Ljubljana - and 1 climber city – Kaunas – with the aim of improving their cycling policies and collecting new ideas for making cycling more attractive and safer for their citizens. The main objectives of the project are:

- To raise awareness amongst decision makers in European cities on the economic, ecological and energy efficient benefits of cycling
- To improve expertise on integrated cycling policy through capacity building and exchange of experiences
- To increase cycling in the CHAMP cities by 10 %
- To reach a 1-5% reduction in energy consumption from passenger transport and a reduction of 1-5% in greenhouse gases in the CHAMP cities
- To improve the quality of life within the cities not only through decreasing the use of motorised traffic but also through a better coexistence between cyclists and pedestrians
- To decrease the dependency on fossil fuels by stimulating an economically beneficial transport mode available to all citizens and competitive to motorised traffic.

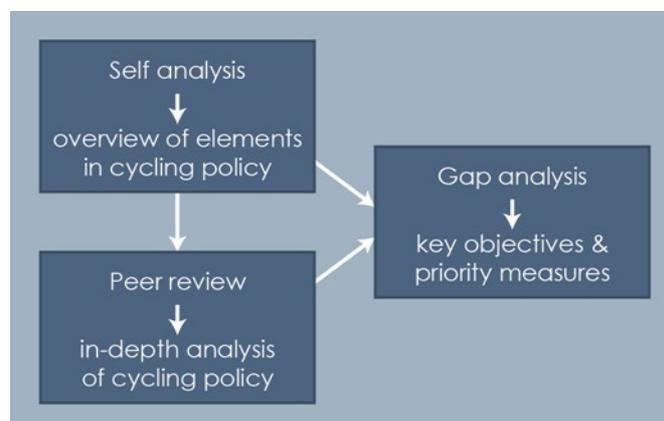
By the end of the 3 year project the key outputs will be:

- a) An easy to use CHAMP performance analysis-tool developed and tested by the CHAMP partners, which other cycling cities can use to further improve their cycling policy
- b) A "learning by doing" exchange programme
- c) The implementation of at least 2 innovative measures in each of the CHAMP cities
- d) A CHAMP catalogue with inspiration, "DO's and DON'Ts" and good examples of successful cycling policies

CHAMP began with developing and testing a performance analysis tool to help cities identify their strengths and weaknesses and choose which measures they should focus on when further developing their cycling strategy. This tool, illustrated in figure 1 below, comprises of 3 steps:

1. **Self-analysis** - cities complete a questionnaire in which they analyse their cycling policy against the 10 elements of the CHAMP framework.
2. **Peer review** - a team from colleague cycling cities visits the city and provides feedback on the 10 elements by reviewing the self-analysis, conducting a site visit by bike and meeting with stakeholders.

3. **Gap analysis** - combines the results from the self-analysis and peer review and indicates the highest priority challenges that the cycling policy is facing. It suggests measures to improve the cycling policy.



**Figure 1. CHAMP performance analysis tool**

The 7 CHAMP cities tested the performance analysis tool and as a result of the gap analysis formulated local strategies with a list of priority measures for cycling in their cities. 2 key measures were selected from each city to be implemented within the CHAMP project, these are listed below and more details are given in the subsequent sections:

**Table 1. List of CHAMP measures implemented by partner cities**

City	CHAMP measure 1	CHAMP measure 2
Groningen	Developing creative parking solutions	Changing cycling behaviour through innovative methods
Orebro	Healthy cyclists campaign	Bicycle account including a monitoring and evaluation strategy
Bolzano	Developing a strategy for stakeholder and users feedback	Promoting cycling and the enhancement of safety
Edinburgh	Route based cycle promotion	Residential bike parking pilot
Burgos	Campaign targeting students at the University of Burgos	Improving coexistence between pedestrians and bikes
Ljubljana	'I walk the path you cycle'	Bicycle account
Kaunas	Promoting new cycling infrastructure	Developing a cycling website

Measures were co-financed by the CHAMP project and local municipalities.

#### 4 Evaluating CHAMP

The evaluation of the CHAMP project can be divided into two main streams:

1. Evaluating the learning and capacity building activities.
2. Evaluating the measures implemented.

The learning and capacity building activities that took place within the CHAMP project were evaluated through log files (regularly completed by project partners) and questionnaires (completed by partners and follower cities following exchange visits) in order to understand their impact in terms of the

contribution to the cities knowledge of cycling practice and triggering new initiatives and future actions within the cities.

In order to evaluate the effectiveness of each of the measures implemented within CHAMP, each city made a plan for evaluation comprising of a set of common performance indicators and indicators and targets specific to their measures and local context.

The common performance indicators collected by all partners are listed in table 2 below, note the method use to collect the data varied according to the local situation, examples given:

**Table 2. CHAMP common performance indicators**

<b>Indicator</b>	<b>Target</b>	<b>Methodology</b>
Share of policy makers dealing with urban mobility in partner cities that are persuaded of improving the cycling strategy and of the need for further investments in cycling measures	90% of surveyed policy makers are persuaded	Survey among politicians and decision makers at the beginning and end of the project
Number of cyclists on monitored corridors during the lifetime of the project	10% increase in number of cyclists	Automatic cycle counters (permanent & temporary), manual counting
Citizen satisfaction with the implemented cycling measures	70% of citizens satisfied with the measure	Survey of all or some of campaign participants before and after the campaign (online, on-street, door to door)

Other specific indicators and targets monitored were selected by partners as appropriate and included:

- Number of press releases
- Number of accidents involving cyclists
- Number of cyclists in target groups/ using a specific route before and after a campaign
- Share of cyclists who state they will continue to cycle after a campaign
- Number of incidents between pedestrians and cyclists
- Perception of conflict between pedestrians and cyclists
- Brand awareness
- Number of parking spaces used
- Route selection, habits and attitudes of cyclists
- Frequency of bicycle account publishing
- Budget for cycling investment
- Share of projects with a monitoring and evaluation plan in place
- Share of proportion of employees who have taken note of content of cycling account and feel inspired

In addition, partners qualitatively evaluated the measures and processes deployed to carry them out in terms of barriers, successes and lessons learned. More information, on the results of all indicators is given in section 5 of this paper.

## **5 Implementation and evaluation of CHAMP measures**

This section provides a brief outline of the CHAMP measures implemented, grouped by theme, and gives a brief overview of the results and evaluation of the measure to date. Please note that at the time of writing, the follow up evaluation data for many measures is still to be collected.

## 5.1 Bicycle accounts

Bicycle accounts are an effective way of measuring the progress and results of a city's bicycle strategy. Not only do they illustrate the current status of cycling in a city but they bring cycling to the attention of politicians and citizens and can be an effective tool for increasing cycling investment. They involve collecting together different streams of data on cycling in a systematic way at regular intervals (often annually or biannually). The data collected can vary according to what information is available locally but they generally include:

- Modal split data
- Bicycle counts at key locations
- Accidents involving cyclists
- Number, quality, location & use of bicycle parking
- Bicycle thefts
- User satisfaction/feedback
- Stakeholder satisfaction/feedback
- Budget for cycling
- Details of existing infrastructure

Within CHAMP the cities Ljubljana & Örebro set up a bicycle account by following the process outlined in the EU project Nordiske cykelbyer:

[http://www.nordiskecykelbyer.dk/upload/NonPublic/Proces\\_plan\\_cycling\\_account.pdf](http://www.nordiskecykelbyer.dk/upload/NonPublic/Proces_plan_cycling_account.pdf) as illustrated in figure 2 below

**Figure 2. Process of creating a bicycle account. Nordiske Cykelbyer project**



Ljubljana produced both a full and short version of their first bicycle account for local politicians and local people respectively. Whilst Örebro combined this measure with establishing a protocol for setting on a monitoring and evaluation plan for all new projects.

### 5.1.1 Evaluation of bicycle accounts

Of the common performance indicators, the only data available at the time of writing was that from bicycle counters in Ljubljana which showed a 6% increase in the number of cyclists between 2012-2013

**Table 3 Result of specific evaluation indicators for CHAMP bicycle accounts**

Indicator	Target	City	Result
Frequency of bicycle account publishing	Bicycle account published every two years	Ljubljana	1 <sup>st</sup> bicycle account published with a commitment from the municipality to publish every 2 years
Budget for cycling investment	Budget for investment in cycling in 2014 will increase by 10% in comparison to 2012	Ljubljana & Örebro	In Ljubljana initial figures show budget will remain the same. This is a good result given the economic crisis. Data not yet available for Örebro
Number of press releases	3 articles/events with media attention	Ljubljana & Örebro	Target exceeded in both cities
Share of project with a monitoring & evaluation plan at the start of implementation	All new projects have an MEP ready at the start of implementation	Örebro	Target reached (one pilot project).

Share of employees who have taken note of the content of the cycling account and feel inspired	80% reading whole or parts of cycling account, 70% feeling document is useful	Orebro	90% have been reading the whole or parts of the cycling account and 78% think the cycling account is useful.
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Both cities found bicycle accounts to be an effective way of raising cycling up the political agenda and successful at opening discussions on priorities and reviewing cycling budgets in terms of where money is allocated. A shorter, public version of the bicycle account also helped raise awareness of cycling amongst citizens and was perceived by politicians as a good way of demonstrating that they cared about cyclists and future cycling in the city. This strong political will was essential in gaining access to the data required for the account, but there were still issues where quality data was not available. In these instances, the indicators within the account were modified and processes put in place to collect the desired data in subsequent bicycle accounts. As a result of the bicycle account in Ljubljana, four existing bicycle counters and one additional totem were installed.

## 5.2 Improving coexistence between pedestrians and cyclists

The cities of Ljubljana, Burgos and Bolzano conducted campaigns aimed at reducing the conflict between pedestrians and cyclists in key shared spaces. In the case of Ljubljana and Burgos the focus was a central pedestrianised area which, in Burgos, had recently had a bike lane installed. In Bolzano the campaign was a general awareness campaign to promote cycling in the city, of which raising issues of coexistence with other modes was a part.

Cities produced leaflets, flyers, posters and brochures and stickers were handed out to considerate cyclists in Burgos. In Bolzano they used a life size mascot and ran a bicycle check and repair workshop in the city centre to grab people's attention. In both Ljubljana and Burgos the campaign primarily targeted cyclists in terms of asking them to respect pedestrians although in Burgos messages were also targeted to pedestrians. Local media and politicians took great interest in the campaigns in all 3 cities.

### 5.2.1 Evaluation of coexistence campaigns

**Table 4 Results of common indicators for cities campaigning for improved coexistence of modes**

Indicator	Target	Result
Share of policy makers dealing with urban mobility in partner cities that are persuaded of improving the cycling strategy and of the need for further investments in cycling measures	90% of surveyed policy makers are persuaded	100% of stakeholders were persuaded of the strategy and measures in Burgos. Currently unavailable in other cities.
Number of cyclists on monitored corridors during the lifetime of the project	10% increase in number of cyclists	6% increase in Ljubljana between 2012-2013
Citizen satisfaction with the implemented cycling measures	70% of citizens satisfied with the measure	60% of citizens satisfied with the campaign in Burgos

**Table 5 Result of specific evaluation indicators for cities campaigning for improved coexistence of modes**

Indicator	Target	City	Result
Perception of the conflict among cyclists and pedestrians	20% of inhabitants have perception of improved conflict following	Ljubljana	Final survey still to be completed but interim survey in Nov 2013 indicates 20% had considered changing their route due to the

	implementation of campaign		campaign.
Number of complaints in the online municipality complaint book	30% less complaints after measure implemented	Ljubljana	Increase in the number of complaints – likely due to increased publicity about the issue
Number of press releases	3 articles/events with media attention	Ljubljana & Burgos	Target exceeded in Ljubljana & reached in Burgos
Number of incidents between cyclists & pedestrians	50% fewer incidents	Burgos	3.5x increase in incidents

The coexistence campaigns proved to be highly emotive, gaining vast amounts of media, and as a result political, attention. In turn this resulted in an increase in the number of complaints/reports of conflict between pedestrians and cyclists as citizens' attention was drawn to the issue. The cities found the perception of 'blame' to be an issue, with cyclists feeling victimised for being at fault, when they themselves experienced bad behaviour from pedestrians and especially cars. Even within cyclists as a group, many acknowledged bad cycling behaviour but claimed it to be primarily the behaviour of teenaged cyclists. Partners found the best way of addressing these problems was to involve stakeholders with differing viewpoints and agendas (cyclist groups, department dealing with complaints etc) and to make the campaign message one with a positive-emotional approach. Standardising the way in which complaints concerning coexistence were managed and logged was also an important step in understanding the true nature of the situation and the impact of future campaigns.

### 5.3 Cycling for health

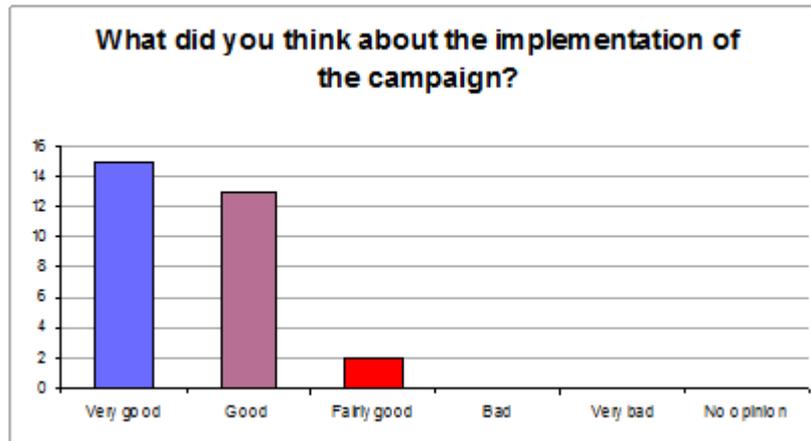
In the city of Örebro, Sweden the 'Healthy Cyclist' campaign recruited 46 car-commuting participants from large, local companies with the aim of demonstrating how cycling can improve health and reduce the number of miles driven by car. A strong argument for the employers to support the campaign was to improve the health of the employees and thereby reduce absences due to illness. The participants were offered:

- One hour bicycle service
- Bicycle helmet
- Chance to win prizes
- Introductory and concluding fitness test
- The opportunity to improve their health

Participants under-went health/fitness tests and completed an initial survey before being asked to cycle to work and report on their trips. During the seven-month test period, a weekly email was sent to the participants to encourage them to cycle and to remind them to report their trips, which could be recorded using a weekly web survey. Contact was also maintained by email and phone calls from the project leaders throughout the whole campaign. The health/fitness tests and surveys were repeated at the end of the test period.

#### 5.3.1 Evaluation of the health campaign

At the time of writing, the only data for the common performance indicators available was for citizen satisfaction which evaluated the healthy cyclist campaign very favourably:



**Figure 3** Results of citizen survey for the 'Healthy Cyclist' campaign in Orebro

The table below shows the data for the specific performance indicators linked to the campaign:

**Table 6** Results of specific indicators of the Healthy Cyclist campaign

Indicator	Target	Result
Change from bike to car for at least 3 days a week for 1 year	All employees participating in the campaign	Participants on average cycled 3 days a week for duration of the 7 month campaign.
Change in number of sick days	50% less sick days in participants in 2013 compared to 2012	Number of sick days not available due to confidentiality but from survey data the proportion who stated that their general health is very good increased from 17% to 38% during the campaign. More than half improved on the health/fitness test.
Share of participants who continue to cycle after the campaign	70% of participants continue to cycle after the campaign	100% of participants said they would continue to cycle after the campaign.
Number of press releases	3 articles/events with media attention	Target reached

Whilst small in number, the healthy cyclist participants remained part of the campaign allowing good follow up. This can in part be attributed to the amount of time invested by the partner in maintaining regular contact and feedback with participants to encourage them to continue their new behaviour and report back on their trips. It was important to establish good relationships with the companies and getting them to see the benefits in order for them to both encourage their employees and back similar campaigns in the future. Due to confidentiality issues it was not possible to obtain official data on sickness absence and so the evaluation of health relies on the fitness test and self-reported well-being. However, the positive outcome of these two indicators should provide a sufficient argument to present to employers to convince them of the economic benefits of cycling for their company.

#### 5.4 Awareness raising campaigns

The cities of Burgos, Kaunas and Bolzano undertook awareness raising campaigns with the aim of raising the profile of cycling in their cities. In Burgos the target group were students and staff of the university, in Kaunas the campaign centred on a new web based cycling information tool and in Bolzano the focus of the campaign was on improving cycling safety, in particular interaction with other modes and as such the details and evaluation of this campaign has been covered in section 5.2.

The campaign at the university of Burgos involved asking staff and students to submit a variety of media (travel diaries, photographs, videos or art) on the theme of cycling in order to be in with a

chance of winning one of three smart tablets. The aim was to draw attention to cycling as a mode of transport to the university in place of the bus and car and change long term travel habits. The campaign was mainly run through social media but also gained attention of other types of media.

In Kaunas a new website was developed targeting cyclists and visitors to the city centre and providing information on cycling policy, infrastructure, bicycle theft and events with the aim of increasing the number of people using bicycles within the city.

#### 5.4.1 Evaluation of awareness raising campaigns

In both Burgos and Kaunas all stakeholders interviewed supported cycling and the campaigns carried out. Data was not available for the other common performance indicators at the time of writing

**Table 7 Specific evaluation indicators for awareness raising campaigns**

Indicator	Target	City	Result
Number of students going by bike instead of by car at least 3 and a half days a week during the campaign	200 students shifted from car to bike	Burgos	94 students of 202 interviewed had changed their travel behaviour from car to bike
Number of students going by bike instead of bus at least 3 and a half days a week during the campaign	100 students shifted from bus to bike	Burgos	34 of 202 interviewed had changed their travel behaviour from bus to bike
Modal split for trips to and from university for students and employees	Increase it cycling modal split	Burgos	Increase from 4.1% to 4.4% (four months after the start of the campaign)
Number of press releases	3 articles/events with media attention	Burgos & Kaunas	Target reached in Burgos & Kaunas

The cities conducting awareness raising campaigns found it essential to clearly identify the target of their campaigns and tailor the message and media used accordingly. The use of social media to engage young people on the topic of cycling was found to be effective, but very resource intensive as it needed to be updated on a daily basis to maintain interest. Outsourcing such a task can prove problematic as ownership of the message gets lost. Timing of campaigns also proved critical with other priorities (e.g. PT lines in Burgos) or student exams interfering with the start of campaigns and thereby affecting their impact. Creating media interest in campaigns is vital and prize giving events can be an important way of engaging media as well as rewarding cycling behaviour. Awareness raising campaigns can also lead to more permanent measures such as the refurbishment and maintenance of the bike lane to the university in Burgos.

## 5.5 Bicycle parking

Following the identification of need, bicycle parking solutions were trialled in the cities of Groningen and Edinburgh. In Groningen this took place in the city centre where bicycle racks were replaced with painted bicycle parking boxes aimed at reducing the negative impact of parked bikes. A detailed study was also carried out to identify the viability of in-house parking facilities. In Edinburgh, parking solutions for residents were trialled at 5 on street locations providing parking for 85-100 bikes. Lengthy citizen feedback and legal permissions were sought before installation.

### 5.5.1 Evaluation of bicycle parking

The parking solutions in Edinburgh are due to be installed in April 2014 and therefore at the time of writing no evaluation data is available.

In Groningen, 100% of stakeholders interviewed were satisfied and supportive of the CHAMP measures and citizens satisfaction rose from 6.7 – 7 out of 10 after the bicycle parking campaign alongside a 5.7% increase in the number of cyclists. At the time of writing no data was available for any other indicators in Groningen although a survey of the bicycle boxes themselves show them to be used less than conventional parking solutions in the short-term.

The research of existing and potential bicycle parking in Groningen found using time lapse photography was a useful tool to determine how parking spaces were used. Their parking boxes had limited success as many people were unsure how to use them and they also only appealed to short-term parking e.g. for shoppers. Their research showed that every parking hotspot requires its own parking solution. In Edinburgh, the pilot was aimed at residents and a long lead-time was required in order to obtain the necessary approval – both citizen and legal – for installation of on-street parking. Longer-term evaluation will show use of the parking provided.

## 5.6 Promoting cycling infrastructure

In the CHAMP cities of Edinburgh, Groningen and Kaunas new and existing cycle routes were promoted via websites, flyers, postcards, TV and special stalls and events. In Edinburgh a recently improved cycle route was promoted in conjunction with the Edinburgh MELA – a world music event - and people were encouraged to cycle along the new route to the festival. The focus of the campaign in Groningen was to get cyclists to use two alternative routes in order to alleviate congestion on a popular, overcrowded route through advertising and signage. Whereas in Kaunas a new cycle path which helped cyclists avoid a busy traffic junction, was promoted.

### 5.6.1 Evaluation of promoting infrastructure campaigns.

In Groningen 100% of stakeholders were satisfied with the campaign and 79% of those surveyed had heard of the campaign and rated it on average 7.5 out of 10. At the cycling counters monitored a 5.7% increase in the number of cyclists was seen.

No data for common performance indicators was available for Edinburgh or Kaunas at the time of writing.

**Table 8 Specific performance indicators for promoting cycling infrastructure campaigns**

Indicator	Target	City	Result
Increase in the number of cyclists to Portobello on different routes along corridor	10% more cyclists	Edinburgh	Number of cyclists doubled
Change in cycling in previous year and brand awareness	20% more cyclists, 50% of local residents to be brand aware	Edinburgh	37% aware of brand
Increase of cyclists on the alternative routes	10% shift to alternative routes	Groningen	4% shift
Route selection, cycling habits and attitude	In depth research with 50 students and 50 employees/employers	Groningen	104 completed a questionnaire
Number of cyclists on specific location near the junction	10% increase	Kaunas	Data not yet available
Number of press releases	3 articles/events with media attention	Edinburgh, Groningen & Kaunas	Target reached in Edinburgh & Kaunas, 2 press releases in Groningen

Promoting existing cycling infrastructure is a cheap way of increasing cycling along specific routes and a means of encouraging those that do not usually cycle, to do so. In Groningen, promoting alternative 'smart routes' was an effective way of tackling the issue of full capacity routes whilst optimising existing alternative routes, rather than constructing or adapting new ones. Partners found it important to recognise their target groups and market routes accordingly, finding a variety of media and promotional items useful in this process. Edinburgh linked the promotion to a non-cycling event which was an effective way at raising awareness of cycling in a group who might not have previously been exposed to cycling promotion and it was therefore important to brand cycling with this in mind. The unusual concept of a bicycle ballet was a great tool at attracting interest and ad hoc online coverage. Interestingly, whilst Edinburgh found the bindings of administration and bureaucracy caused lengthy delays and headaches, Groningen found success in not following official rules for implementing such campaigns.

## **5.7 User/stakeholder needs**

A strategy for involving users and stakeholders in the decision-making process was developed in Bolzano to address the lack of systematic stakeholder involvement within the Municipality. Furthermore, a survey was carried out among the population and businesses to collect structured feedback on the city's cycling policies.

### **5.7.1 Evaluation of the strategy for user/stakeholder needs in Bolzano**

All stakeholders interviewed were convinced to support the cycling strategy and CHAMP measures at the beginning of the campaign. The specific evaluation of this measure is ongoing with a web-based questionnaire completed, but the survey of local businesses is still to be collected.

Bolzano found that involving both users and stakeholders was successful at raising the profile of cycling within both groups and emphasised the importance of cycling to the city. As well as forming the basis of a good cycling strategy, user/stakeholder involvement is important in champion cities for preventing complacency, highlighting weak spots and pushing cycling improvements forward.

## **6 Case study of the City of Edinburgh route promotion campaign**

The City of Edinburgh implemented two CHAMP measures as a result of the CHAMP project, and in addition have developed several additional measures as part of their ongoing implementation of the cycle strategy. The CHAMP measures were the introduction of new residential bicycle parking units, and an innovative marketing campaign to promote cycling routes; the route based campaign is discussed here as it highlights the novelty and innovative approach adopted by the council.

### **6.1 Summary of measure**

The CHAMP performance analysis identified a gap within cycling promotion and information in Edinburgh. As a result, a marketing strategy for cycling was written and tested through a package of route-based promotion measures. This involved working with the Edinburgh MELA, a world music event, to encourage visitors to choose to cycle to the festival, using the recently improved Portobello to Leith cycle and walkway (Route 10) connecting the seafront of Edinburgh with the leisure and shopping area known as the Shore. Additional facilities and support for cyclists were provided at the MELA, with special events and advertising in the run up to the festival.

### **6.2 Objectives and targets**

#### Short term

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- Increasing the conspicuousness of Portobello to Leith route and destinations
- Encouraging new cyclists to contemplate getting involved in cycling
- Mainstreaming of cycling in events planning
- Working with local stakeholders

Medium term

- A wider roll out of successful measures to identified target audiences in future years using the toolkit of measures from the marketing strategy

Long term

- Increasing the use of this cycle route and the proportion of local people choosing cycling for their everyday journeys across Edinburgh

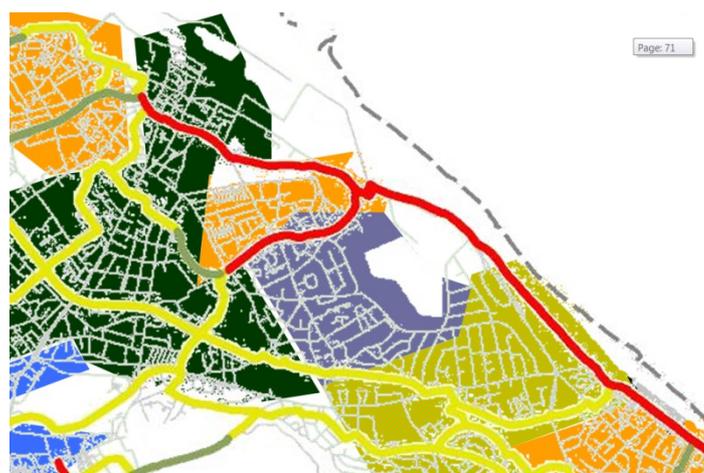
Target groups

- Local residents
- Not regular cyclists - may not have seriously considered cycling for leisure or work journeys before
- May not respond to traditional "cycling" messages
- Less affluent demographic
- Surrounding the route
- Festival goers who will receive its publicity

### 6.3 Socio-economic demographics of population around the zone of interest

A target audience was identified through reviewing studies and local segmentation data Demographic information from the Scottish Government was used to provide context on local households to help guide the tone and style of communications and their dissemination.

The target audience of the MELA geographically fitted with the cycle route. The MELA was already marketed to a wide local audience, and in working with them value-for-money was achieved through being able to target a ready-made group of people (e.g. through social media and other communications, as well as at the event itself).



**Figure 4 Route and its underlying demographic**

The line in red, running south-east/north-west represents the line of the cycle route. Underlain is a generalised grouping of the socio-economic status of local households; this shows that the local area has mixed demographics. Mauve represents the lowest socio-economic status, and green and blue the highest, with orange in between; this also applies to its connection to adjoining routes to the west further along Edinburgh's northern coast.

It should be noted that the route is not surrounded by the highest affluence (blue) as is dominant in other parts of Edinburgh, particularly south-central.

## 6.4 Measure implementation

### Activities

The measure involved:

- **information** (temporary high profile marking of the route, cycle route information and publicity online, 10,000 leaflet drop to local residents)
- **incentives** (cycle servicing, cycle parking with signage, free prizes - 400 water bottles and 45 t-shirts, with a green traveller reward system) and
- **involvement** (a dance mob and Strictly Cycling Ballet on the cycle route, and a cycling hub inside festival)

A meeting was held with the MELA following an enquiry regarding advertising opportunities received through the Council's Corporate Communications team. This identified the potential for strategic links between the MELA and the cycling project, and further meetings and negotiations occurred over the coming months to refine a programme and marketing package. An informal visit to the route was undertaken on in June 2013 at which photographs were taken of context and potential marketing opportunities and locations.

### Communication plan

A marketing strategy was prepared which contains:

- Background to the status quo - including Edinburgh's existing stakeholders, campaigns and social media channels
- An audit of sustainable travel websites, brands and tools from Edinburgh, Scotland, the United Kingdom and European Union
- Review of evaluation studies and behavioural science publications including the identification of motivational drivers
- Review and identification of market segments
- Inputs from market research consisting of focus groups,
- Action plans/toolkits of initiatives to achieve behavioural change, and a year by year outline programme

### Test marketing solutions (including branding) on focus groups

Walking and cycling brands in Edinburgh were tested through focus groups (below), covering:

- what brands are recognised;
- what motivates people;
- what messages, message givers and measures are likely to work.

The focus groups proved a rich source of advice to inform the marketing;

- *"Promotion of the fact that you can just do it – perception is that you have to buy a lot of stuff – bike, helmet, lycra and luminous clothing and become 'one of them' – it feels like you can't just get on a bike and cycle as a normal person like you can in other cities"*
- People responded positively to the concept of 'choice' as opposed to being told something is 'smarter, better or right' People reacted very negatively to the latter.
- *"...any graphic should be transport-related and not be so generic it could apply to anything."* Participants added that including the city name in the logo/brand name gave added relevance.

These were used in the branding of the t-shirts ('Be Yourself when you cycle in Edinburgh') and ('Edinburgh Cycling Choices').

The design of measures was refined and finalised upon initiation of the consultancy support. The images provided give a flavour of the measures implemented.



10,000 flyers mailed to local residents aimed at areas of health inequality  
 Also used as an insert into the festival programme

Figure 5 Marketing Material

### 6.5 Innovation

#### New conceptual approach

The measure deliberately used a non-transport/cycling event to attract a target audience that may not normally have been attracted to marketing about riding a bike. In particular, the bicycle ballet, an act subtly about cycling and bicycles but using an art and theatre style, successfully attracted local interest and ad hoc online coverage where other more traditional activities may have not.

Using a mainstream event was informed by the marketing strategy research. A similar project undertaken previously by a body outside of the Council in Edinburgh, A Better Way to Work, noted in relation to bespoke cycling events that,

*“cycling events generally failed to attract the target audience, with many of those already-converted being in attendance. They have recommended that events are mainstreamed alongside other non-transport events to try to overcome this...”* (referenced in the marketing strategy).

### Targeting specific user groups

Research was undertaken to devise a marketing strategy to guide the targeting of marketing activity as far as possible towards potential new cyclists, and in particular towards a broader range of demographics than on the whole are currently represented by cyclists in Edinburgh. The successful design of the marketing materials meant interest in cycling at the festival was high and the initiative was well-received by the target audience. Incentives combined with services such as cycle parking and servicing, publicity, combined with 'foot in the door' items such as free water bottles and t-shirts worked well.

## **6.6 Measure Evaluation**

It is difficult to assess the system impact on overall cycling measures and carbon emissions as the measure implemented targeted an attitude and awareness shift rather than an actual behaviour change, which is a much longer term aspiration that takes some years. No data is available on the level of cycling to the MELA in previous years.

All CHAMP measures aimed to evaluate citizen satisfaction and in addition measure specific evaluation indicators and targets were derived;

### Increase the number of cyclists to Portobello on different routes along the corridor

Method: Automatic counters

Sample: All users of the Portobello to Leith cycle route

Timing: Continuous count April to December

Target reached: Yes, between May and September cycling along the route doubled, though this is thought to be due to seasonal variations and we will not know the true impact of any marketing until a full yearly cycle has repeated.

### Change in cycling in the previous year and brand awareness

Method: Paper questionnaire

Sample: Visitors to the cycle stand at the MELA festival

Timing: During the two days of the MELA festival

Target reached: 37% of visitors to the cycling stand were aware of CHAMP information to encourage cycling to the MELA before their journey to the festival. This was through:

- MELA Website – 50% of reports
- Council Mailshot – 21%
- Facebook – 17%
- Twitter – 10%
- Portobello Promenade art work– 11%
- Events/Ballet – 8%

### Level of satisfaction with route improvements

Method: Interviews

Sample: Sample of users of the Portobello to Leith cycle route

Timing: Not achieved

Target reached: Unknown

There was a very serious Police incident on the cycle route at the time the interview surveys were to be carried out, meaning that it was closed off for a number of days and the interviews had to be abandoned. Limited customer feedback from the wider public was available to support the CHAMP indicators. Lack of time availability meant that follow-up data was also not collected as planned.

### Number of press releases

A number of online articles refer to the project.

### Citizen satisfaction

Method: Paper questionnaire

Sample: Visitors to the cycle stand at the MELA festival

Timing: During the two days of the MELA festival,

Satisfaction rate: Two-thirds requested further information and reminders. 53% said increased cycle parking, signage and servicing at the MELA would make them more likely to cycle to the event next year

Pledge forms were used to collect feedback from participants at the MELA regarding their experience of the marketing materials, and specific questions were added about route usage and cycling satisfaction in the mainstream MELA audience survey. It is estimated that up to 500 people visited the cycle hub at the festival, and the majority had direct interaction with staff at the stall, with 370 signing a pledge form.

## **6.7 Summary**

The evaluation results highlight the issues involved with collecting meaningful evaluation data; whilst mechanised counts may be collected, it is impossible to attribute increases over time to a specific campaign and due to an unrelated event the planned route interviews could not be undertaken. The evaluation conducted at the MELA festival demonstrated a good level of satisfaction with the branding and advance information; general issues regarding evaluation are further discussed in section 7. The coupling of route promotion with an unrelated (not cycle-specific) festival was an innovative approach for Edinburgh council and a substantial number of lessons have been learnt for the future regarding the operation and running of a successful marketing campaign.

## **7 Conclusions**

The CHAMP project has provided an ideal opportunity for participating and follower cities to learn more about cycling in their own cities, refine and update their cycling policies and put in place soft measures to help increase the number of cyclists or address specific problems relating to cycling. Whilst the issue that New Member States and countries in Southern Europe tend to have low levels of political support for cycling and high levels of private car use (O'Dolan 2013) still needs to be addressed, it is also important that 'champion' cycling cities maintain and increase levels of cycling in order for the city and future generations to continue to benefit from a high mode share in active modes. The strategic conclusions emerging from the CHAMP project will attempt to address both these issues by qualitatively evaluating how each of the measures can be of use to starter and climber cities as well as other champion cycling cities. The value of having the majority of the consortium comprising of cities with high levels of cycling (in their national context) facilitated knowledge exchange, as policy transfer tends to be more successful when policy ideas come from locations deemed to be 'more similar to us' (Ison 2011). It is also therefore important that the lessons learned from the project are presented in such a way that they are both aspirational and tangible for cities with lower cycling levels.

From the evaluation data available, we can gain a little insight into the success of the campaigns in terms of indicators such as media coverage and brand recognition, but these do not tell us what affect they had on the travel behaviour of citizens. Similarly increases or decreases in the number of cyclists passing automatic cycle counters cannot be directly attributed to a campaign but are likely to be the result of a number of factors. The issue of how to evaluate soft-measure campaigns is noted by Bamberg (2011) who summarises that *"available evaluation results provide empirical evidence that soft transport policies are effective in influencing car users to reduce car use. However, because of*

*methodological problems, the question still remains somewhat open of how much of the observed car-use reduction can be causally attributed to the impact of the techniques that are components of soft transport policy measures.*" Richter (2010) also acknowledges the need for further research into why soft measures are effective and proposes that this should focus on the evaluation of techniques and cost-effectiveness of single and multiple measures. Bamberg (2011) proposes large-scale evaluations of soft transport measures under field-conditions in order to fill this knowledge gap.

Even if such robust evaluation data were available for various soft measures, politicians and transport planners would still want hard evidence of how the measures they endorsed and implemented changed travel behaviour in their city. As discussed and demonstrated within CHAMP, this is not easy or even feasible to provide. Instead efforts should be focused on the value of the qualitative analysis and feedback from citizens on the campaign and their resulting self-reported travel behaviour. Whilst some of the citizen feedback data is not yet available from the CHAMP project, the qualitative analysis provided by the CHAMP partners, though subject to bias, is undoubtedly valuable in assessing what worked and what didn't for both the city taking the initiative forward and for follower cities who wish to replicate.

It is fair to conclude that the effect on cycling behaviour of the measures carried out within CHAMP is likely to be long-term and cumulative as they ultimately aim at changing attitude, behaviour and culture. An understanding of the impact of the measures and changes to the local cycling policy as a result of CHAMP can only be achieved through repetition of surveys and evaluation indicators over a longer period of time. As initial results of stakeholder surveys in CHAMP show strong political support for cycling, hopefully this type of evaluation will continue beyond the life of the project. In addition, the impact of the results of the initial CHAMP citizen surveys should not be under-estimated, but used to convince politicians of the benefit of investing in cycling. As Woodrow Wilson said; "*The ear of the leader must ring with the voices of the people.*"

## 8 References

- Bamberg, S., Fujii, S., Friman, M., Gärling, T. (2008) Evaluation of Soft Transport Policy Measures Based on Behavioural Theory. In Behavioural Theory Based Evaluation 2008
- Bamberg, S., Fujii, S., Friman, M., Gärling, T. (2011) Behaviour theory and soft transport policy measures. *Transport Policy*, 18 (1), 228-235
- Cavill, N., Kahlmeier, S., Rutter, H., Racioppi, F., Oja, P. (2008) Economic analysis of transport infrastructure and policies including health benefits related to cycling and walking. A systemic review. *Transport policy*, 15 (5), 291-304.
- CTC (2009). Safety in numbers. Halving the risks of cycling. Guildford, Surrey, UK
- DeNazelle, A., Nieuwenhuijsen, M.J., Anto, J.M., Brauer, M., Briggs, D., Braun-Fahrlander, C., et al (2011). Improving health through policies that promote active travel: a review of evidence to support integrated health impact assessment. *Environment International*, 27 (4), 766-777
- Hillman, M. (1992). Cycling and the promotion of health. Proceedings of Seminar B held at the PTRC European Transport, Highways and Planning 20<sup>th</sup> Summer Annual Meeting (September 14-18 1992). Umist. Vol. p.354. PTRC Education and Research Services Ltd.
- Ison, S. (2011), Transferability of urban transport policy. *Transport Policy*, 18 (3), 489-491.

O'Dolan, C. (2013), "How do we share the benefits of walking and cycling? Lessons learned from the Active Access project." In: Aspects of Active Travel. How to encourage people to walk or cycle in urban areas, ed. W. Gronau, W. Fischer, R. Pressl, pp.11-30. ISBN 978-3-936438-45-1

O'Dolan, C., Rye, T. (2012), "An insight into policy transfer processes within an EU project and implications for project design.", *Transport Policy*, Vol. 24, pp. 273-283

PRESTO (2012) – Project goals and results. Available at: [http://www.rupprecht-consult.eu/index.php?id=42&type=123&no\\_cache=1&tx\\_rupprecht\\_pi1%5Bproject%5D=1&filename=print.pdf](http://www.rupprecht-consult.eu/index.php?id=42&type=123&no_cache=1&tx_rupprecht_pi1%5Bproject%5D=1&filename=print.pdf)

Rabl, A., De Nazelle, A. (2012). Benefits of shift from car to active transport. *Transport policy*, 19 (1), 121-131.

Richter, J., Friman, M., and Gärling, T. (2010). Review of evaluations of soft transport policy measures. *Transportation: Theory and Application*, 2, 5-18.

Stopher, P. R. (2004). Reducing road congestion: A reality check. *Transport Policy*, 11, 117-131.

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