Measure title: 31 Personalised Travel Planning

City:	Brighton & Hove	Project:	Archimedes	Measure number:	31

Executive summary

Personalised Travel Planning (PTP) provides a range of individualised, tailored information and incentives to encourage travel behaviour change within a concentrated population area. Brighton & Hove expanded its existing PTP project of 10,000 households per year to 15,000 households in 2009 and 20,000 in 2010, 5,000 of which were part of the CIVITAS measure in each year (i.e. 33% in 2009 and 25% in 2010). PTP was delivered to a further 5,000 households in 2011, all (100%) of which were part of the CIVITAS measure. In total, 35,000 households were targeted, 43% of which were financed by CIVITAS.

Participation in the CIVITAS ARCHIMEDES project has also allowed the inclusion of innovative measures involving social media and community engagement. The aim of these interventions was to reach new audiences who are not picked up through the door knocking campaign which has in turn become known as 'traditional' PTP.

The evaluation for this measure focussed predominantly on pre and post intervention acceptance and behavioural surveys in each PTP area together with snapshot surveys of those who participated with the evaluation focussing on the full PTP intervention for each year. The headline statistics comparing the before and after interventions require careful interpretation; however, the key results are as follows:

- Area surveys suggest an overall 0.7% decline in the overall number of trips by car in each of the 2010 and 2011 PTP areas.
- The same indicator shows a 6% increase in 2009; however, this is contradicted by the number of respondents who said they had made a shift towards sustainable modes of transport in the year following the intervention. In this case, 22% said they were now driving less, with 30% walking more and 23.5% making more trips by bus. A similar trend is evident for the 2010 and 2011 interventions and also by the snapshot surveys which were undertaken with active participants immediately after the intervention.

This evaluation concludes that PTP can be used as part of a wider package of measures to help increase the uptake of sustainable modes by active participants. It also supports the use of social networking approaches (both online through social media and offline through community participation) in extending the reach of a doorstep-focused PTP intervention; however, for benefits to be fully harnessed both the traditional and innovative elements need to be integrated as closely as possible. Finally the need for a robust monitoring plan is emphasised to ensure an accurate assessment of modal shift on a geographic basis.

A Introduction

A1 Objectives

The measure objectives are:

(A) High level / longer term:

- To offer customised and personalised travel information to support residents in making environmentally sustainable travel choices.

(B) Strategic level:

- To support the general objectives of Brighton & Hove which since 2000, aims for:
  - 10% reduction in cars entering the city centre;
  - Five million more bus passengers per annum; and
  - 50% increase in cycling levels.

(C) Measure level:

- To engage with about 5,000 households per year, targeted at those who do not travel sustainably but might be open to doing so in order to achieve measurable mode shift.
- To utilise new marketing techniques and methodologies in order to reach new audiences not normally delivered by traditional Personalised Travel Planning (PTP) projects.

A1.2 Target Groups

Three key target groups were identified:

- Households within the CIVITAS project area.
- Individuals recruited through social media campaigns.
- Individuals recruited through the community participation project.

A2 Description

PTP provides a range of individualised, tailored information and incentives to encourage travel behaviour change within a concentrated population area. It involves making initial contact with residents via doorstep interviews to engage and enthuse them with ideas on the benefits of sustainable travel choices. Improving health, reducing costs, and tapping into the nationally strong sustainability agenda have been the key selling points.

Brighton & Hove had run a PTP project covering approximately 10,000 households in each of 2006, 2007 and 2008. In 2009, this was expanded to 15,000 households in 2009 (targeting the north Hove, Withdean and Patcham areas) and 20,000 in 2010 (working in the central Brighton area), 5,000 of which were part of the CIVITAS measure in each year. The main distinction between the 'CIVITAS' and 'non-CIVITAS' households was geographic, with the former falling within the CIVITAS area as shown in Figure 1. In addition, the CIVITAS corridor was also the focus for the additional innovative approaches to engaging new audiences which are discussed further below.

The 2011 summer intervention in the Whitehawk/ East Brighton area in the southeast corner of the CIVITAS corridor consisted of 5,000 households. Unlike previous years, all households were part of the CIVITAS project only. However, Brighton & Hove City Council received additional funding from the UK Department for Transport (DfT) in July 2011. This allowed the project to continue beyond CIVITAS and increase the total number of households targeted in 2011 to 9,000.

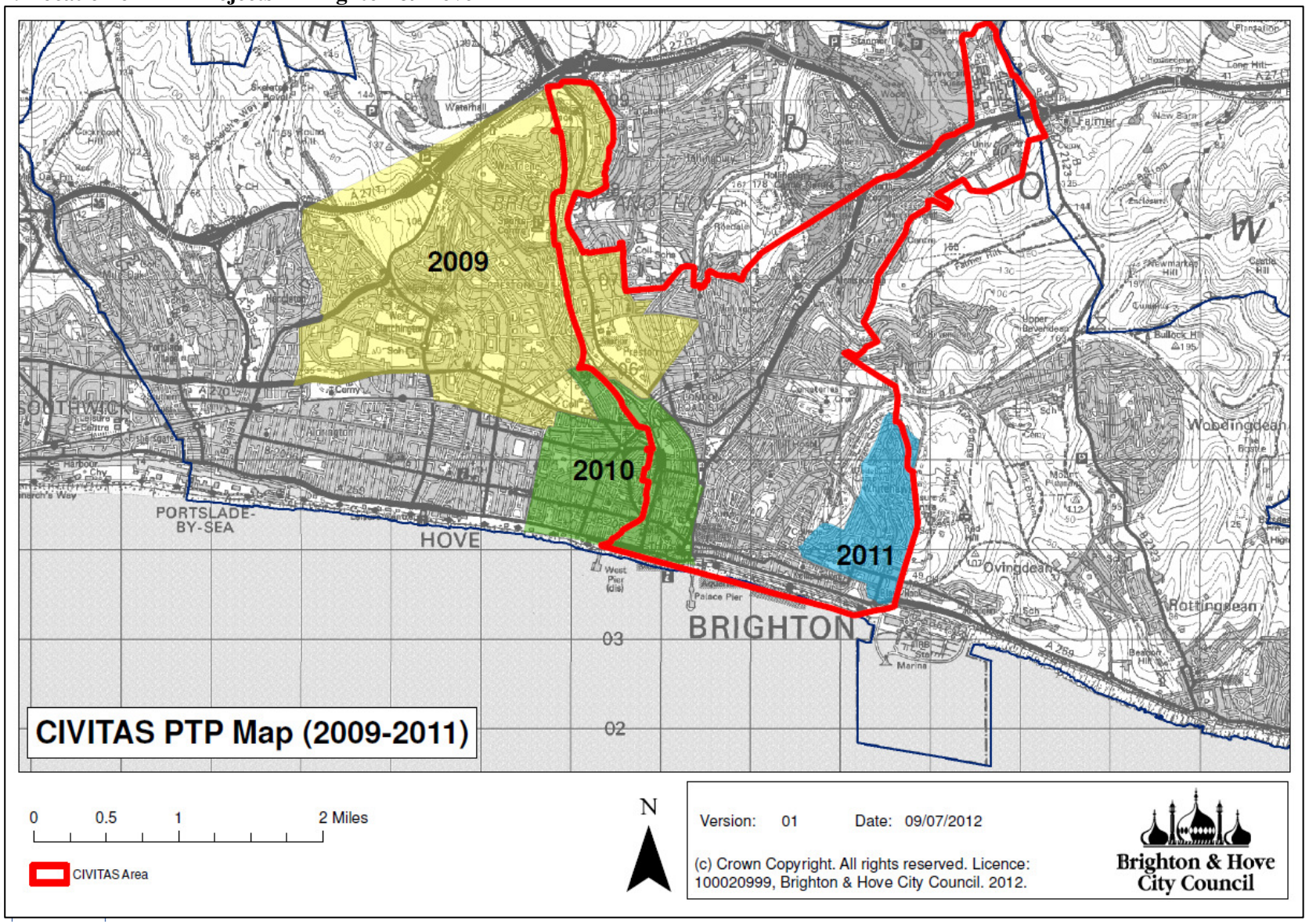
In the case of 2009 and 2010, the results presented cover the full intervention and therefore include both the CIVITAS and non-CIVITAS elements. However, for 2011, the households targeted in addition to the CIVITAS 5,000, represent a completely distinct project. As such, all results for 2011 refer to the CIVITAS project only.

As mentioned, participation in the CIVITAS ARCHIMEDES project has also allowed the inclusion of innovative measures involving social media and community engagement which were devised using research from the disciplines of social marketing, community participation and psychology. The aim of these interventions was to reach new audiences who are not picked up through the door knocking campaign, which has in turn become known as 'traditional' PTP. For example, sometimes the person answering the door may not have been supportive of the project meaning that the entire household is 'lost'. The new innovative approaches aimed to reach some of these people and increase participation rates through interacting with communities in different ways and engaging a wider part of these communities. In addition, both the social media and community participation elements are based on utilising individuals' social networks with the theory being that influential members of that network will influence their (travel) behaviour. It was felt that the older community would be more likely to respond to the community participation (offline) element and younger people to become involved in the social media campaigns (online element).

Measure title: **Personalised Travel Plans**

City: **Brighton and Hove** *Project:* **Archimedes** *Measure number:* **31**

Figure 1: Location of PTP Projects in Brighton & Hove



B Measure implementation

B1 Innovative aspects

The innovative aspects of the measure are:

- **New conceptual approach** – Traditional PTP has focused primarily on the delivery of information to households and individuals. Building on wider behavioural psychology theories and social marketing Brighton & Hove City Council have been able to deliver enhanced PTP interventions which seek to influence travel behaviour in its social context. This has focused on two elements as mentioned in Section A2; namely, social media and community participation. The former has involved utilising established social media outlets such as Twitter and Flickr, whilst the latter has involved identifying and contacting community representatives in order to bring people together and further extend the reach of the project.
- **Targeting specific user groups** – By focussing only on household delivery there are individuals and groups within communities, which will not be engaged otherwise in the PTP process. Therefore widening the process to attract younger people through social media techniques and older people through their existing social groups we sought to achieve higher levels of participation.

B2 Research and Technology Development

Task 4.11.1 - BHCC awarded a subcontract to undertake research to evaluate why PTP works in terms of influencing travel behaviour. The study included a review of best practice and BHCC assisted in this work. The results of the study were used to inform the PTP demonstration in the CIVITAS corridor in Brighton & Hove.

In addition a peer review team from the University of West of England (UWE) assessed the impact of the PTP project through the first year of the project, concentrating on the social marketing and community participation elements. The main lessons from the research are included in this measure evaluation report[1].

B3 Situation before CIVITAS

Before the CIVITAS project, Brighton & Hove already was a recognised innovator in influencing travel behaviour and modal choice. The city council introduced PTP in summer 2006 and contacted 10,000 households per year between 2006 and 2008 via a team of Travel Advisors. Over 2006 and 2007, 20,000 households were contacted and a further 10,000 households were contacted in the summer of 2008. The programme offered two packages: generic and intensive. The generic package provided information such as bicycle maps, car club membership and bus timetables once they have been identified as required during the door-step conversation. The intensive package provided a flexible package of information and incentives to a targeted smaller group who were identified as particularly prone to travel behaviour change. The programme was part of a much wider range of sustainable transport measures which improved the city's infrastructure and created a positive environment for further mode shift initiatives.

The CIVITAS measure builds upon the existing intervention methodology whilst engaging with new innovative techniques to attract a wider target group.

[1] (Chatterjee and Avineri, 2011).

B4 Actual implementation of the measure

Stage 1: Planning (October- June 2008-9, 2009-11 and 2010-11)

Planning the PTP intervention involved:

- Confirming the project approach. This included the awarding of subcontracts for the project coordination and to provide the required external expertise for the innovative social media and community participation elements. The day-day management of the project was not subcontracted.
- Determining the intervention area and mapping out addresses.
- Using evaluation results from the previous year to inform the methodology of the following intervention.
- Indentifying and booking workspace for training and background work.
- Recruiting a team of travel advisors.

Stage 2: Training and preparation (May – June 2009, 2010, 2011)

Training and preparation involved:

- Writing/rewriting door-knocking questionnaire/conversation plan.
- Training the travel advisors about the role of the intervention, the objectives of intervention, the information/knowledge will they have to communicate, conversation techniques and health and safety.
- Establishing a database to record data from the doorstep conversations.

Stage 3: Implementation (June – October 2009, 2010, 2011)

This section summarises the key activities associated with the implementation of both the traditional and innovative social network elements of the project. Details of the number of households targeted in each year and participation rates are provided in Section C2 (Table 1).

In 2009, the PTP team completed their first round door knocks of all residences in the PTP area on 21st August 2009. The second round knocks (those who did not answer first time) were completed on 2nd October 2009. In 2010, first round knocks were completed on 1st June 2010, and second round knocks were completed on 31st September 2010. In 2011, first round knocks were completed on 15th August 2011, and second round knocks were completed on 2nd September 2011. During this phase of the project, the Travel Advisors engaged with residents and had conversations on their doorsteps to discuss their travel habits and to provide information and incentives relating to the various travel options around the city.

Figure 2: PTP Travel Advisor team

A comprehensive collection of resources was assembled and refined during each year of the project. This covered every sustainable mode of transport and the information provided was tailored to the needs of the resident as identified as a direct result of the conversation. In 2009, the most popular resource was the walking log (provided with a basic pedometer) (4,173), with pocket bus timetables and the three city cycle maps (then available) all being provided to over 1,500 people. In 2011, the most popular resource was a 'best value from your car'[2] leaflet which was provided to 550 people. The walking logs, bus timetables and cycle maps were again popular.

Similarly, a range of incentives were offered in each year. As noted in Section A1, these were made available to encourage residents to complete a seven day travel diary. Incentives have included cycling equipment such as locks, bike lights and high visibility equipment, and seven day bus passes.

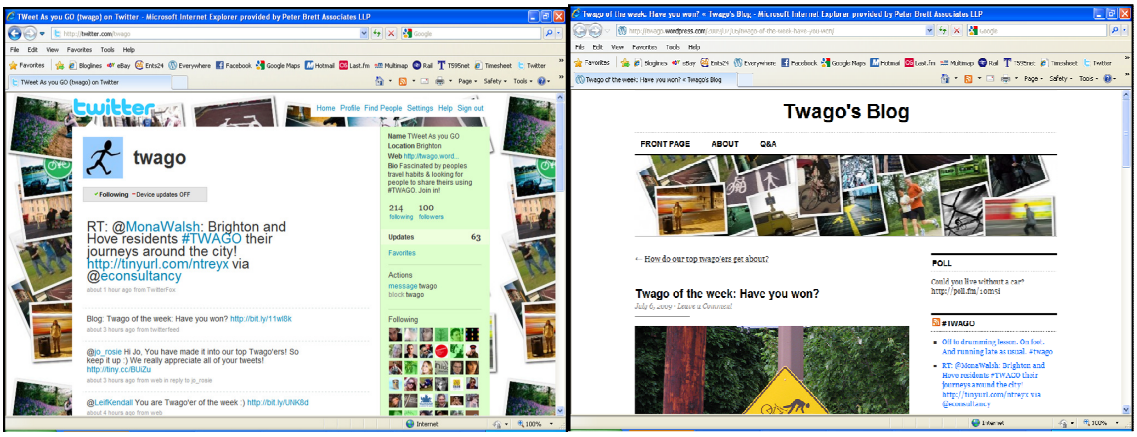
Figure 3: Examples of incentives and resources offered

In 2009, the door knocking element of the project was complemented by using social media as a promotional tool. The first stage of this process was to map key online communities and influencers. Once identified, the communities' characteristics needed to be understood and then 'something' needed to be created which was of value, interest, use or entertainment to the communities. Only then could engagement occur. Following the undertaking of this process, the intervention comprised of the following:

[2] This was aimed at car drivers who were not able/ willing to change. Instead of these individuals not being engaged at all, the leaflet aimed to encourage more sustainable car use for journeys/ circumstances where transferring to other modes may have been less realistic.

- Twago: twitter based initiative that invites people to tweet their journeys around the city with interesting, funny or engaging details. The link between all these tweets / people is achieved by using #twago on the end of tweets.
- 8-steps To Find Us: A photograph application mapping participants' journey to work pictorially (as an alternative to 'how to find us' company location plans). This was not progressed to the implementation stage as it did not attract sufficient interest from businesses in Brighton & Hove.
- Bus diaries: After the Twago campaign, the decision was taken to move to a new idea with a stronger focus on promoting a specific travel option (buses) through recruitment of advocates to act as influencers. The Bus Diaries campaign ran over a four-week period and ended in November 2009. Firstly, influencers were given bus passes in return for completing an online blog, following which they were given two one-week bus passes to give to bus-sceptic family members or friends.

Figure 4: Twago screen shots



In conjunction with the social media exercise, specialist consultants in community participation were commissioned to implement the second innovative aspect of the project. This process involved identifying potential contacts and community groups including scouts, pub groups, community centres (who have access to all the meetings that take place in their establishment), church groups, mother and toddler groups, ramblers, libraries, book groups, walking groups, cycling groups, residents associations, schools and local history groups. Once identified, a process of engagement began to discuss travel in the city and identify influencers within the community who could potentially become champions in a word of mouth campaign to promote sustainable transport. This community group element of the project was thought more likely to include those without internet access which the social media intervention was clearly restricted to.

Figure 5: Examples of community events

Another key intervention was focused around Twittens. 'Twitten' is a regional dialect term for small lanes, paths or alleyways that run between and behind buildings. For the purposes of this measure, they represent ideal car-free short cuts and present an opportunity for the promotion of sustainable travel. This intervention saw the community come together to map the Twittens, with the information being used to produce a guide which was publicised using funds from the project. The community also became enthused in the project and demonstrated an interest in coming together to investigate ways of reinvigorating and tidying up the twittens.

Stage 4 – Evaluation (October – December 2009, 2010, 2011)

Evaluation involved:

- Telephone or online snapshot surveys conducted after each intervention to assess the impact of the intervention and satisfaction of respondents. Only those who were contacted during door knocking and agreed to further approaches were contacted.
- Pre and post-intervention surveys conducted for each year to monitor travel behaviour of a sample of 1,000 households selected before the intervention and one year after completion. The questionnaire comprised of a travelogue of journeys undertaken the previous day, respondents' use of and attitudes towards different modes of travel, demographic information and awareness of the certain interventions such as BHCC's online journey planner[3].
- Analysis of community participation element (including in depth interviews with those involved in the project).
- Analysis of social media element (including online activity statistics and phone interviews with Twago participants).

B5 Inter-relationships with other measures

The measure is related to other measures as follows:

- At the site level: The travel plan work has supported many other measures implemented as part of the ARCHIMEDES project to encourage people to travel to work more sustainably.
- At the measure level: There has been exchange of experiences and knowledge across the cities involved in WP4 Influencing Travel Behaviour and Modal Choice. Other closely linked measures include the following:
    - **Electric Vehicle Charging Points (Measure 2)** Installation of electric vehicle recharging points in the city acts as an engineering incentive to encourage local residents within the PTP area to replace privately owned vehicles with shared clean fuel vehicles.
    - **Multi Modal Ticketing (Measure 10)** Development of a multi-modal ticketing system in the city supplements the work carried out through PTP i.e., the benefits of linking various transport types can be discussed on an individual basis.
    - **Travel Plans (Measure 32)** Linking PTP to school travel plans extends the principles of individual transport option discussions with local residents to schools, thus capturing additional life changing movements: e.g., as pupils move on from primary school to secondary school cycle training can be provided. Linking PTP to commuter travel plans extends the principles of individual transport option discussions with local

[3] www.journeyon.co.uk

residents into businesses within the PTP area, thus capturing particular life changing movements: e.g., addressing the journey to and from work so that individuals can consider travelling sustainably, with employers offering incentives through their commuter plan, such as free cycle parking within the workplace.

- **Cyclist Priority (Measure 55)** Installation of cycle priority measures act as a promotional tool to encourage local residents to take up cycling.

C Impact Evaluation Findings

C1.0 Scope of Impact

The selected indicators focused on awareness and acceptance of the PTP initiative, together with changes in travel behaviour.

C1 Measurement methodology

Tables 1.1 and 1.2 provide a summary of the indicators selected and the methodology used to monitor them.

C1.1 Impacts and Indicators

No.	EVALUATION CATEGORY	EVALUATION SUB-CATEGORY	IMPACT	INDICATOR	DESCRIPTION	DATA /UNITS
	Society					
13		Acceptance	Awareness	Awareness level	Awareness of the policies/measures	Index (%), qualitative, collected, survey
14			Acceptance	Acceptance level	Attitude survey of current acceptance of the measure	Index (%), qualitative, collected, survey
			Behaviour	Travel patterns	Detailed recording of current travel options & choices	Qualitative, collected, survey
	Transport					
26		Surveys	Modal split	Average modal split-passengers	Percentage of passenger-km for each mode	%, quantitative, derived
29		Surveys	Modal split	Average modal split- trips	Percentage of trips for each mode	%, quantitative, derived

No.	INDICATOR	TARGET VALUE	Source of data and methods	Frequency of Data Collection
13	Acceptance - Awareness level	Public	Surveys were undertaken amongst a random sample of households through doorstep interviews using a structured questionnaire before and one year after the intervention. This method was repeated year on year in different defined geographic areas. The sample size for 2009 and 2011 was 1,000 with this being increase to 2,000 in 2010 to reflect the larger population size. Researchers worked until the	Pre and post annual intervention

No.	INDICATOR	TARGET VALUE	Source of data and methods	Frequency of Data Collection
			target numbers had been reached. The before and after surveys were complemented by snapshot surveys undertaken amongst active participants shortly after the intervention.	
14	Acceptance level	Public	Acceptance was measured through the above surveys.	Pre and post annual intervention
		Behaviour	Behaviour was measured through the above surveys, which included questions on respondents' travel during the previous day as well as questions on whether they had changed how they travel since the intervention.	Pre and post annual intervention
26	Average modal split-passengers	% difference	Modal split data was deduced from the above.	Pre and post annual intervention
29	Average modal split- trips	% difference	As above.	Pre and post annual intervention

C1.2 Establishing a Baseline

A baseline for each year of the project is provided by the area wide surveys which are undertaken with random households prior to the intervention. This was then compared with the results of a replicated survey a year after the intervention in order to ascertain whether there had been any modal shift on an area wide basis.

Consideration was given to using the results from previous PTP projects in Brighton & Hove as a baseline for the CIVITAS project and in particular the impact of the innovative elements compared to 'traditional' PTP alone. However, variation in the geographic and demographic characteristics of the intervention areas year on year limits the robustness of a straight forward statistical comparison, given that a range of factors external to the project will affect its success.

C1.3 Building the Business-as-Usual scenario

There are number of external factors that may have influenced the results in a positive or negative way. Firstly, there are other CIVITAS measures (see Section B5) such as Multi Modal Ticketing (Measure 10) and Travel Plans (Measure 32) which aim to encourage sustainable travel. Similarly, the work undertaken through the city's Local Transport Plan and UK Central Government projects such as the Cycle Towns programme have similar targets.

A Business as Usual scenario for this measure would be to not implement the PTP project in which case it could be expected that the PTP areas would experience a similar change in modal share as the city as a whole, although geographic and demographic differences would need to be accounted for. However, given that it is likely that under a business as usual or non-CIVITAS scenario, PTP would have gone ahead in a smaller area and without the innovative elements, it has instead been chosen to use an average of the modal split changes achieved in previous PTP interventions in Brighton & Hove (undertaken in 2006, 2007 and 2008) as the Business as Usual scenario for this measure. Nevertheless, although taking an average will reduce the influence of differences in the characteristics between intervention areas, it is still the case that is not possible to provide an exact control and the results would need to be treated carefully when drawing conclusions. For example, the 2009 area was the

least densely populated and most affluent area selected for PTP and 2010 was the most central and densely populated.

C2 Measure results

This section provides the headline findings by each year of the measure. These draw on comparisons of the pre and post-implementation surveys together with assessments of the snapshot surveys undertaken shortly after each intervention. Table 1 provides an overview of the key statistics for each year, including participation rates.

Table 1: Summary of implementation statistics

Statistic	**2009**	**2010**	**2011**
Number of households (of which 5,000 are part of CIVITAS project)	15,600	20,300	5,070
Number of households contacted	8,886 (57%)	8,483 (42%)	2,386 (47%)
Number of participants	5,330 (34% of total; 60% of contacted)	5,659 (28% of total; 67% of contacted)	1,804 (36% of total; 76% of contacted)
Number of non participants	967 (6% of total; 11% of contacted)	809 (4% of total; 9.5% of contacted)	162 (3% of total; 7% of contacted)
Number 'Already Travelling Sustainably'	1294 (8% of total; 14.5% of contacted)	2115 (10% of total; 25% of contacted)	227 (4% of total' 10% of contacted)
Number of incentives offered	1239	475	102
Number of social media participants	129 (direct plus 192 Twago 'followers'	N/A	N/A
Number of community participation scheme participants	47 initially identified, with 12 active and 5 passive participants	N/A	N/A

C2.1 2009 Intervention

In 2009, the project targeted 15,600 households. 1,004 households took part in the initial baseline survey in 2009, and 1,041 households were surveyed in the follow up survey in 2010. These figures are presented below; however, the academic study of the 2009 PTP intervention in Brighton & Hove[4] raised some limitations on the use of the data which suggest that the benefit of the intervention may not have been reflected by the surveys. These limitations are detailed further in Section C5.

C2.1.1 Transport

The change in modal split during the year following the intervention is shown in Table 2. This indicates a decline in the number of trips undertaken by sustainable modes and an increase in the number of people driving (6%). However, the need for caution when interpreting these figures is

[4] (Chatterjee and Avineri, 2011)

shown when respondents' reported behavioural change since the intervention is considered, with Table 3 indicating a shift to sustainable modes. For example, substantially more respondents said they were walking more rather than less (30% walking more, 5% walking less), with positive results also shown for bus and cycle. These results are balanced by the fact that more people reported that they were driving less since the intervention rather than more (22% driving less, 12% more).

Car ownership figures indicate an increased of 5.5%. In 2009 32.5% of households did not have a car; this has decreased to 27%. The number of households owning two or more cars and vans has increased by 1% (19% in 2009, 20% in 2010). However, this is likely to reflect a reflect variation amongst the survey sample in each year and not necessarily an increase in car ownership per se.

The results of the pre and post implementation surveys are complemented by the snapshot surveys undertaken shortly after the intervention. Those covering the 2009 intervention, completed in October 2009 had a response rate of 277. The survey indicates that respondents were travelling more frequently by sustainable modes in the period immediately following the project. For example, 21% of respondents said they are using the bus more, 20% that they were walking more and 16% that they are cycling more. Conversely, 7% of respondents said that they were using their car more but this is outweighed by the 15% of respondents who said that they were travelling by car less.

Table 2: Travel Mode[5]- 2009 Intervention

Indicator	Before (April 2009)		BaU (April 2010)		After (April 2010)		Difference: After- Before		Difference: After- BaU
26 modal split-passengers; 29 modal split-trips	Trips	%	Trips	%	Trips	%	Trips	%	%
Walking	862	34.84	916.24	37.03	830	34.37	-32	-0.47	-2.67
Cycling	260	10.51	315.29	12.74	149	6.17	-111	-4.34	-6.57
Bus	302	12.21	275.33	11.13	261	10.81	-41	-1.40	-0.32
Train	128	5.17	133.78	5.41	107	4.43	-21	-0.74	-0.98
Car as driver	653	26.39	579.30	23.42	788	32.63	135	6.23	9.21
Car as pass	168	6.79	149.60	6.05	185	7.66	17	0.87	1.61
Comm. Vehicle	41	1.66	46.20	1.87	11	0.46	-30	-1.20	-1.41
Taxi	34	1.37	30.54	1.23	40	1.66	6	0.28	0.42
Motorbike	23	0.93	28.92	1.17	28	1.16	5	0.23	-0.01
Other	3	0.12	-1.19	-0.05	16	0.66	13	0.54	0.71
Total	**2474**		**2474**		**2415**				
A chi-square test of statistical difference between the before and after results was undertaken. The test statistic is significant, $X_2 = 170.30$ ($p < 0.001$)									

[5] Figures based on total number of journeys

Table 3: Behaviour Change- 2009 Intervention

Mode	A lot more %	A bit more %	Stayed the same %	A bit Less %	A lot less %	Don't know %	Total 100%
Walk	11.5	18.5	65	3.5	1.5	0	100
Cycle	5	10.5	69	3	9	3.5	100
Bus	7.5	16	67	4.5	4.5	0.5	100
Train	3.5	9.5	73	5.5	8	0.5	100
Car as driver	3	8.5	65	12	10	1.5	100
Car as passenger	1.5	7	75.5	8.5	6	1.5	100

C2.1.2 Society

Table 4 details the results for awareness (representing the number of households contacted through the intervention) and acceptance (representing the number of participants of the intervention).

Meanwhile, respondents to the snapshot surveys were generally positive about the experience of the project with 92% being happy about the home visit and 87.5% being either very satisfied or satisfied with the level of service offered by the travel advisors. A number of positive comments were also offered relating to the polite, enthusiastic and informative nature of the visit. The survey also considered the most popular resources, with these being the pedometer (15%), city cycle map (11.5%) and coastal cycle map (11.5%).

Table 4: Awareness and Acceptance- 2009 Intervention

Indicator	Before (April 2009)	BaU (date)	After (April 2010)	Difference: After-Before	Difference: After-BaU
13 Awareness	0	0	8,886	8,886	8,886
14 Acceptance	0	0	5,330	5,330	5,330

C2.1.3 Results of innovative PTP

In terms of awareness, the post-intervention survey indicated the following:

- Knowledge of BHCC's online journey planner[6] increased from 22% to 23.5%..
- 7% of respondents had heard of Bus Diaries, Twago or Twitten maps.

However, it is noted that the advantage of social media (unlimited scope for the message to spread across geographic barriers) also becomes a disadvantage in terms of pinning the intervention down for evaluation purposes. However, as it was the first time that techniques of this kind had been used in the transport field in the UK, an academic study was commissioned to review the social media and

[6] www.journeyon.co.uk

community participation elements of the project[7]. The main findings of the review in relation to the social media intervention are as follows:

- Monitoring of Twago over the duration of the project showed that there were 120 individual Twagoers. This was 17% of the active 'Brighton' Twitter accounts at the time. The Twagoers made 1,107 tweets and had 192 followers with total influence reach of 370,000 individuals. The steady increase in the number of followers and tweet views throughout the campaign would suggest a positive response by recipients.
- The nine Bus Diary bloggers contributed 89 blog posts and 15 comments in a four-week period. Total traffic was 760 with blog traffic peaking at just fewer than 250 hits in a week.
- The Twago participants interviewed were asked about changes to their attitudes and behaviours. Most of them have already held positive attitudes towards sustainable transport use, and were users of sustainable transport. Six out of 11 said they would maintain changes to travel behaviour made due to participation in Twago.

In relation to the community participation element, the main findings of the study were as follows:

- The active contacts included representatives from the ramblers, local library service, local history society and Active for Life[8]. The group was highly motivated but the absence of involvement of a broader set of community representatives (for example, from schools, children's groups, churches, etc.) will have reduced potential spread of the message.
- Through the in depth interviews, the three representatives indicated that they already tried to travel sustainably before the project, but that the project would increase their consideration of this. They had also spread the message to family members, work colleagues and the community groups in which they were involved.

On street surveys indicated that:

- 12 out of 70 survey respondents had seen the Twitten map and eight had a copy of it.
- 31 respondents said they walked Twittens instead of using car which indicates they already played a role for local walking journeys and it is a reasonable conclusion that the map may have helped to reinforce use of the Twittens and walking for local journeys.

The study also had some overall conclusions regarding the combined impact of the innovative social network (both online and offline) elements of the PTP project. These were as follows:

- There is a strong theoretical case for the added benefits that the social network approaches can bring to a PTP Project and it is clear that strong levels of reach and popularity were achieved relative to the size of the scheme. However, for this to be fully harnessed, they should be fully integrated with the main doorstep intervention.
- Community participation in PTP projects requires resources for a facilitator to secure input from community groups.
- When using social media, it is important to design the application so that positive communication of sustainable modes is encouraged rather than negative, with the latter being a disadvantage whereby a user could potentially communicate a poor experience of sustainable transport to a large number of people.
- In the Brighton & Hove trial, the community participation element was delayed which meant that it could not be used to fully support the doorstep intervention. In future, it is

[7] Chatterjee and Avineri (2011)
[8] A UK National Government scheme aimed at promoting healthy lifestyles

recommended that community participation is used in developing information, events etc. that can be referred to on the doorstep.

C2.2 2010 Intervention

In 2010, the project targeted 20,300 households. As with all years, pre and post implementation surveys were undertaken with 2,000 households surveyed for each. The key findings are presented below.

C2.2.1 Transport

The modal change that is evident on comparison of the pre and post intervention surveys is presented in Table 5. This indicates an increase in the number of trips undertaken by sustainable modes (cycling

Table 5: Travel Mode[9]- 2010 Intervention

Indicator 26 modal split-passengers; 29 modal split-trips	Before (April 2009)		BaU (April 2010)		After (April 2010)		Difference: After- Before		Difference: After- BaU
	Trips	%	Trips	%	Trips	%	Trips	%	%
Walking	2549	48.28	2664.75	50.47	2421	49.22	-128	0.94	-1.25
Cycling	420	7.95	538.01	10.19	492	10.00	72	2.05	-0.19
Bus	670	12.69	613.07	11.61	441	8.97	-229	-3.72	-2.65
Train	220	4.17	232.33	4.40	233	4.74	13	0.57	0.34
Car as driver	881	16.69	723.72	13.71	785	15.96	-96	-0.73	2.25
Car as pass	313	5.93	273.72	5.18	294	5.98	-19	0.05	0.79
Comm. Vehicle	43	0.81	54.11	1.02	79	1.61	36	0.79	0.58
Taxi	123	2.33	115.61	2.19	103	2.09	-20	-0.24	-0.10
Motorbike	43	0.81	55.63	1.05	42	0.85	-1	0.04	-0.20
Other	18	0.34	9.05	0.17	29	0.59	11	0.25	0.42
Total	**5280**		**5280**		**4919**				
Car Driver+ Passenger	1194.00	22.61	997.44	18.89	1079	21.94	-115	-0.68	3.04
A chi-square test of statistical difference was undertaken. The test statistic is significant, X2 = 134.04 (p <0.001)									

[9] Figures based on total number of journeys

Table 6: Behaviour Change- 2010 Intervention

Mode	A lot more %	A bit more %	Stayed the same %	A bit Less %	A lot less %	Don't know %	Total 100%
Walk	9	22	66	2	1	0	100
Cycle	8.5	15	58.5	5	9	4	100
Bus	4	15.5	69	5	5	1.5	100
Train	1.5	7	80.5	4.5	5	1.5	100
Car as driver	1.5	4.5	65.5	12	12.5	4	100
Car as passenger	1	4.5	72	10.5	8.5	3.5	100
Mixed	0.5	3	94	1	0	1.5	
Other	2	2.5	92.5	0.5	0	2.5	

showing a 2% rise and walking showing a 1% rise) and a decrease in the number of people driving (0.5%). The apparent change in behaviour is supported when respondents' reported change since the intervention is considered, with Table 6 indicating a shift to sustainable modes. For example, substantially more respondents said they were walking more rather than less (31% walking more, 3% walking less), with positive results also shown for cycling (23.5% cycling more, 14% cycling less). These results are balanced by the fact that more people reported that they were driving less since the intervention rather than more (24.5% driving less, 6% more).

Car ownership figures indicate a difference of 9% between the two survey years. However, this may reflect a reflect variation amongst the survey sample rather than evidence of modal shift. Meanwhile, cycle ownership rose from 51.5% to 56.5%.

The results of the pre and post implementation surveys are complemented by the snapshot surveys undertaken shortly after the intervention. Those covering the 2010 intervention, completed in October 2010 had a response rate of 325. The survey indicates that respondents were travelling more frequently by sustainable modes in the period immediately following the project. For example, 14% of respondents said they were walking more, 8% that they were using the bus more and 6% that they are cycling more. In addition, 6% respondents said that they were using their car less.

C2.2.2 Society

Table 7 details the results for awareness (representing the number of households contacted through the intervention), acceptance (representing the number of participants of the intervention).

Meanwhile, respondents to the snapshot surveys were generally positive about their experience of the project with 86% being happy about the home visit and 87% being either very satisfied or satisfied with the level of service offered by the Travel Advisors. A number of positive comments were also offered relating to the polite, enthusiastic and informative nature of the visit. Finally, the survey considered the most popular resources, with these being the city cycle map (12.4%) and coastal cycle map (9.5%).

Table 7: Awareness and Acceptance- 2010 Intervention

Indicator	Before (April 2010)	BaU	After (April 2011)	Difference: After-Before	Difference: After-BaU
13 Awareness	0	0	8,483	8,483	8,483
14 Acceptance	0	0	5,659	5,659	5,659

C2.3 2011 Intervention

In 2011, the project targeted 5,070 households. As with all years, pre and post implementation surveys were undertaken with 1,000 households surveyed for each. The key findings are presented below.

C2.3.1 Transport

The change in modal split during the year following the 2011 intervention is shown in Table 8. This indicates an increase in the number of cycling trips (+2%) but a decline in the number of walking trips (3.5%). There is also an apparent increase in the number of trips by car as the driver (1%); however, this is compensated by a drop in the number of people travelling by car as the passenger (2%), giving an overall decline in the number of trips by car of 0.7%.

The results of the pre and post implementation surveys are complemented by the snapshot surveys undertaken shortly after the intervention; however, the response rate to the 2011 snapshot was very low with 18 responses. Caution is therefore, needed in the interpretation of these results, though the indications of the impact are positive, with 35% of respondents claiming to have changed the way they travel since the visit of a Travel Advisor.

C2.3.2 Society

Table 9 details the results for awareness (representing the number of households contacted through the intervention) and acceptance (representing the number of participants

Table 9: Awareness and Acceptance- 2011 Intervention

Indicator	Before (April 2010)	BaU	After (April 2011)	Difference: After-Before	Difference: After-BaU
13 Awareness	0	0	2,386	2,386	2,386
14 Acceptance	0	0	1,804	1,804	1,804

of the intervention). Meanwhile, respondents to the snapshot surveys were generally positive about the experience of the project with 94% being happy about the home visit and 76% being either very satisfied or satisfied with the level of service offered by the travel advisors.

Table 8: Travel Mode[10]- 2011 Intervention

Indicator 26 modal split- passengers; 29 modal split- trips	Before (April 2009)		BaU (April 2010)		After (April 2010)		Difference: After- Before		Difference: After- BaU
	Trips	%	Trips	%	Trips	%	Trips	%	%
Walking	622	32.72	663.67	34.91	553	28.86	-69	-3.86	-6.05
Cycling	73	3.84	115.49	6.08	111	5.79	38	1.95	-0.28
Bus	427	22.46	406.50	21.38	424	22.13	-3	-0.33	0.75
Train	20	1.05	24.44	1.29	37	1.93	17	0.88	0.65
Car as driver	431	22.67	374.37	19.69	450	23.49	19	0.81	3.79
Car as pass	221	11.63	206.86	10.88	186	9.71	-35	-1.92	-1.17
Comm. Vehicle	24	1.26	28.00	1.47	47	2.45	23	1.19	0.98
Taxi	34	1.79	31.34	1.65	42	2.19	8	0.40	0.54
Motorbike	37	1.95	41.55	2.19	53	2.77	16	0.82	0.58
Other	12	0.63	8.78	0.46	13	0.68	1	0.05	0.22
Total	**1901**		**1901**		**1916**				
Car Driver+ Passenger	653.00	34.30	581.23	30.58	636.00	33.19	-16.00	-1.10	2.62
A chi-square test of statistical difference was undertaken. The test statistic is significant, X2 = 78.89 (p <0.001)									

C3 Achievement of quantifiable targets and objectives

No.	Target	Rating
1	Offer customised and personalised travel information to support citizens in making environmentally sustainable travel choices.	**
2	Support the general objectives of Brighton & Hove which since 2000, has: 10% reduction in cars entering the city centre; Five million more bus passengers per annum; and 50% increase in cycling levels.	**
3	Engage with 5,000 households per year, targeted at those who do not travel sustainably but might be open to doing so in order to achieve measurable mode shift	**
4	Utilise new marketing techniques and methodologies in order to reach	**

[10] Figures based on total number of journeys

	new audiences not normally delivered by traditional personalised travel planning projects	
NA = Not Assessed O = Not Achieved * = Substantially achieved (at least 50%) ** = Achieved in full *** = Exceeded		

C4 Up-scaling of results

Up scaling could be primarily achieved through increased volume in terms of the number of households targeted.

Alternative ways of reaching and communicating with the target groups could also be explored with a larger role given to social media, contacting community groups and targeting specific demographic groups. This will enable a scaled up approach that could potentially cover the whole city but without the random sample approach of doorstep interviews.

C5 Appraisal of evaluation approach

Few deviations to the evaluation plan were required (see Section D.1); however, some limitations with the methodology were identified in the academic study of the 2009 intervention[11]. These are noted below; however, as the paper was not published until December 2011, the findings could not be acted upon for subsequent intervention years.

- The method of focusing on one member of a household would mean that others at the residence are not considered.
- Survey samples for the post implementation survey had a close match on age distribution but that for the pre implementation survey had an over representation of 18-44 year olds who are more likely to walk or cycle. In addition, a higher number of non-car owners were interviewed in the pre implementation survey (32.5% compared to 27.2%). Whilst car ownership can be seen as a measure of the project's success, it could also be assumed that those who own a car are more likely to drive. Therefore, the fact that the pre-implementation sample included more non-car drivers could explain the apparent increase in car use.
- The days of the survey were also not consistent. For the post implementation survey, no interviews were undertaken on Sundays, resulting in fewer people reporting their travel on Saturdays (with the surveys asking for reports of travel on the day preceding the interviews) than was the case with the pre implementation survey. This is potentially important as trips for 'leisure' purposes are more likely to be undertaken on a Saturday and furthermore, such trips are more likely to be made by walking and cycling.
- In order for responses to be generalised to the PTP area population, the profile of respondents to the survey should, ideally, reflect the intervention area's resident adult population. Where the profile of respondents significantly differs from the study population, this could have a distorting effect on survey results.

In addition to the findings identified in the academic study, it is worth noting that a more robust evaluation would require returning to the intervention areas a year later to test whether any of the observed changes amongst participations at the end of the intervention were reflected in longer term behavioural change. Under the current methodology, it is not possible to determine the longer term impact of the measure amongst individual participants in that the post-implementation surveys focus on the whole population of the intervention area.

[11] (Chatterjee and Avineri, 2011).

C6 Summary of evaluation results

The evaluation for this measure focussed predominantly on pre and post intervention acceptance and behavioural surveys in each PTP area together with snapshot surveys of those who participated. The headline statistics comparing the before and after interventions require careful interpretation; however, the key results are as follows:

- Area surveys indicate an overall 0.7% decline in the overall number of trips by car in each of the 2010 and 2011 areas.
- The same measure shows a 6% increase in 2009; however, this is contradicted by the number of respondents who said they had made a shift towards sustainable modes of transport in the year following the intervention. In this case, 22% said they were now driving less, with 30% walking more and 23.5% making more trips by bus. A similar trend is evident for the 2010 and 2011 interventions and also by the snapshot surveys which were undertaken with active participants immediately after the intervention.

The similarities between the PTP measure and Measure 32, which focused on travel plans in the city, warrants some comparison between the headline findings for each. The MERT for Measure 32 provides the results of the travel plans project in full; however, the key findings were as follows:

- 3% average decrease in the number of employees travelling to work by car.
- 5% average decrease in the number of children travelling to school by car.

Taking these at face value, it would appear that the approach of delivering travel plans with businesses and schools had the greatest impact in terms of modal shift; although, a household PTP project is able to reach far greater numbers of participants than travel plans which are generally limited to employees and students of the participating businesses and schools respectively. However, as implemented in Brighton & Hove between 2009-11, participants in the PTP project generally do not have a sustained involvement as it moves from one area to the next, whereas the approach with the travel plans project is more longer term. Nevertheless, assessments of related projects in the UK and elsewhere highlight the merits of using both PTP and school and business travel planning alongside infrastructural improvements to achieve modal shift. Indeed, the two measures need not necessarily be mutually exclusive and there are examples where PTP has been used as an action and means of delivering targets within an organisation-based travel plan[12].

This evaluation concludes that PTP can be used as part of a wider package of measures to help increase the uptake of sustainable modes by active participants. It also supports the potential of social networking approaches (both online through social media and offline through community participation) in extending the reach of a doorstep-focused PTP intervention; however, for benefits to be fully realised both the traditional and innovative elements need to be integrated as closely as possible.

C7 Future activities relating to the measure

UK Department for Transport (DfT) funding awarded to BHCC in 2011 will allow PTP to continue in the city until 2013. This is being implemented alongside a number of infrastructural improvements in a package approach which is widely recognised as the most appropriate way to implement PTP whereby both the infrastructure and promotional based schemes work to support each other. For example,

[12] The research task associated with this measure (Deliverable R31.1 *Study of Personalised Travel Planning for Brighton & Hove*) provides further background on and best practice from PTP projects in the UK and worldwide.

efforts to increase the uptake of cycling and public transport will be easier through PTP if proposals to implement cycle lane and bus lane improvements are progressed. Similarly, PTP will help to promote and secure the uptake of the new infrastructure.

D Process Evaluation Findings

D.0 Focused measure

X	0	No focussed measure
	1	Most important reason
	2	Second most important reason
	3	Third most important reason

D.1 Deviations from the original plan

There were no significant deviations from the original plan in terms of indicators or methodology. This was limited to the fact that the original plan had included surveys and traffic counts; however, it was identified that all the required information to meet the selected indicators could be provided by the comprehensive surveys which provide an insight into the impact of the measure for each area.

D.2 Barriers and drivers

D.2.1 Barriers

Preparation phase

- **8. Organisational:** Owing to the innovative nature of elements of this project, a greater level of external expertise was required. This meant that a greater subcontract element of the budget was required, with less spent on personnel and equipment. However, BHCC's experience of delivering traditional PTP allowed the day to day management of this element to be undertaken largely in-house.

Implementation phase/Operational phase

- **4. Problem related**: The innovative elements of the project took longer to deliver than anticipated, although given that it was the first time that such initiatives have been incorporated into a PTP project, some slippage is unsurprising. The delay was not extended but it did reduce the opportunity for cross promotion between the innovative and traditional elements of the project was reduced.
- **8. Organisational:** Changes in personnel from year-to-year complicated the delivery of the project at times but did not impact on its completion.

D.2.2 Drivers

Preparation phase

- **8. Organisational:** The PTP project had operated in Brighton & Hove for three years prior to CIVITAS having begun in 2006. This meant that the lessons learnt from previous interventions,

combined with research into the experience of PTP elsewhere[13], could be used to inform improvements in the delivery of the project.

- **9. Financial:** Without CIVITAS funding, this project would not have consisted of its innovative elements or have reached as many households.

Implementation phase/Operational phase

- **1. Political/ strategic:** The position of PTP within the city's Local Transport Plan cements strategic support and the role of soft measures in contributing to the achievement of sustainable transport targets.
- **5. Involvement, communication:** The recruitment of active participants in the project as travel champions, members of community group projects and social media users helped to disseminate the work of the project and its goals to a wider audience within and beyond the CIVITAS corridor.

D.2.3 Activities

Preparation phase

- **1. Political/ strategic:** The research and development aspect of Measure 31 allowed a comprehensive strategy to be developed for PTP in Brighton & Hove which took account of previous interventions in the city and elsewhere.

Implementation phase- for further detail see Section B4

- **5. Involvement/ communication:** The target households were contacted by travel advisors on the doorstep, through community participation activities and social media.
- **8. Organisational:** Additional subcontract expertise was recruited to assist with the innovative community participation and social media elements of the project. BHCC's experience with the traditional and main door knocking element of the project meant that this could be project managed internally.

Operation phase- for further detail see Section B4

- **7. Planning:** Additional time budget was allowed to accommodate the innovative elements of the project which took longer than originally anticipated to establish. Timescales were still consistent with the traditional door knocking element of the project, though the project would benefit from greater integration of the two as outlined in Section.
- **5. Involvement, communication:** Continued engagement with residents on the doorstep, through events and via social media was crucial to the delivery of the project and meeting of the measure targets.

D.3 Participation

D.3.1. Measure Partners

- **1. City, 1. Lead: Brighton & Hove City Council**- Sustainable Transport Department- Project lead and management.

[13] Deliverable R31.1 *Study of Personalised Travel Planning for Brighton & Hove*

D.3.2 Stakeholders

- **Project Participants** - Engaged in door step conversation with Travel Advisor.
- **Community group leaders**- Took part in community participation element of the project and promoted this to members and peers.
- **Peter Brett Associates**- Transport consultants. Undertook research element and coordinated project, including the identification and commissioning of sub consultants to deliver the social media and community participation aspects of the project.
- **Qube**- Sub consultants responsible for social media element.
- **Resource Futures**- Sub consultants responsible for community participation element.
- **University of West of England**- Completed academic review of 2009 intervention.

D.4 Recommendations

D.4.1 Recommendations: measure replication

- **Continuation/ Expansion** - PTP can be used as part of a wider package of measures to help increase the uptake of sustainable modes by active participants.
- **Innovative elements**- Social networking approaches (both online and offline) can be used to extend the reach of a doorstep-focused PTP intervention. However, for the benefits to be fully harnessed both the traditional and innovative elements should be integrated as closely as possible.

D.4.2 Recommendations: process (related to barrier-, driver- and action fields)

- **Evaluation**- A robust monitoring plan is required, including absolute consistency between before and after surveys to ensure that modal shift on an area wide basis can be accurately measured.
- **Ensuring long term change and evaluation**- The methods used for this measure do not involve follow up activities with project participants. It is felt that there would be further benefit to further discussions with residents following their initial conversation with a travel advisor and submission of a travel diary. It is possible that this would encourage greater numbers of participants to make the shift to more sustainable modes as well as allow longer term monitoring of how the behaviour of respondents changes as a result of their involvement in the project.
- **Community champions**- The recruitment of community champions together with networking and attendance at community events can help to extend and prolong the reach of a PTP project beyond the primary door knocking element of the project.

E References

- Chatterjee, K. and Avineri, E. (2011) *Peer Review of Personalised Travel Planning in Brighton 2009/10*, University of West of England
- Deliverable R31.1 *Study of Personalised Travel Planning for Brighton & Hove*.