



# Holistic Personal public Eco-mobility



## D5.3.1

### Pilot Realization Report – Coventry

#### First Version

<b>Project Acronym</b>	HoPE	
<b>Project Title</b>	Holistic Personal public Eco-mobility	
<b>Project Number</b>	621133	
<b>Work Package</b>	WP5 Pilot Execution, Monitoring and Evaluation	
<b>Lead Beneficiary</b>	Coventry City Council	
<b>Editor</b>	Sunil Budhdeo	CCC
<b>Reviewer</b>	Sven Maerivoet	TML
<b>Reviewer</b>	Lorena Bourg	PLM
<b>Dissemination Level</b>	PU	
<b>Contractual Delivery Date</b>	31/03/2016	
<b>Actual Delivery Date</b>		
<b>Version</b>	V0.2	

## Purpose of the Deliverable

The current deliverable D5.3.1 “HoPE Pilot Realization Report - Coventry” aims to report the activities carried out to evaluate the HoPE MnRP application for Coventry in conjunction with “Centro Swift Card” along with the first evaluation results. The document is divided in 3 parts. The first one describes the pilot activities undertaken during the overall evaluation process, including the internal testing of the HoPE application, the focus group organisation, and finally the dissemination to real users. The second part of the document presents and discusses the evaluation results extracted by the mentioned evaluation tools, whereas the third and last part of the document includes the evaluation process and results.

## Document History

Version	Date	Comments
0.1	15/04/2016	First draft
0.2	20/04/2016	First review (SM)

## Deliverable manager

CTI –Vlasios Kasapakis

## List of Contributors

Vlasios Kasapakis	CTI
Damianos Gavalas	CTI
Christos Zaroliagis	CTI
Evtim Peytchev	InfoHub
Sunil Budhdeo	CCC

## List of Evaluators

Sven Maerivoet (TML)

Lorena Bourg (PLM)

### Nature:

Report

### Dissemination Level:

Public

## Table of Contents

About HoPE .....	6
Glossary .....	7
1. Introduction.....	7
<b>1.1. Purpose of this document</b> .....	7
<b>1.2. Approach: how this deliverable will be addressed</b> .....	7
<b>1.3. Audience</b> .....	8
2. Pilot activities.....	9
2.1. Internal testing.....	9
2.2. Focus groups .....	9
2.2.1. Organisation, participants, and conductance .....	9
2.3. Dissimination actions .....	11
2.4. Pilot execution plan.....	15
3. Pilot results.....	16
3.1. Internal testing results .....	16
3.2. Focus groups results.....	18
3.3. The HoPE MmRP application was based on the Google Directions service, the testing was done to check usability and improvements made from the feedback. User evaluation results.....	20
Multimodal Route Planner - User Survey .....	20
5. Number of participants.....	21
6. Discussion .....	23
7. Conclusion .....	24

## Table of Figures

Table 1. Table template for internal testing feedback collection.....	9
Table 2. Focus group participants demography.....	10
Table 3. Internal testing results.....	16
Table 4. Focus group results. Stage 1. ....	<b>Error! Bookmark not defined.</b>
Figure 1. Hope Coventry Pilot Facebook website. ....	11

## About HoPE

*“A platform for secure payments and smart multimodal trip planning”*

The main purpose of the HoPE project is to advance the role of public transportation systems through an open platform. This allows combining the management of fare payments with Intelligent Transport Systems (ITS). The overall platform is user-oriented, giving them an option of choosing from public transport and eco-mobility with multiple modality choice. It will also provide them with a significant mix of services including info-mobility, trip planning, ticket reservation, fare calculation and mobile payments. As such, HoPE is a holistic system, focusing the attention on the 'bigger picture' and how all its parts are interconnected.

The HoPE platform will implement secure and accessible payment procedures for fares, and provides travellers with smart trip planning. For the latter we will enhance one or more key metrics associated to their trip (fare, duration, emissions).

The HoPE platform will be piloted and tested in three European cities (Coventry, Athens, Basque Country) and will be applied to a wide set of local and regional means of transport (buses, undergrounds, railway lines, car-sharing, bike sharing, transport on demand, etc.).

## Glossary

HoPE	Holistic Personal public Eco-Mobility
API	Application Programmable Interface
CCC	Coventry City Council
APP	Application
MmRP	Multi-modal Route Planner

## 1. Introduction

### 1.1. Purpose of this document

This deliverable describes the progress achieved so far in the framework of Task 5.1 and Task 5.4, according to the Description of Work. Task 5.1 aims at coordinating the three pilot realisations, making the necessary technical preparation activities regarding infrastructure and other necessary equipment. It also provides the necessary training to the personnel of the public transport operators that will make use of the HoPE services. Task 5.4 belongs to Coventry's Pilot Execution and it is focused in deploying, running, and testing by the task participant, with the coordination and cooperation of Task 4.4 (for the deployment and technical assistance) and Task 5.1 (for the preparation and the coordination of the activities). According to the pilot plan, defined within Task 2.4, the tests is to be conducted in Coventry in partnership with Centro the The Public Transporty authority for the Westmidlands. In the trials we use a subset of the public transportation network and exploit any traffic and transport data provided by Coventry City Council and Infohub. We also include information gathered from the MODUM application, which was integrated in the HoPE services and applications. The strategy presented for the HoPE project has identified the pilot area across the Westmidlands with the emphasis on Coventry. The goal is to pilot a unified ticket system (NFC, contactless) that would be adopted across the whole region, given that the pilot results prove positive.

The current version of the document discusses the evaluation actions undertaken in the framework of Task 5.4, according to the pilot realisation plan defined in the framework of Task 5.1, mainly focusing on the 1<sup>st</sup> pilot evaluation cycle, along with the first evaluation results.

### 1.2. Approach: how this deliverable will be addressed

This document is prepared for the transport operators that are participating in HoPE pilots, and aims to provide them with an overview of the executed activities of the pilot realisation and the evaluation results on the HoPE MmRP application.

In addition, this document expects to be the starting document for the evaluation of HoPE MmRP application. Finally, technical partners can use this document for a better understanding of the possible improvements on the HoPE MmRP application.

### **1.3. Audience**

The audience of this document are:

- (i) All the stakeholders of the HoPE project, so as to overview the piloting process and results towards the HoPE mobile applications and platform
- (ii) The pilot operators who will use this document in order to understand the initial evaluation results of the HoPE MmRP application
- (iii) The technology providers in order to understand possible improvements on the HoPE MmRP application.



## 2. Pilot activities

### 2.1. Internal testing

The Route Planner has been the first application developed by HoPE project. Based on the first prototype, the consortium members made an internal testing to validate the usability, performance, and graphic user interface of the mobile application among other aspects.

To report results on the internal testing, we used the table template below which was distributed with the aim of harmonising the collection of feedback from the different partners and allowing the project to follow up on the actions taken to correct or improve the identified failures.

Application aspect	Focus group participant report	Technical partners improvements

**Table 1. Table template for internal testing feedback collection.**

The internal testing results are presented later in this document, in section 3.1.

### 2.2. Focus groups

#### 2.2.1. Organisation, participants, and conductance

The aim of the focus group is to test the Route Planner application and provide their assessment on different aspects. The focus group tested the initial versions of HoPE, and later on reported with comments and remarks about the application.

This focus group is integrated by 8 participants, 5 of them are CCC employees and 3 of them volunteers. Attending to the description of these participants, here below we can see the demography of the participants:

<b>FOCUS GROUP</b>	<b>CCC EMPLOYEES</b>	<b>VOLUNTEERS</b>	<b>TOTAL</b>
FEMALE	7	1	8
MALE	4	2	6
<b>TOTAL</b>	11	3	<b>14</b>

**Table 2. Focus group participants demography**

The idea is to report a more elaborated feedback than fulfilling the on-line survey, to help on the detection of where and why the failures are produced before the dissemination of the application to real users.

Coventry requested the email addresses of the focus group members, and distributed information to them via the council's communication team, who also explained how to install the application and how to use it.

### 2.3. Dissimination actions

Several dissemination activities have been undertaken towards the HoPE Route Planner application with the purpose of engaging users and having more feedbacks (out of the focus group) of the mentioned application. The following communication channels and actions have been used:

- **Leaflets distribution:**

Leaflets of the HoPE project were distributed at various seminars organised during the year.



**Project presentation to relevant stakeholders:**

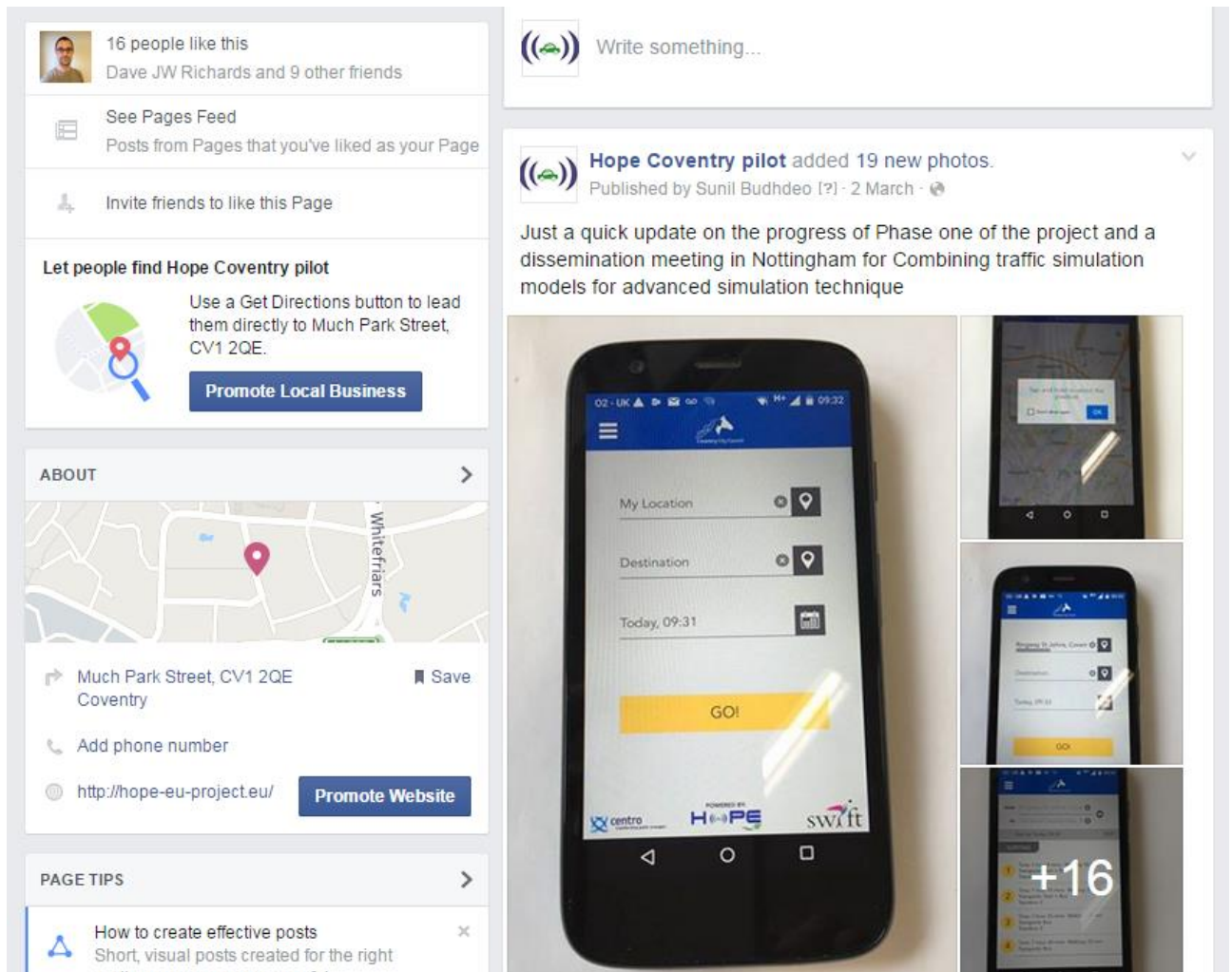
The project has been presented to relevant stakeholders such as Centro and the Coventry City Council, and others interested parties.

- **Via Facebook:**



**Figure 1. Hope Coventry Pilot Facebook website.**

Furthermore, Facebook has been used to keep all interested parties informed and advised on how to use the app.



- **User engagement session using Facebook:**

1. HoPE updates explaining the different timelines of the pilot cycles as well as the services to be implemented in each one.
2. HoPE app demo in which the participants were asked for downloading the app and testing with their usual routes.
3. Feedback and recruitment for the next cycles: students were invited to provide their feedback and to participate in the next cycles.
- 4.

- **Update using Coventry City Council’s Web Site.**

A text was posted on the website:

*Hi everyone,  
Hopefully by now you have all had a chance to take a look through the new Hope app you have been kind enough to trial for us.*

*Below is a copy of a newsletter sent out by the company behind the development you may wish to have a read through, it also has some helpful links through to info pages.*

*Also, I apologise if it seems we’ve been a little quiet since the trial started, it’s not intentional*

*We’re now starting to gather the feedback and would be delighted if you could take a few minutes to drop me and Sunil an email letting us know your thoughts on usability and how it seems to work – or not – so we can discuss the ways to make it better if it needs it.*

*There is also a section on the app itself where you can leave feedback, so again, if you could possibly spare a few minutes to do that for us as well I’d be very grateful.*

*Thanks again for taking the time to help with the trial of this, your assistance is very much appreciated. If you still have more questions, then Sunil is the man that has all the answers!*

*Kindest regards,*

*Kieron*

If you have received this e-mail in plain text, without any images, [click here!](#)

**H (( ( )) PE**



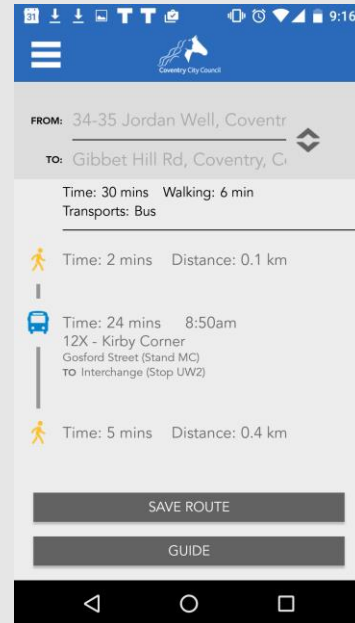
**Holistic Personal public Eco-mobility**

**Newsletter nr. 1 | November 2015**

### Demonstrations in three pilot cities

The pilot operations will be based on two HoPE mobile applications and their backoffice management platform. One mobile app will provide multimodal route planning and associated payment and ticketing functions. The other mobile app will be dedicated to tourist route planning (TRP). Although the apps will have the same core functions in terms of capabilities, the local pilots will differentiate their service offering based on the requirements of the transport operators and the availability of the necessary information.

Pilots will be run in three iterative cycles with increasing technical functionalities. The first cycle started early November and will run until the end of February next year. So stay stuned, as we will keep you posted of our progress.



## 2.4. Pilot execution plan

The pilot execution will be divided in two different stages, as the HoPE MmRP application had different versions too:

- **1st stage:**

The first version of the HoPE MmRP application was internally tested by the consortium members and by the focus group. This first version was based on the Google API, as the HoPE platform route planner service had several issues to be addressed before its integration with the HoPE MmRP.

In this first stage the main objective was to test the user experience with the application in terms of usability, interface, response time of the application, ... Therefore, the usage of Google Directions did not affect the overall process. It also helped us saving valuable time and efforts as at the same time that the focus group was testing the usability of the application, the consortium was focused in the integration of the HoPE platform route planner with the HoPE MmRP application.

- **2nd stage:**

The second stage is due to start once the integration with Swift, MODUM, and the HoPE route planner service is fully implemented, after the integration of the HoPE MmRP application on the HoPE platform.

The focus group will be informed by email to download the application from the link that will be provided by the developers.

### 3. Pilot results

#### 3.1. Internal testing results

During the internal testing, the consortium members detected some failures prior to the the focus group actions execution. The issue presented below has been already addressed by the technical partners.

Application aspect	Focus group participant report	Technical partners improvements
General	With the first launch of the application the buttons were not working properly, it seemed that you have to be very precise while pressing the buttons. In addition the HoPE logo was blurred in the in the first screen of HoPE	Right now, the buttons are working properly and the HoPE logo is not blurred.
Application aspect	Coventry Council feedback	Technical partners improvements
V1.3	Overall look and navigation is good	N/A
	App asks for permissions to SD card	Necessary – see answers below too
	Survey language Italian, when opening the survey in the Google Chrome browser, the user is asked if they would like to translate to English however the text remains in Italian. This is the only part of the app that runs slower than the rest of the pages in the app. When going into configuration and selecting the language (English), the feedback page is still in Italian. Suggestion: maybe include a ‘save preferences’ button so it is clear to the user their changes have been updated.	Fixed in later versions
	When going into ‘saved trips’, my saved trips were not there, just looks like the ‘new trip’ screen. In comparison to the older version of the app where these saved journeys were easy to find in a list.	Fixed in later versions
	In preferences on the older version of the app, we were able to find options relating to eco-friendly journeys, least changes etc. This option is not on the newer version of the app.	Fixed in later versions
	The route planner results are good and if you are referring to the guide on the app this works	N/A



	well.	
V1.4	App crashing / not opening	<p>It seems that the crashing has to do with the modification of the permissions (you reported that it was weird to ask for permission for accessing the SD but it seems that this is necessary for google maps to work properly).</p> <p>We have checked the service. It's still running. Nevertheless, the application where we check the status of the different services shows that the SM for Coventry and the example is working. May it be that the Multimodal route planner is responding with an empty body and this is causing the error?</p> <p>Take into account that currently is crashing in mobile devices with Android Version 6.</p> <p>Later crashing error fixed</p>
	When trying to plan a journey from Coventry to other cities, message appears: 'Destination out of bound'. I attempted Birmingham and Manchester as destinations. When trying in the opposite direction for example Birmingham to Coventry, the message appears: 'Origin out of bound'.	About the out of bounds error, this is because we wasn't aware of the fact that the route planner was intended to work in the whole West Midlands region, we thought that only Coventry would be the scenario of the routing actions. This can be easily changed in the app.
	Walking options displayed only	Fixed in later version
	When clicking on guide it keeps displaying a map of Europe/Africa?	In relation to the fact that weird maps appear (Africa continent and so on) this is because the service replies with swapped coordinates (and swapped coordinated in Coventry stands for a location closed to Somalia) I have already reported this error to the consortium and I

		am still waiting for response.
	Survey submitted successfully. Later I received a request to submit further feedback on the app from Android staff, again I sent feedback indicating it is a test from Coventry for Test Fairy.	N/A
	Not able to change the destination, only able to type in the destination.	Fixed in later version
V1.6	The app will only let me plan my journey around Coventry, is this how it should be?	This can be easily changed in the app.
	When I request my journey it is giving me a destination that is not in Coventry	
	Feedback is not accepted, comes with error.	
	All modes of transport now appear in results and multi modal transport options. This is positive as the last few versions had the issue of only walking options.	N/A
	The guide is still zoomed out showing Africa/North Europe. You can keep zooming in until you see the route you have chosen. However this is not the aim and not intuitive for future users/testers.	
	You can successfully sort journeys according to eco-friendly, least transfers etc. which is good.	N/A
	I could save and retrieve routes easily too.	N/A
	On new journey you can click on the map to 'tap and hold to select the position' which works.	N/A

**Table 3. Internal testing results**

### 3.2. Focus groups results

For the Coventry pilot, the focus group tested of the front-end and performance of the application, passing through all the screens and sections of the Route Planner. Therefore, the remarks reported were classified following the different sections of the application:

- General
- Translation
- Save Trip pop-up
- New Trip screen
- List of possible routes
- Guide map screen
- Feedback screen

Most of the comments were related to suggestions on usability aspects of the application. Even so, some failures were found and reported to the consortium partners.

A sample of the results are shown below,

Yes	Would you be prepared to participate further in testing this application?		14	2
Disagree	I have been satisfied with the route plans provided by the application.		15	3
Disagree	The process for requesting a route plan has been straightforward.		16	3
Neutral	The use of the application motivated me to alter my transport mode.		17	3
Neutral	The option to get route planning with respect to several criteria (fastest, least number of transfers, etc) has been useful.		18	3
Disagree	I used public transport because of this application.		19	3
Strongly disagree	The information provided by the application has been accurate.		20	3
No	Would you be prepared to participate further in testing this application?		21	3
Disagree	I have been satisfied with the route plans provided by the application.		22	4
Agree	The process for requesting a route plan has been straightforward.		23	4
Neutral	The use of the application motivated me to alter my transport mode.		24	4
Agree	The option to get route planning with respect to several criteria (fastest, least number of transfers, etc) has been useful.		25	4
Neutral	I used public transport because of this application.		26	4
Disagree	The information provided by the application has been accurate.		27	4

**Table 4. Focus group results. Stage 1. – captioned moved**

- 1<sup>st</sup> stage:

### 3.3. The HoPE MmRP application was based on the Google Directions service, the testing was done to check usability and improvements made from the feedback. User evaluation results

As a result of HoPE Coventry dissemination activities that have been carried out, several participants have downloaded the HoPE MmRP. This application includes a short survey where users can provide feedback on a variety of application aspects.

Below gives a sample of the responses.

#### Multimodal Route Planner - User Survey

##### Reliability

I have been satisfied with the route plans provided by the application.

(strongly disagree, disagree, neutral, **agree**, strongly agree)

##### Usability

The process for requesting a route plan has been straightforward.

(strongly disagree, disagree, neutral, **agree**, strongly agree)

##### Usefulness

The use of the application motivated me to alter my transport mode.

(strongly disagree, disagree, **neutral**, agree, strongly agree)

The option to get route planning with respect to several criteria (fastest, least number of transfers, etc) has been useful.

(strongly disagree, disagree, neutral, **agree**, strongly agree)

##### Cost-Effectiveness

I used public transport because of this application.

(strongly disagree, disagree, neutral, agree, **strongly agree**)

##### Accuracy

The information provided by the application has been accurate.

(strongly disagree, disagree, neutral, agree, **strongly agree**)

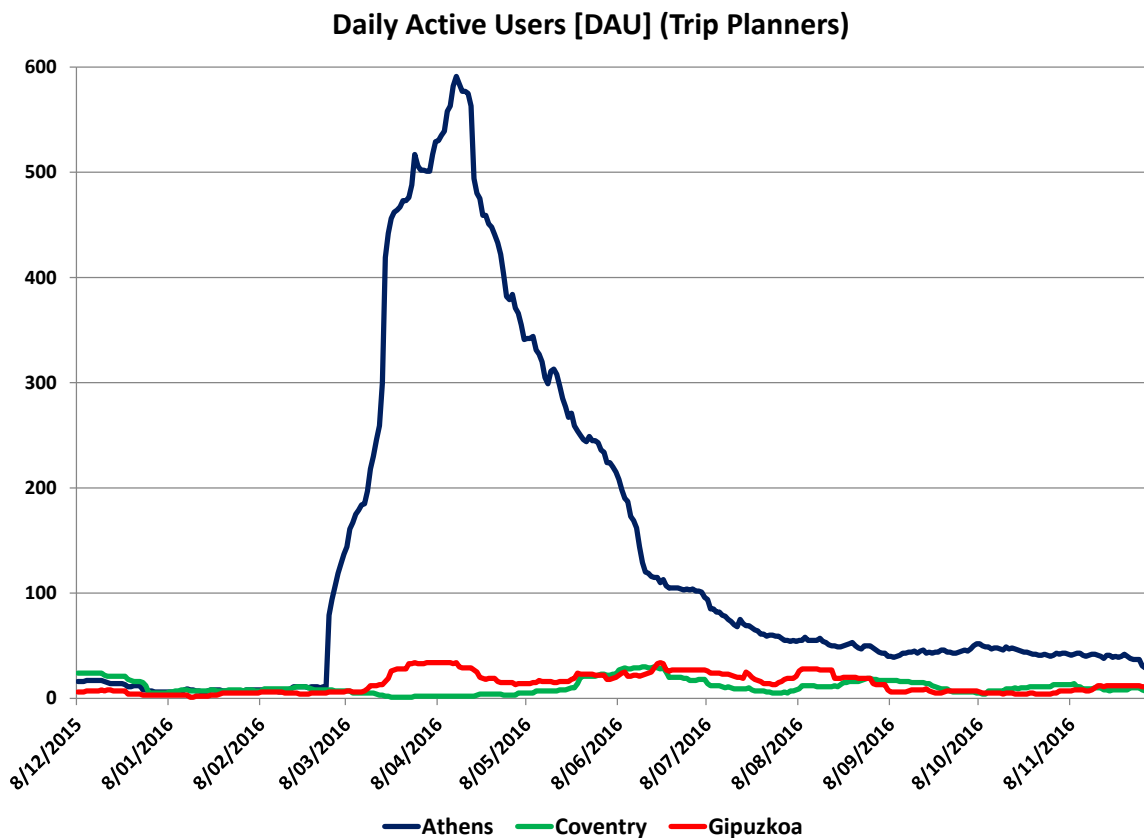
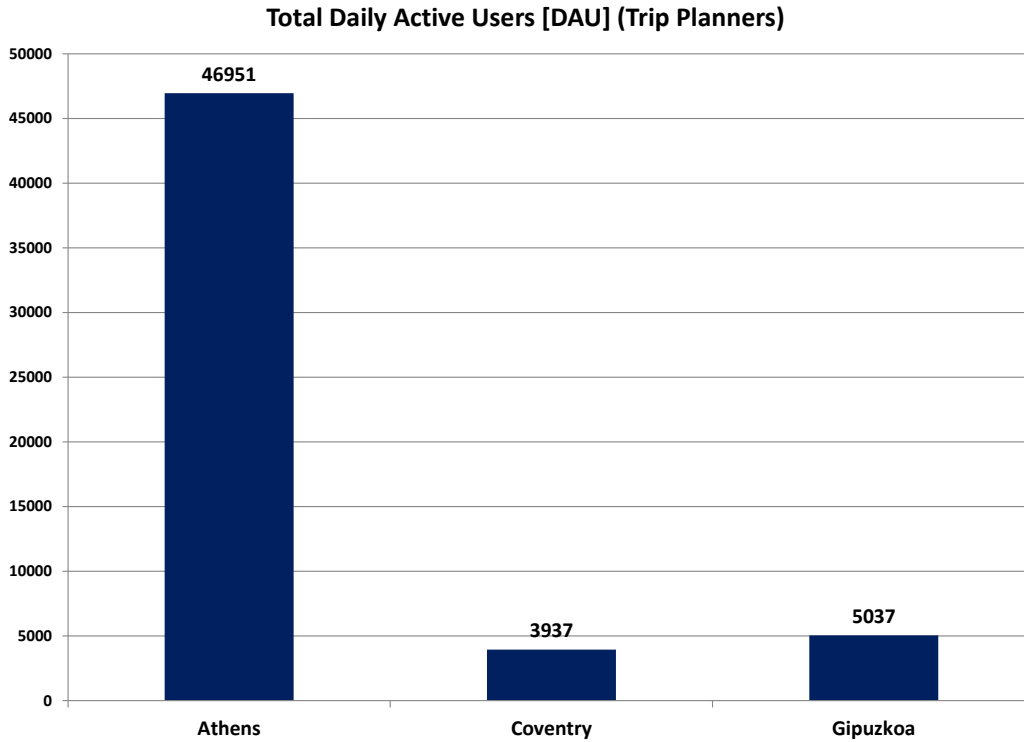
##### Final question

Would you be prepared to participate further in testing?

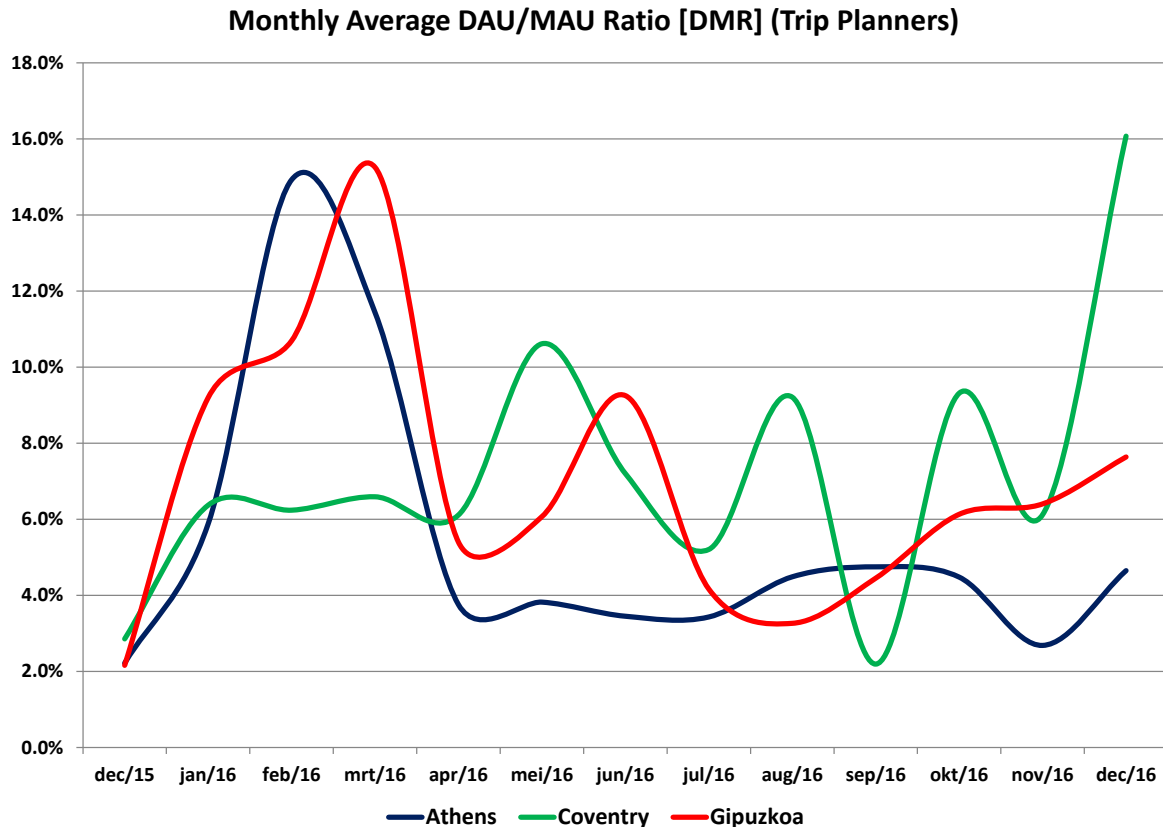
(yes/no) if yes please provide e-mail luke.curtis@coventry.gov.uk

## 5. Number of participants

Extracting the number of daily active users from the TestFairy distribution platform of the apps, gives the following results (these are also recorded in Deliverable D5.5):



More importantly, the DAU/MAU ratio is as follows:



The reason for the low number of users participating in the first cycle of trials using the Coventry version of the app is mostly due to technical difficulties which have delayed its release. Namely the integration of fare information in the search results has resulted in numerous issues including results not being returned, maps not loading, and incorrect fare information, amongst others. These issues are planned to be resolved by the end of this month and we are ready to collect further participants to trial the latest version of the app. The aim is to deploy the trials across all of Coventry City Council's digital media platforms including (but not exhaustive):

- the public facing website,
- the internal intranet for colleagues,
- the internal social media and networking site ('Yammer' as a pinned item),
- the internal newsletter sent daily to staff ('Beacon', as a standing item until no longer necessary),
- and various social media channels used by the Council including Facebook, Twitter, and LinkedIn.

In addition, we are able to exploit our strong relationship with the two universities based in Coventry to mirror this activity. It is proposed that we approach the three universities and Transport for West Midlands to extend the advertising and recruitment across Birmingham as the app now includes this region. The aim of this is to maximise usage in the short space of time left to deliver this project.

To maintain the users' interest on using the application, and therefore generate data, also aiming into attracting new users, a number of discussions take place with the public transport operators aiming to design a contest where the active trial participants will have a chance to acquire a free weekly transport pass. Providing such a prize for the engaged users will hopefully motivate users into using the application more and also new users will be probably be motivated to start using the application too.

## 6. Discussion

The overall execution process of the first mobile application of the HoPE project, HoPE MmRP, has been agreed with the whole consortium. The three pilots have followed the same evaluation framework.

This evaluation has covered the process from its early stage of the development of the application, to its dissemination, and finally evaluation by real users. This process has been seamless and allowed the involved parties of the project to follow closely the evolution process.

At first the evaluation results of the HoPE MmRP application extracted by the internal testing and the focus group revealed several issues regarding the usability, (translation errors, unexpected programming errors, etc.). Those errors were resolved by the technical partners before launching the app to a wider audience.

When HoPE Coventry was widely launched, the evaluation results regarding the usability of the application were promising, but it is a concerning observation that the results about the criterias of classifying the route options have not been that good.

Finally, the accuracy and the route plans information are still debatable. Following the survey results, negative answers have been collected regarding the accuracy and the route information, so as previously mentioned, we will investigate by contacting the committed evaluation participants to go in deep to those answers that were negative and try to solve those issues.

## 7. Conclusion

This document describes the evaluation actions undertaken in order to evaluate the HoPE MmRP application in Coventry. Furthermore, this deliverable highlights and discusses the evaluation results based on users' opinions of different aspects of HoPE.

In general, the evaluation results showed positive answers towards the usability and usefulness of the application for stage one of the trials. Negative results that have been identified regarding the route plans and the accuracy of the information, the consortium is already working on detecting the source of the failures to take the actions to improve the provided travel solutions.

The next edition of this deliverable (D5.3.2) will report on the further pilot execution plan actions, along with the evaluation results of the remaining HoPE mobile applications.