r *Measure title:* **Modernising Travel Information in Aalborg**

City: **Aalborg**   *Project:* **ARCHIMEDES**   *Measure number:* **09**

Executive summary

This measure concerns a further development of two existing traffic information websites in order to give travellers better and more reliable information and by giving access to the right information influencing the traveller choice of modes of transportation, transportation time and route. The two web pages that have been enhanced are www.NordjyllandsTrafikselskab.dk and www.aalborg-trafikinfo.dk (renamed to Trafkken.dk/Nordjylland). This project has contributed to the following:

1) Further development of two existing web pages in Aalborg with addition of new services and information developed through ARCHIMEDES. The City of Aalborg and NT (Regional Public Transport Authority) have upgraded and renewed their transport information websites to increase coverage of the road network and improve comparisons between modes. Flow information to show congestion to road users and explain delays to public transport services has been incorporated on the website.

2) As part of the modernisation of the web pages, a so-called 'personalised web page' has been created for both of the web pages. On these pages, the user has the possibility to tailor his or her own web page with the exact traffic information needed from components as schedules for PT, real time information for favourite bus stops, traffic announcements, selected traffic webcams and news.

3) Most of the implemented tasks in ARCHIMEDES have provided information that has been integrated into this measure for both partners. The two most important of these measures have been the integration of real-time parking information from measure AAL20 and congestion - or accessibility- maps from the congestion monitoring system in measure AAL70.

Evaluation results show, that there were respectively 88% and 93% more users on the websites the first year after the modernisation and that these numbers have continued to rise in the following years.

When looking at figures on month level, two facts can be observed: First, an increase in numbers of users of ~50% monthly in a normal situation. Secondly that number of users is heavily affected by unusual traffic situations as, for example the periods of heavy snows falls that took place during the evaluation period, which resulted in the web sites being up to 600% more used in these months.

The awareness of one of the web pages which has been assessed seems to be at the same level as in 2006 where the baseline was created. However, since the modernisation of the web page and the change of domain, more users are visiting the page. This indicates that more people are aware of the place where to get their traffic information.

The main purpose of this measure was to give update and reliable information to the road users and this objective has been fulfilled. People are using the web pages more in the normal situation and especially in situations when conditions vary from normal.

It has not been possible to isolate any possible change in modal split based on this measure, from other changes as for example the influence of the financial cries on the modality level or modal split.

In terms of the idea of personalised traffic information, the idea worked out best for public transport information which is more relevant, than to personalize than information for car users. As a consequence the barrier of signing up and using the personalised information has been too high for car users compared to just use the regular traffic information on the web page.

No major barriers have been met in this measure. It is concluded, that cooperating with more stakeholders as the Danish Road Directorate, the Police and the Public Transport Authority at the same time can be a driver, leading to a better services, and a barrier making the implementation process more complicated and time consuming.

Another conclusion is that it is hard for the decision processes in a public body – especially working in a fixed EU project - to keep up with the pace in the technological development.

As a consequence, two of the main recommendations at the same time is to "Establish a comprehensive information services ready to use whatever medias the travellers are preferring at the moment." And to "…Give private companies access to the data collected by the authorities to help spreading the information to the end users by more channels"

A   Introduction

A1   Objectives

The measure objectives are:

(A) High level / longer term:

- To reduce congestion and pollution in the ARCHIMEDES corridor.

(B) Strategic level:

- To increase the number of bus passengers and cyclists

- To improve the image of public transport and other alternative modes of transportation

- To raise user satisfaction on the involved web pages

(C) Measure level:

(1) To further develop two existing web-services (www.nordjyllandstrafikselskab.dk and www.aalborg-trafikinfo.dk) and thereby attract more users.

(2) To integrate information gathered in other ARCHIMEDES-measures on the web-services in order to provide simple access to updated and reliable data on the web-services.

A2   Description

Availability of updated and reliable traffic information is important to enable travellers to make sensible choices in terms of modal choice and timing of their journeys. This project has contributed to the following:

1) Further development of two existing web pages in Aalborg with new services and information developed through ARCHIMEDES. The City of Aalborg and NT (Regional Public Transport Authority) have upgraded and renewed their transport information websites to increase coverage of the road network and improve comparisons between modes. Flow information to show congestion to road users and explain delays to public transport services has been incorporated on the website.

4) As part of the modernisation of the web pages, a so-called 'personalised web page' has been created for both of the web pages. On this page, the user has the possibility to create his or her own web pages with the exact traffic information needed, from components as schedules for PT, real time information for favourite bus stops, traffic announcements of incidents on favourite routes, selected traffic webcams and news.

2) Most of the implemented tasks in ARCHIMEDES have provided information that has been integrated into this measure for both partners.

More information about the actual implementation of the measure is available from deliverable T9.1 (2009) and in this report, section B4.

B   Measure implementation

B1   Innovative aspects

The innovative aspects of the measure are:

- **Use of new technology/ITS** – This project aims at using web 2.0 solutions in regards to traffic and transport information, giving the users of the services the possibility to create personalised webpages on the websites with information relevant directly for each user.

- **New organisational arrangements or relationships** – The City of Aalborg has in a new co-operation with the Danish Road Directorate redeveloped the existing web page at www.aalborg-trafikinfo.dk to a new regional web page at www.trafikken.dk/nordjylland as part of the modernisation of the service. This arrangement has made it easier to develop more integrated traffic information for the region and hopefully to bring more users to the site.

B2   Research and Technology Development

No research tasks in this measure.

B3   Situation before CIVITAS

Travel information websites have existed several years before the ARCHIMEDES project, but further development was necessary in order to accommodate a growing demand for web-based information and changes in user requirements.

1) The City of Aalborg introduced in 1999 a traffic portal covering the municipality with online information about traffic. The portal was modernised in 2007 as part of the STEER MIDAS Project. This web portal was the foundation for the development of trafikken.dk/Nordjylland

2) The Public Transport Authority of North Denmark implemented their first web page at about the same time. The web page, www.NordjyllandsTrafikselskab.dk gives information on public transport in the North Denmark Region, including real time information, bus and train schedules and incident information.

B4   Actual implementation of the measure

The measure consists of two tasks:

- Further development of transport information in Aalborg (City of Aalborg)

- Further development of public transport travel information (NT)

To give the best overview of the implementation of the measure, this section will be divided into the two tasks above, explaining the parallel implementation of them.

B4.1 From aalborg-trafikinfo.dk to trafikken.dk/Nordjylland

Stage 1: Migration of www.aalborg-trafikinfo.dk to www.trafikken.dk/nordjylland (September 2008 - May 2009)

The first stage of the task was to migrate the web page information from aalborg-trafikinfo.dk (Figure 1) to trafikken.dk/Nordjylland (Figure 2). The City of Aalborg and Danish National Road Directorate worked on this during the first eight months of the ARCHIMEDES project, determining what information should be available and how it should be organised.
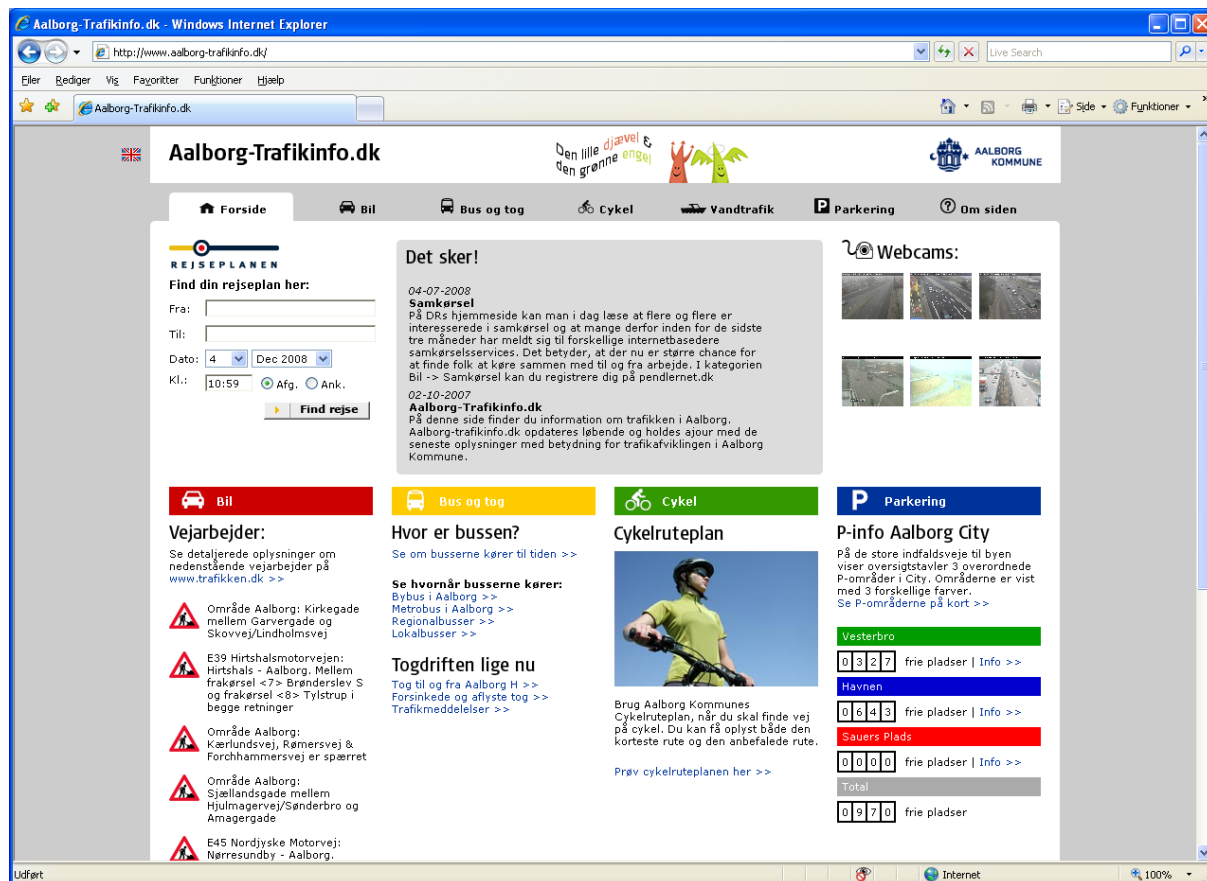

Figure 1 The webpage www.aalborg-trafikinfo.dk before May 2009

The web-page www.trafikken.dk/nordjylland gave a complete view of the traffic in the Aalborg area. It was managed in collaboration with the Danish Road Directorate and was an important part of the ITS strategy for the City of Aalborg. It contained information about road traffic, parking, bicycle mobility, ferries and public transport.
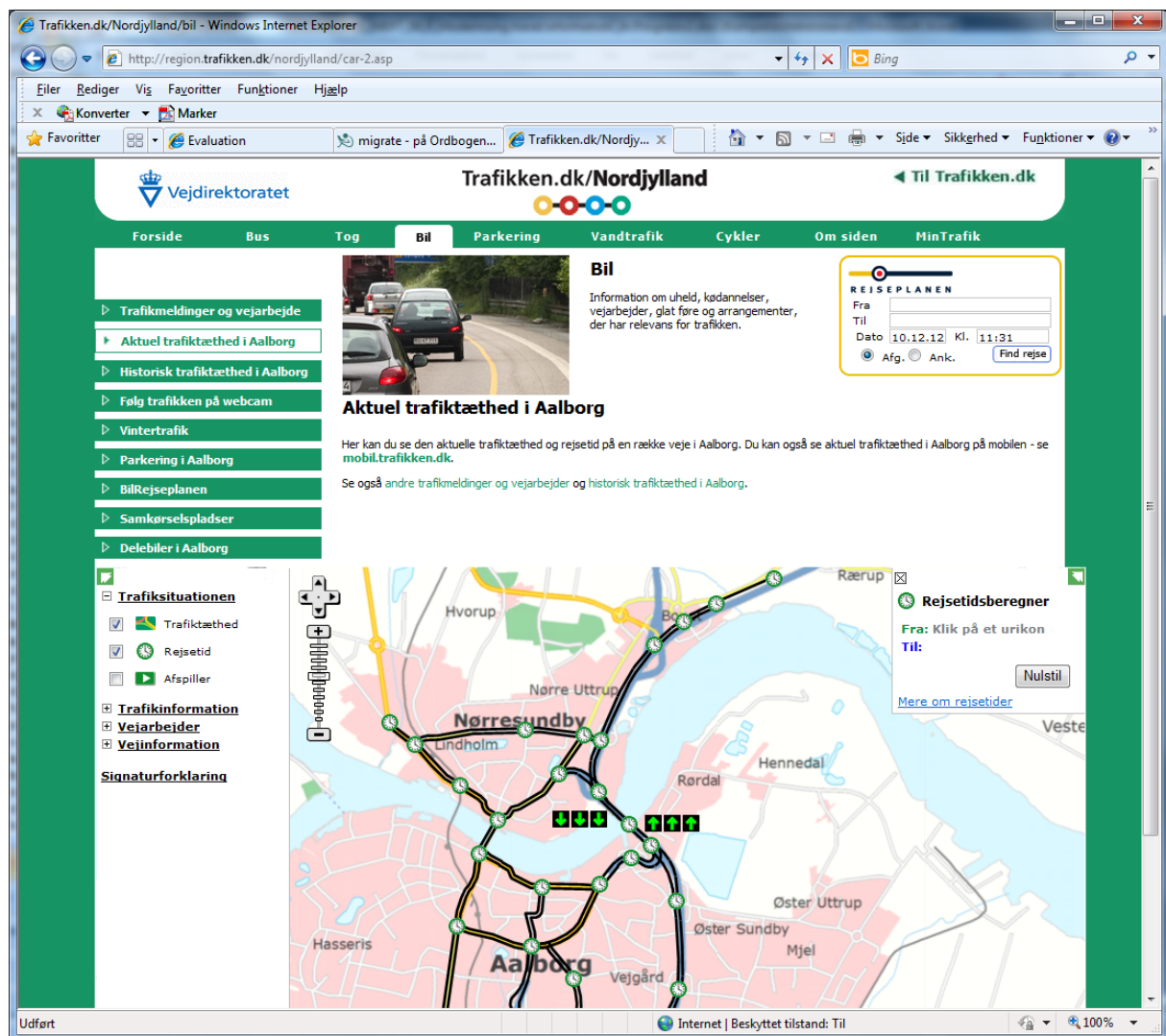
Figure 2 The web page www.trafikken.dk/Nordjylland. May 2009

Stage 2: (May 2009-September 2009) Setting up functionality on www.trafikken.dk/nordjylland to let any user create their own personalised page (Figure 3) with the information elements they request. A sub domain for trafikken.dk/Nordjylland was created to facilitate this.

On this page users can set up a personal profile that enables them to choose between different gadgets and to customize the single gadgets. For example, a webcam-gadget, showing congestion on the bridge or in the tunnel, or a gadget showing real time information for the favourite bus stop.

Each gadget shows personalised information, based on either the person's master data e.g. home and work address or favourite bus route or on specific data selected in the gadget.

Besides traffic gadgets, rss gadgets with news and weather have been developed to make the service more interesting for potential users.

When the user has chosen which kind of information he wants to see, it is possible to move the different windows around by simple drag and drop.
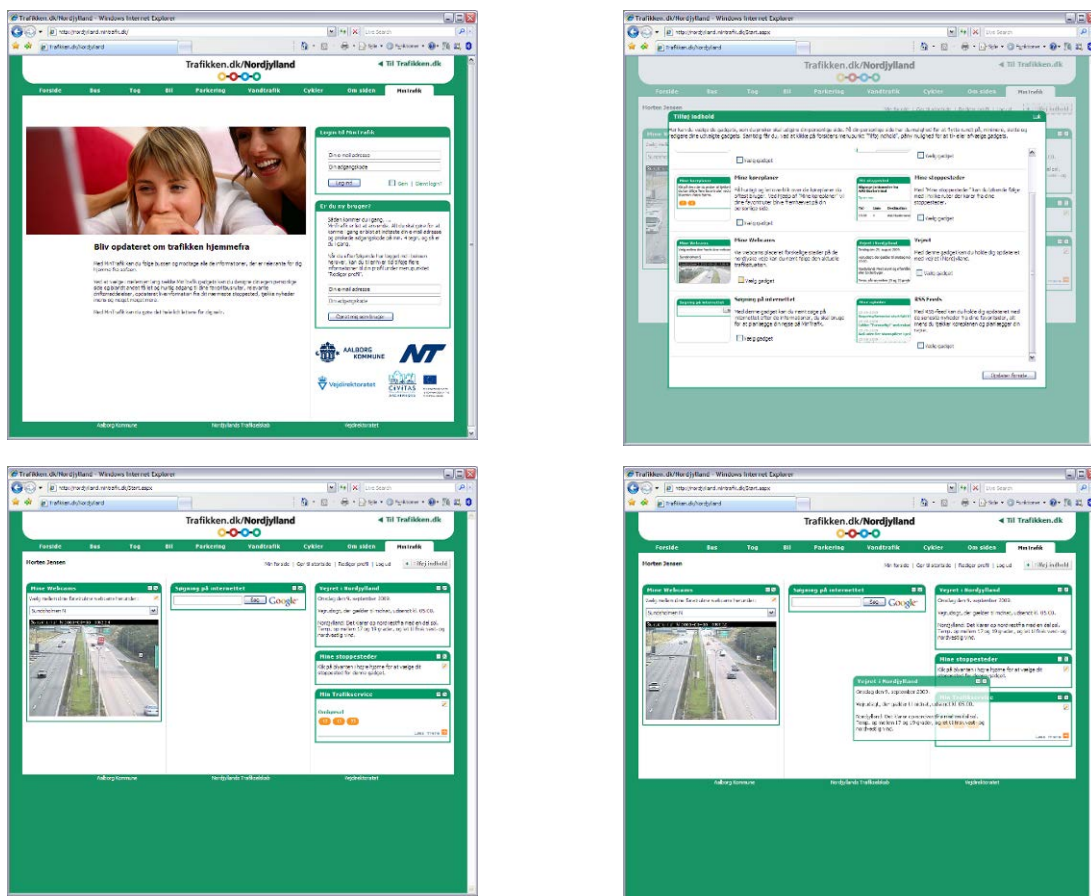
Figure 3 Screen dumps from My Traffic application

Stage 3: (September 2009 – September 2012) Operation phase. Continuously improving web-services with new functions developed through other measures in the ARCHIMEDES-project, e.g. the new parking information system (Figure 4) and congestion monitoring and information (Figure 5 and Figure 6.)

Stage 4: Evaluation (September 2008- September 2012) Collection baseline data, After data and compiling the evaluation report.

Parkering i Aalborg

Her kan du se antallet af ledige parkeringspladser i p-husene i Aalborg.

Få antallet af ledige parkeringspladser på sms. Skriv "Park" til 1231. Servicen koster 1 kr. + almindelig sms-takst.

Sidst opdateret: 01-08-2012 kl. 12:43   ⟳ Opdater visning

Sømandshjemmet
0080
- om ½ time forventes flere frie pladser
- om 1 time forventes flere frie pladser
- om 1½ time forventes få/ingen pladser
- om 2 timer forventes få/ingen pladser

Palads
0000
- om ½ time forventes flere frie pladser
- om 1 time forventes flere frie pladser
- om 1½ time forventes flere frie pladser
- om 2 timer forventes flere frie pladser

Salling
0117
- om ½ time forventes få/ingen pladser
- om 1 time forventes få/ingen pladser
- om 1½ time forventes få/ingen pladser
- om 2 timer forventes få/ingen pladser

Sauers Plads
0230
- om ½ time forventes flere frie pladser
- om 1 time forventes flere frie pladser
- om 1½ time forventes få/ingen pladser
- om 2 timer forventes få/ingen pladser

Kennedy Arkaden
0251
- om ½ time forventes flere frie pladser
- om 1 time forventes flere frie pladser
- om 1½ time forventes få/ingen pladser
- om 2 timer forventes få/ingen pladser

Friis
0316
- om ½ time forventes flere frie pladser
- om 1 time forventes flere frie pladser
- om 1½ time forventes få/ingen pladser
- om 2 timer forventes få/ingen pladser
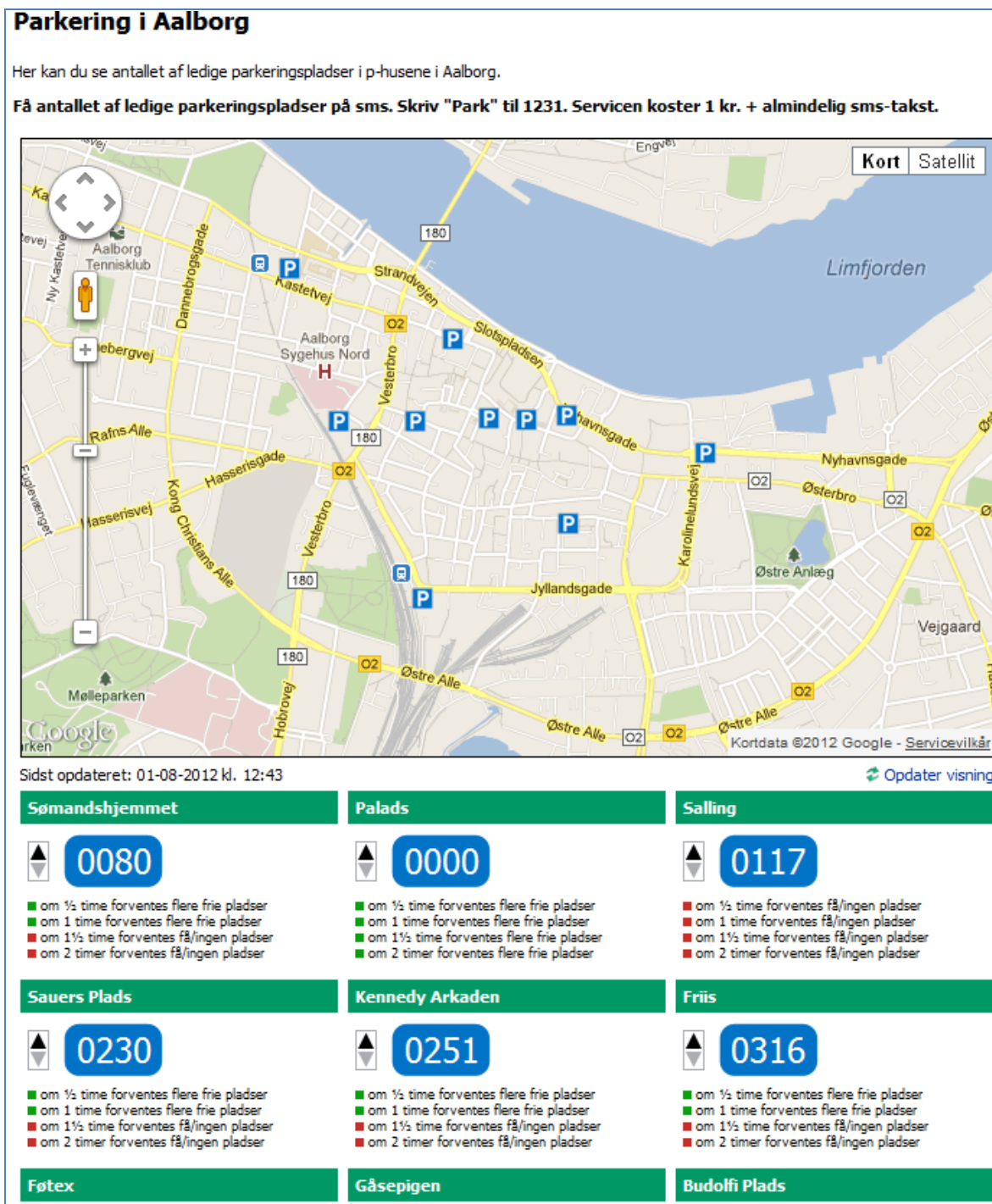
Føtex
Gåsepigen
Budolfi Plads

Figure 4 Internet presentation of free parking spaces and the prognosis for free parking spaces.
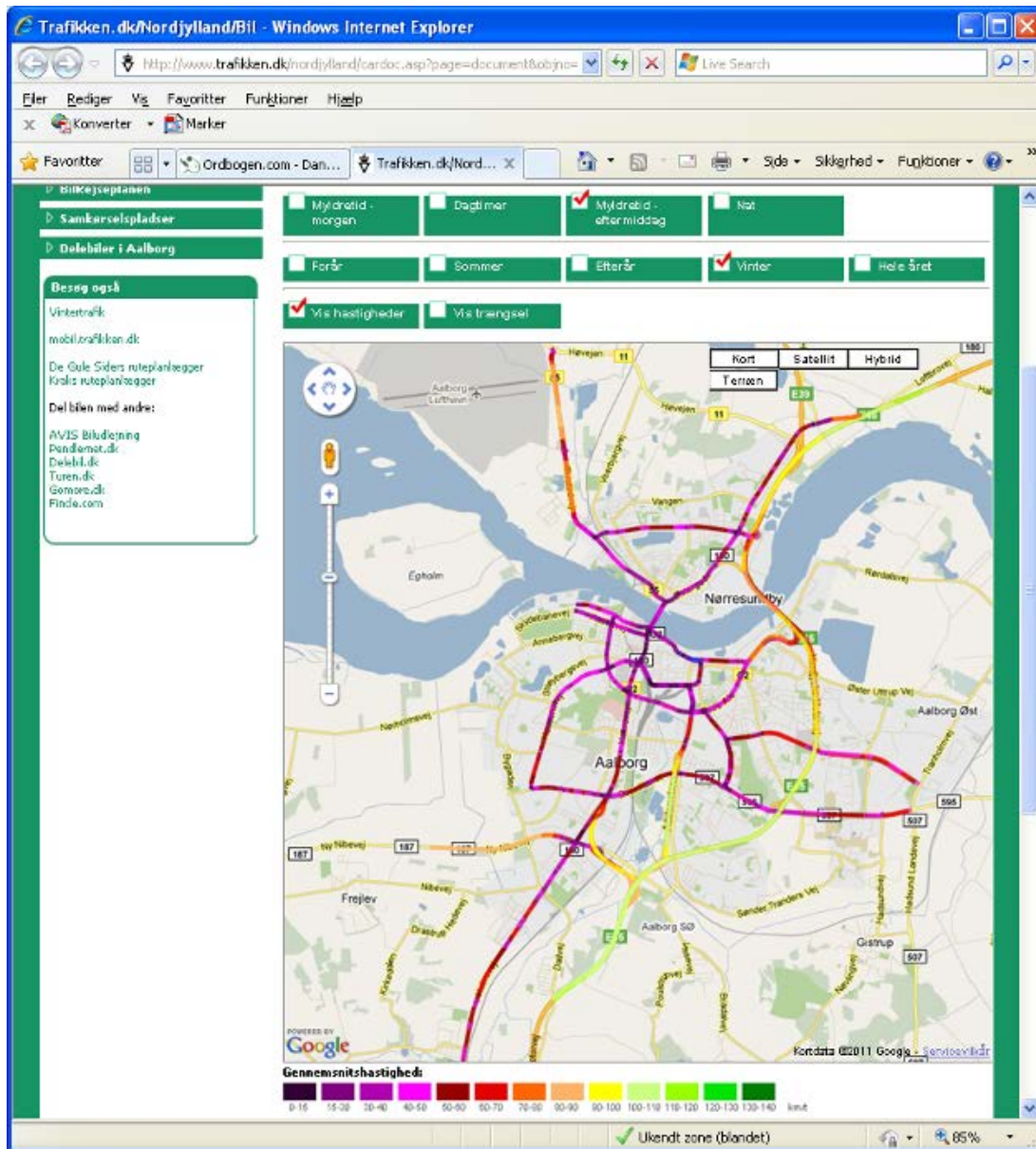
Figure 5. Congestion data and speed level data available on the Internet for the public. For a description of the objectives of this page, and the various functions see deliverable T70.1.

Figure 6 The Internet site showing data from the measure 70 Congestion information system The screendump illustrates a very different congestion levels for the direction towards the City compared to the direction from the city.

B4.2 Modernising the web-page NordjyllandsTrafikselskab.dk

The web-page www.NordjyllandsTrafikselskab.dk is the main page for users of Public Transport in the City of Aalborg. The page contains all information about Public Transport as dynamical travel planning, timetables, fares, delays, maps etc. As for the main pages of NT, the design has remained more or less the same before and after the implementation.

Stage 1: (September 2008 – May 2009) Modernising NordjyllandsTrafikselskab.dk with user login and new functions – NT has modernised the homepage giving each user the possibility to design a personalised homepage (Figure 7).

As with www.trafikken.dk/nordjylland this site has been extended with functions allowing users to set up a personal profile that enables them to choose between different gadgets and to customise individual gadgets.

For example if you choose a favourite bus stop you will get a window with real time information for all departures from that stop within the next two hours.
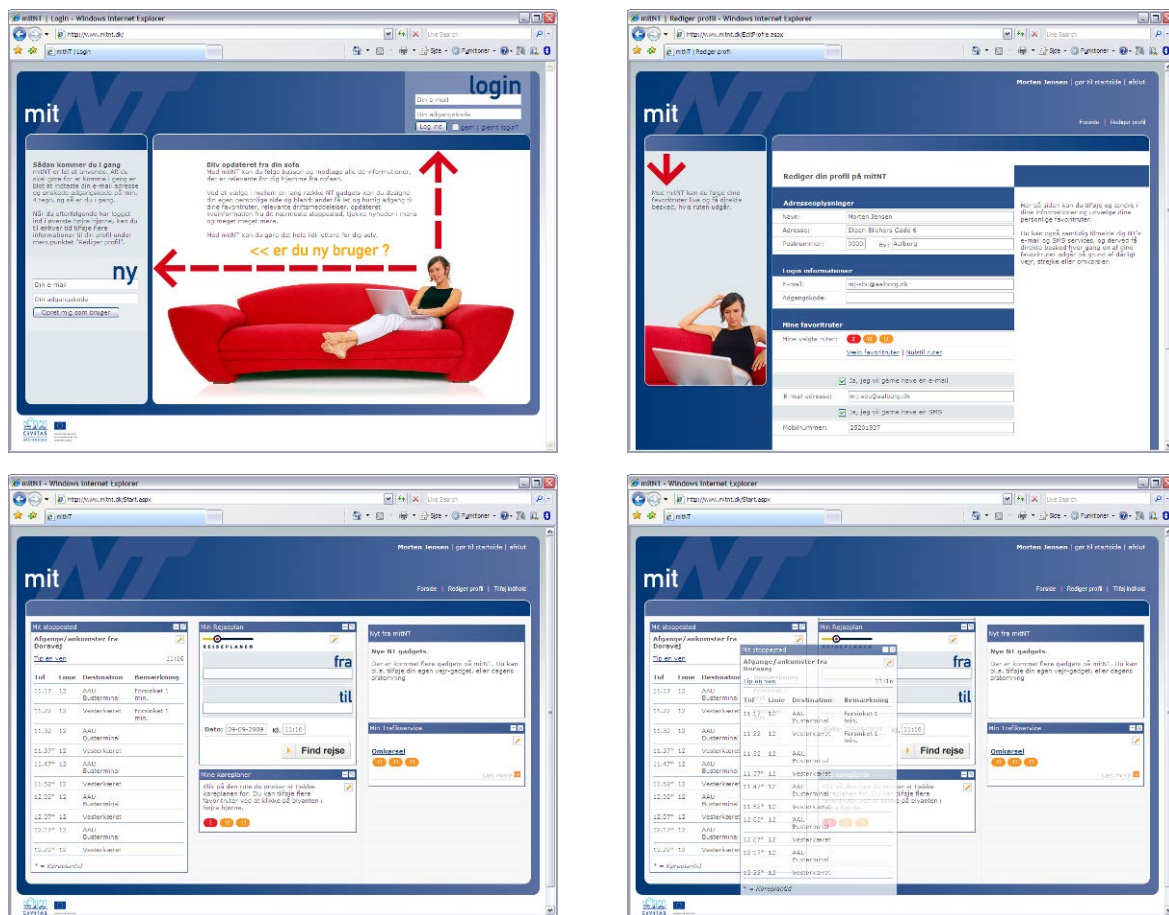
Figure 7 Screen dumps from MitNT (MyNT) application

Stage 2: (May 2009 – September 2012) Operation phase. During the operation phase the site was continuously improved with web-services with new functions, developed through other measures in the ARCHIMEDES-project, e.g. the new parking information system and congestion monitoring and information.

Stage 3: Evaluation (September 2008- September 2012) Collection baseline data, After data and compiling the evaluation report.

B5   Inter-relationships with other measures

This measure have inter-relationships with almost any measure in Aalborg since the information of different measures have been published at the modernised web-pages, including information about biofuels, smart travel card, the parking system, improved pre- and on trip information, the city bike scheme, the car sharing scheme, congestion, etc.

C   Planning of Impact Evaluation

C1   Measurement methodology

C1.1 Impacts and indicators

C1.1.0   Scope of the impact

The high level / long term objective of this measure is to reduce pollution in the ARCHIMEDES-corridor by encouraging travellers to use more sustainable means of transport through improved and modern ways of information. The number of people using public transport and the bicycle should be increased through improved information, making it easier for each person to travel smart.

The use of the web-services has been measured continuously by collecting statistics on the number of visitors on the sites and on the numbers of pages shown. These figures were planed to be supplemented by more qualitative surveys of acceptance and use.

The selection of the indicators reflects the thoughts behind the scope of impacts.

C1.1.1   Selection of 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	Based on the usage level	Index (%), qualitative, collected, survey
			Use	Number of visitors	Measuring the number of visitors	Index (%), quantitative, collected, survey
			Use	Web pages visited	Using web-statistics to map the use of the web pages	Index (%), quantitative, collected, survey
			Occupancy	Number of passengers	Number of passengers on specific bus routes	Number

Indicator 8-11: Environmental indicators were originally in the evaluation plan, and the idea was to evaluate what effect the web pages would have on people's travel behaviour, and thereby, how the environment could be improved. However, - since the number of visitors is relatively modest on an averages day, and since the disposition to participate in web based enquiries is almost vanished as a consequence of the many questionnaires you are presented for on the net - it was not possible to collect data to make a valid analysis based on this. The number of participants of the questionnaire has been so small that even indications on changes in travel behaviour have been impossible to do.

Indicator 29, Transport – Modal split has been dropped compared to the Evaluation Plan for this measure. This has been chosen, because it has proven to be impossible to collect the needed data to facilitate any conclusions on this indicator. As stated in the Evaluation Plan, the plan was to collect data on changed travel behaviours through a web-questionnaire. However, the number of participants of the questionnaire has been so small that even indications on changes in travel behaviour have been impossible to do.

C1.1.2   Methods for evaluation of indicators

No.	INDICATOR	TARGET VALUE	Source of data and methods	Frequency of Data Collection
13	Awareness level	Increase awareness of services	Web questionnaire. The web-survey worked as a pop-up window on trafikken.dk/nordjylland. Hence everybody participating in the survey are people who are aware about the service. However, some services will be more known than others. The users of trafikken.dk/nordjylland are different types of road users, since information for both car users, cyclists and public transport users is available at the web page. At NordjyllandsTrafikselskab.dk mainly information for public transport users is available. Baseline data for www.aalborg-trafikinfo.dk was collected in 2007 among target groups. This survey was designed as a web-survey, but due to a limited amount of responses (<50) the conclusions from this survey will not be used as part of the evaluation of the measure. As of September 2010, trafikken.dk/nordjylland has about 150 visits pr. day, which can give an indication of the sample size. In summer 2011 a web survey was carried out amongst people in the region to determine the awareness of www.trafikken.dk/nordjylland and as part of the evaluation of the commuter travel plan at the University, a survey about awareness was carried out in spring 2012. Both results are included in this evaluation report.	Web-survey are conducted in summer 2011 and spring 2012
14	Acceptance level	Increase acceptance of the services	Acceptance level is indicated on the basis of the use of the web pages.	Web-survey, April 2009 and autumn 2011.
	Number of visitors	Increase the number of visitors on the web-services	Web-statistics collected continuously.	Continously
	Web pages visited		Web-statistics collected continuously.	Continously
	Number of bus passengers		Periodic visual passenger counts conducted on bus stop level. Counts were made on every third departure on the bus line. These manual counts focused at the development in the corridor and can be compared to the automatic photocell counts conducted continuously.	2 times

C1.1.3   Planning of before and after data collection

EVALUATION TASK	INDICATORS INVOLVED	COMPLETED BY (DATE)	RESPONSIBLE ORGANISATION AND PERSON
Web-statistics – collecting data continuously. By the use of different web statistic application, such as Google statistics, the number of visitors, etc is continuously monitored before and after the implementation of the measure.		Month 1- Month 32	Aalborg, Gustav Friis NT, Tom Pedersen
Web-survey on awareness and acceptance. A survey made during April and May 2009 constitutes the baseline data. The survey has been created as a pop-up survey on the front page of the existing www.aalborg-trafikinfo.dk and relates to the satisfaction of the web pages and the use. Another web survey has been carried out in summer 2011. A web survey conducted among students at the university and employees at a large company in the City of Aalborg was conducted in autumn 2007 indicating the awareness of the online traffic information. This data provides baseline data to this measure. In spring 2012 a similar survey was carried out at the university.	13, 14	Month 8 and Month 32+(general survey) Before CiVITAS (autumn 2007) and M42 for University and large company employees.	Aalborg, Gustav Friis
D12.2 Baseline and first results from data collection	All indicators	Month 39	
D12.3 Draft results template available	All indicators	Month 44	
D12.4 Final version of results template available	All indicators	Month 50	

The evaluation of measure AAL 09 will hence focus on the visits and use of the webpages.

C1.2 Establishing a baseline

As the objective of the measure is to increase awareness of online traffic information, to ensure more efficient road transport, and also to give the citizens the right information about public transport, a baseline is constructed for the two important aspects; **use** of the web services and **awareness**.

To determine the **use** of the websites, two different measurements form the baseline data. The first indicator is the number of visitors registered through Google Analytics for the two web pages. The baseline data covers the period from September 2008 to May 2009, before the new web services, "MitNT" and "MinTrafik" were launched.

The second indicator of **use,** which is investigated, is the 10 most visited pages on each website (Table 2.2.3 and Table 2.2.4). The reason for investigating this is to see, whether the new services implemented is replacing the "old" services after the implementation. For this new parameter, there is of course no baseline data.

The baseline data for **awareness** is data collected as part of the STEER MIDAS Project in November 2006 and in November 2007. The data is collected in awareness surveys among students at Aalborg University and employees at the company KMD, both located in the CIVITAS ARCHIMEDES corridor.

An awareness campaign and updating of the web page was done in autumn 2007 directly targeting the two groups above, through e.g. visits from a mobility manager at the university campus and at the company involved. This resulted in a larger awareness in the 2007 after-survey, making this data dubious for use as baseline data! Among citizens not involved in the campaign, awareness of the web page might not have increased in the same way as among the students and the employees in the company.

As the 2006 data expresses, the true level of awareness and the 2007 data show a temporary increased awareness as an effect of the campaign. In this evaluation, most emphasis must be put on the comparison with the 2006 data, defined as baseline.

C1.3 Method for Business as usual scenario

A Business as Usual scenario would include minor changes and upgrades of www.aalborg-trafikinfo.dk and www.NordjyllandsTrafikselskab.dk with the same level of users of the services as the previous years. The results from this measure will be compared with the business as usual scenario in order to determine the real increase in the number of users. Improvements in awareness and attitude will be compared with baseline data.

C1.4 Cost Benefit Analysis

There will be no CBA as part of this measure.

C2   Measure results

C2.2 Society

C2.2.1 Use

To determine the use of the websites, two different measurements form the baseline data. First the number of visitors is registered through Google Analytics for the two web pages. The baseline data

covers a period from September 2008 to May 2009, where the new web services, "MitNT" and "MinTrafik" were launched.

The other parameter which is investigated is the 10 most visited pages on each website (Table 2.2.1 and Table 2.2.2). The reason for investigating this is to see, whether the new services implemented are replacing the "old" services after the implementation.

The main conclusion of the evaluation in this section is, that

- The use of the traffic information sites has increased by ~50% in the normal situation, outsides periods with extraordinary use, caused by abnormal traffic situations, for example as a result of extreme weather situations.

- Travellers mostly require traffic information when the traffic situation is irregular, or unknown and

- The travellers know where to get traffic information, when traffic information is needed, causing the use of the information sites to rise more than 600 % over the average monthly level.

- In a situation when the traffic is normal and the traveller's options known, guidance from the traffic information sites is needed on a much lower level.

In the normal situation – with a limited congestion level in Aalborg, and where the road users know the size and location of the congestion – the traveller does not need to confirm his knowledge by consulting the traffic-information sites.

For the bus passengers the logic is the same except for the fact, that the passenger does not have the same control over – or knowledge about – bus departures and regularity. For this reason, he has to consult the PT site more often. Both for finding planned departure times in advance, and for checking the real time for departures when under ways. This can be illustrated by the fact that the PT information site has a lot more hits than the site for road users.

But in a situation where the traffic for some reason is irregular or unknown, the travellers need to be updated – and they know where to get the information. Whether it is a break down in traffic due to a major accident, or due to an extreme weather situation, both road users and PT users know which sites to visit.

As long as the traffic is normal the number of visitors on the traffic information sites is moderate, but when traffic breaks down, the numbers of visits goes high. A remarkable consequence is the fact, that the better the traffic – both road traffic and PT – is running, the fewer hits on the homepages.

Use, measured by numbers of visits and page views.

Tabel 2.2. 1 Use of the traffic information web-sites

Indicator	Before 2008-2009	B-a-U	After 2009-2010	Difference: After –Before	Difference: After – B-a-U
Use: Number of hits per day **NordjyllandsTrafikselskab.dk**	16,800	16,800	31,600	88%	88%
Use: Number of hits[1] per day. Average year **Aalborg-trafikinfo.dk**	309	309	596	93%	93%

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[1] In this evaluation the term 'hit¡ is used as a synonym for a page view. This is not the same as Visits or Unique users or other measurements for Internet use often used.

Use: Number of visits pr. month. May-November – not-winter situation **Aalborg-trafikinfo.dk**	24843	37326	37326	50%	50%

The Table 2.2. 1. shows that the Public Transport homepage NordjyllandsTrafikselskab.dk. is used on a fairly high level on average. In the period between 15th of September 2008 and 21st of May 2009 the site had more than four million hits. This is an average of 16,800 hits a day.

A year later, after implementing the ARCHIMEDES improvements, the site had 31,600 hits a day.

Even though the ARCHIMEDES project added the new personalised functions and improved the level of information on other subjects, this can hardly explain an increase of 88% on use of the complete site. The data behind the yearly averages shows that the level of use in a normal situation has increased, but that extraordinarily use in the extreme winter in 2009-2010 has raised the averages of visits for the whole year.

Trafikken.dk/nordjylland, the traffic information site aiming at all forms for mobility, has a lower level of users, but shows the same tendency. From 309 daily hits in 2008-2009 to 596 hits in 2009-2010. An increase on year level of 93 %, but for the same reason. Looking at the not-winter period from may to November – to remove the winter chaos effect – in Table 2.2. 1 shows that the level of use in the normal situation has risen 50% in this first year.

Digging more into the data in Figure 9 below, we can see that the level of use in a normal situation has increased (~50% each months), but that extraordinarily use in the extreme winter in 2009-2010 raises the averages numbers of visits pr day for the whole year. Figure 9 shows that this effect is even more powerful the next year.
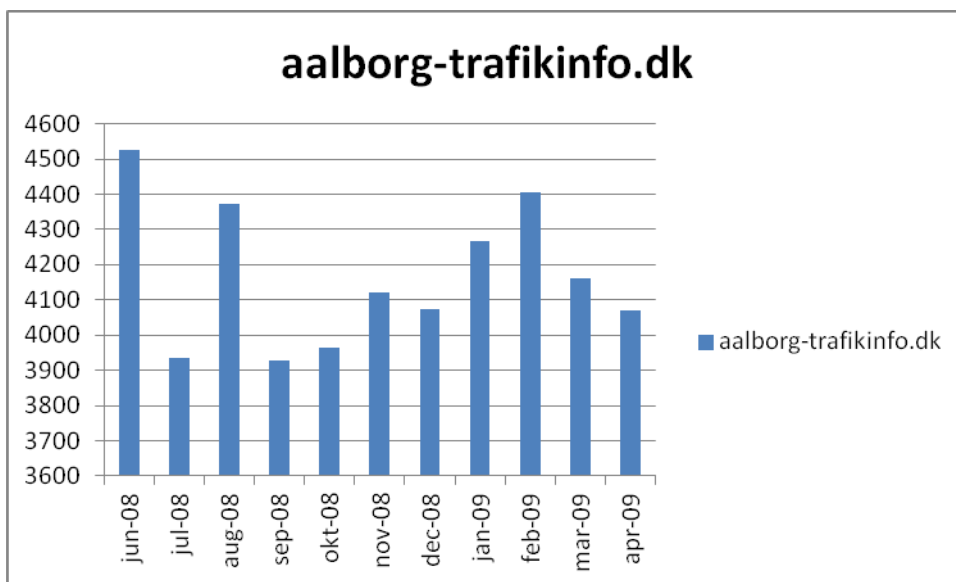

Figure 8 The number of *visitor*s per month June 2008 - April 2009

The Figure 8 before-data is showing the number of visits per month at aalborg-trafikinfo.dk from 1st June 2008 to end of April 2009. The new webpage trafikken.dk/nordjylland was launched 15th of May 2009. Between the highest and lowest number of visitors there's only a margin of approximately 13 %.

The figure shows a clear season variation with higher use in winter months - modified by two peaks in June and August (caused by two major traffic chaos situations following two major events). As the

winter 2008-09 was mild, the variation is less, - an increased use in the winter, but only from 3,920 visitors to 4,400 visitors a month - than in next years where the weather were more extreme, causing more traffic problems and thus more need for information.
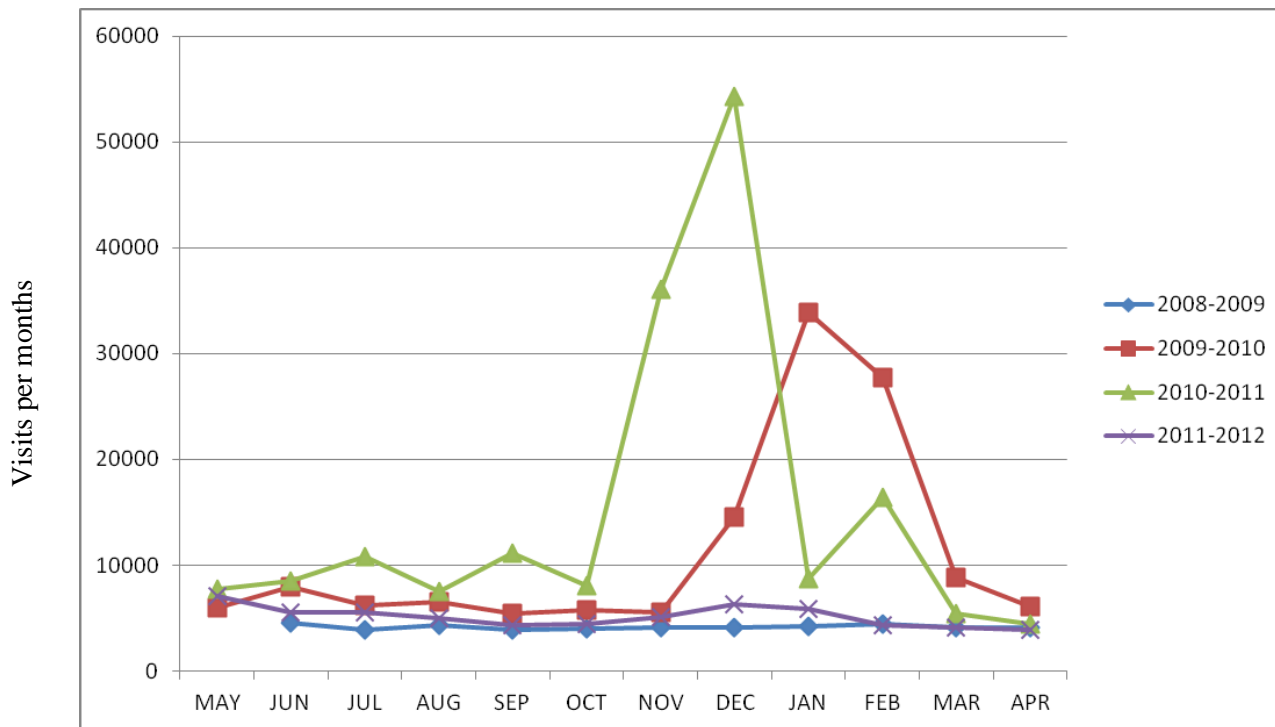

Figure 9 Four seasons of traffic information (Visits at aalborg-trafikinfo.dk & trafikken.dk/Nordjylland)

Figure 9 illustrates this relationship. The graphs for the two mild winters in 2008-09 and 2011-12 are relatively flat with only a minor seasonal variation, which can hardly be seen on the scale used in Figure 6. The graphs for 2009-10 and 2010-11 clearly show an explosion in use in the winter time. For 2009-2010 the increased use is for December - March, where the traffic was more or less irregular all the time due to permanent snow; for 2010-2011 the same is true for November to February for the same reason.

The long-term tendency, when isolated for the winter effect, is the ~50% increase in use from 2008-09 to 2009-10, and a 42% increase from 2009-10 to 2010-11. For some reason this trend does not continue from 2010-11 to 2011-12.

Figure 10 Number of daily visits 2008-09 on PT information site NordjyllandsTrafikselskab.dk

For the PT information site, the before data from 2008-09 shows the same tendency as for the general traffic information site above. Due to the mild winter the number of users is relatively constant with a modest season variation where the numbers of visits is highest in the winter and lowest in the summertime (Figure 10).

A clear top can be registered each Friday followed by a low point each weekend, illustrating that the group of - probably young - people seek traffic information for planning their weekend trip on Fridays before travelling in the weekend, and that the group of travellers using the bus-system on weekdays, does not need to use the traffic information system in the weekends.

The same effect can be seen around Christmas, where the visit rate is high before Christmas and the lowest in the whole year in the holydays between Christmas and New Year's Eve.
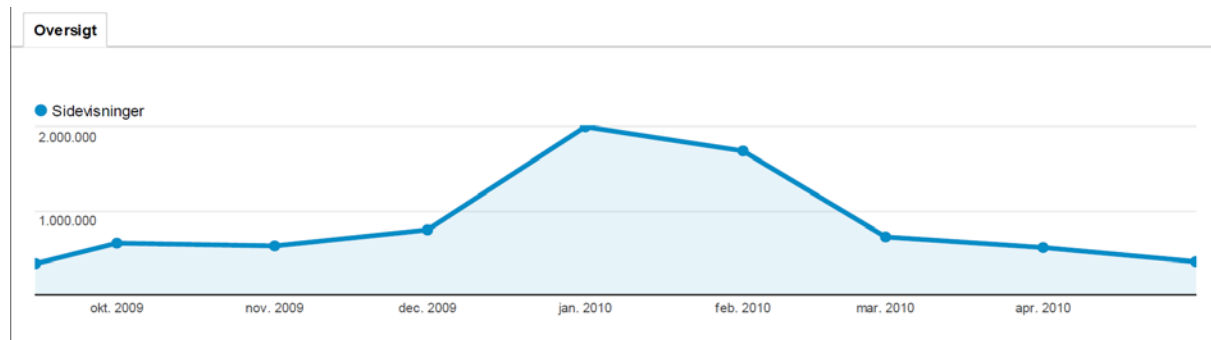

Figure 11 Number of hits on monthly basis on the webpage NordjyllandsTrafikselskab.dk from September 2009 to May 2010

When looking at the season variation in 2009-10, where the winter was more extreme with a long period of traffic problems due to a lasting period of snow, a clear effect can also be seen on the traffic on the PT web pages. (Figure 11). This is not a result of the modernised traffic information, but can be explained by winter conditions.

For both traffic information sites, the weather conditions play a significant role for the level of use. During those winters, where snow affects the transport situation, both web pages experience an increased number of visitors.

As Figure 9 illustrates there were no extreme situations during wintertime 2008-2009, but in the winter periods, 2009-2010 and 2010-2011 more extreme situations have been experienced. The following investigate this in more details, since it shows, *that when data and information is needed the travellers know where to find it - on the Internet traffic-sites.*
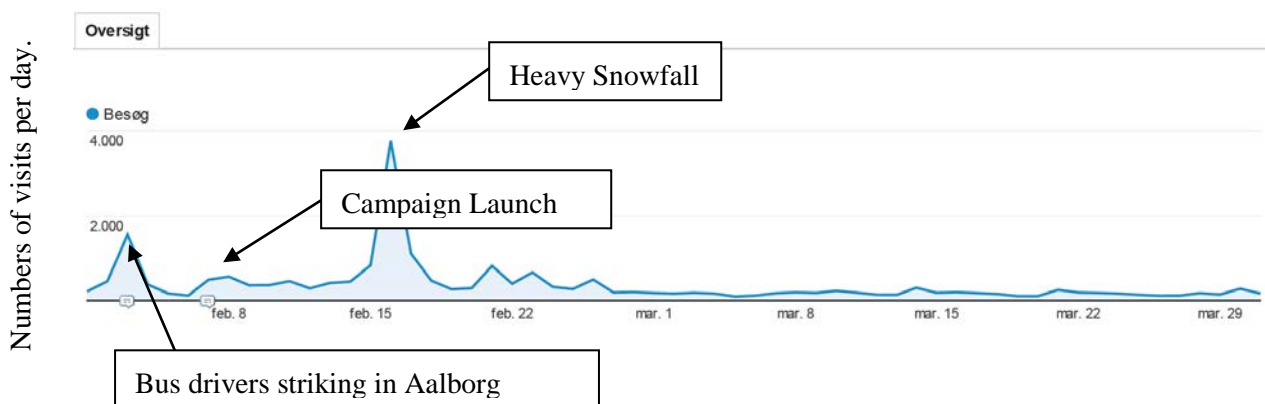

Figure 12 Peaks in early winter 2011 around a bus strike, a campaign for the web page and heavy snowfall. Numbers of visits per day.

Figure 12 shows effect of abnormal situations, influencing the traffic situation, on the number of visits on Trafikken.dk/nordjylland in February. From the normal level of a few hundred visits a day, a bus strike brings the number up to almost 2,000 and a period with heavy snowfall brings the number of users further up to near 4,000. As a contrast, an ARCHIMEDES campaign for the site, launched between these two abnormal situations, temporary doubles the normal numbers of users, but still only to some 600 visits.

Figure 13 illustrates the same for a situation in the winter 2009-10. Again the North Jutland faced a heavy snowfall in January bringing the numbers of visits up to 7,000.
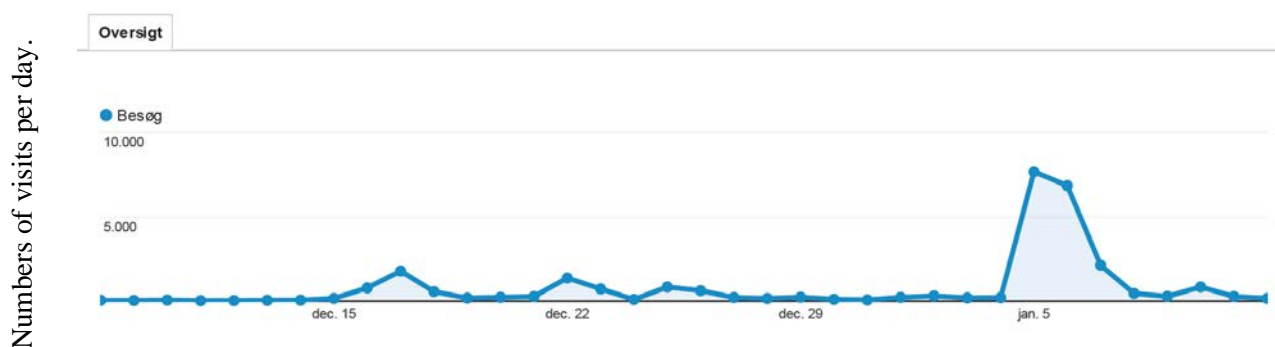

Figure 13 Trafikken.dk/nordjylland peaks at snow fall. (Displaying December 2009- January 2010)

Tabel 2.2. 2 Use of the traffic information web-sites

Indicator	Before 2008-2009	B-a-U	After 2009-2010	Difference: After –Before	Difference: After – B-a-U
Use: Number of hits pr. day **NordjyllandsTrafikselskab.dk**	16,800	16,800	31,600	88%	88%
Use: Number of hits pr. Day. Averages year **Aalborg-trafikinfo.dk**	309	309	596	93%	93%
Use: Number of visits pr. months. May-November – not-winter situation **Aalborg-trafikinfo.dk**	24843	37326	37326	50%	50%

The evaluation results are summarised in Tabel 2.2. 2: Use of the traffic information web-sites, however this way of summarising the results is very difficult. As explained earlier, peaks of visitors are generated by extreme situations such as heavy snowfall. Therefore, the best way of evaluating the use is by examining the graphs earlier, rather than talking about differences in average numbers of visitors before and after. What can be concluded is that more people are now aware of the integrated traffic portal than before. This can be seen by the fact, that more people use the sites in a normal situation, and that and the peaks, when information is needed, are higher than before.

As the regional radio also is using the information on trafikken.dk/Nordjylland more than before, the information from the sites is, via this indirect channel, reaching more people on the roads and hence leads to changes in rout choices.

Use, evaluated from most visited pages.

The Table 2.2. 3 and Table 2.2. 4 below lists the 10 most visited pages at respectively aalborg-trafikinfo.dk and NordjyllandsTrafikselskab.dk

Tabel 2.2. 3 List of page views from 1st September 2008 to 30th April 2009 – aalborg-trafikinfo.dk

Page	Category		Views	
Front Page	Car		19.226	26,24 %
Webcams	Car		13.119	17,86 %
Car information main page	Car		11.079	15,09 %
Parking information system	Car		9.700	13,21 %
Dynamic Traffic Information map	Car		2.025	2,76 %
Cycling main page with route planner	Cycle		1.945	2,65 %
Bus and Train information main page	Public Transport		1.867	2,54 %
Parking information main page	Car		1.344	1,83 %
Bridge information main page	Car	Cycle	1.184	1,61 %

Pages with information to car users are the most viewed pages. The main page and the page showing live views from traffic-web cams are the most popular web pages. (Live-Web cams have to be regularly updated, leading to a lot of hits, compared to more static pages).

Six out of the nine most visited pages are concerning car traffic. Car use in Aalborg constitutes approximately 60 % of all trips, which makes car related information important. Incidents and congestion on the road e.g. showed on the webcams or the dynamic traffic map will influence car users, whereas they will not affect cyclists to the same degree.

Despite of the majority of page views being car related, also the main cycling page and the main page for public transport are on the top ten list of viewed pages. There are only nine pages listed, since two of the pages on the list are the front page of the site, however registered differently.

For the PT site, NordjyllandsTrafikselskab.dk, the most viewed pages are the pages giving information on specific time schedules for different bus lines. On top of the list are the main bus lines in the City of Aalborg: Metro Bus 1 and 2, which are also the most frequent bus lines in the region.

Table 2.2. 4 List of page views from 1st September 2008 to 30th April 2009 - NordjyllandsTrafikselskab.dk

Page	Views
Front Page	1.452.512
Area Bus Schedule Aalborg	128.163
Time Schedule Metrobus 2 (City Bus Aalborg)	118.594

Time Schedule Metrobus 1 (City Bus Aalborg)	88.885
Area Bus Schedule North (Northern part of the region)	69.668
City Buses in Aalborg	62.338
Time Schedule Bus Route 12 (City Bus Aalborg)	57.672
Time Schedule Bus Route 17 (City Bus Aalborg)	51.727
Time Schedule Bus Route 14 (City Bus Aalborg)	50.664
Time Schedule Bus Route 73. (City Bus Aalborg)	46.420

Evaluating the approach of personalised pages.

When the personalised pages were implemented in 2009, this way of thinking was quite new, but considered State-of -the-art at the moment. The process of developing the traffic gadget-philosophy in Aalborg took place at the same time, when Google started to launch the parallel Google-gadgets.

The idea of giving users direct access to specific and needed information was correct. But the number of users of MinTrafik – the personalised web page for trafikken.dk/Nordjylland and the parallel function on NordjyllandsTrafikselskab.dk never came over 100 on each site a day.

There are more factors responsible for this. First, the use of this kind of function is probably of more interest for the public transport users, than for the road users using Trafikken.dk/nordjylland. The visitors on trafikken.dk/Nordjylland are mainly there to check on conditions for cars. Even though personalised information about traffic disturbances, parking and webcams exists, the information on PT as timetable information, real-time information and information on deviations in PT is more suited for the personalised world - and of more importance for the user.

The second reason for the personalised pages not being heavily used is the logic discussed above: the need for this kind of information is correlated to the reliability of the traffic services. In a context where the traffic usually is highly reliable, the travellers does not bother to use information systems that require an active act to use, as turning on a computer and consulting a website.

This leads to explanation number three. At the same time, or just after the gadget solution were developed, the smartphone / app wave emerged. In a very short time the mentioned state-of-the art changed from giving this form for information on the web, or possible in a mobile portal, to using apps.

Since both personalised sites are web based applications, they do not benefit from the strengths of the smart phone, including the phones (GPS) knowledge of your exact position. So even though the way of thinking of personalised information back in 2009 was new and innovative, the lack of users can be described as a result of the rapid change in technologies during the last few years.

C2.2.2 Awareness

As part of the STEER MIDAS Project (2006-2008) awareness surveys among students at Aalborg University and employees at the company KMD, both placed in the CIVITAS ARCHIMEDES corridor, were conducted in November 2006 and November 2007.

An awareness campaign and the updating of the web page was done in autumn 2007, directly targeted to the two groups mentioned above, through e.g. visits from a mobility manager at the university campus and at the company involved. The result of the effort can be found in the 2007 survey. Among

citizens not involved in the campaign, awareness of the web page might not have increased in the same way as among the students and the employees in the company.

Tabel 2.2. 5 Awareness and share of visitors at aalborg-trafikinfo.dk

Employees	Aware	Visited	Sample size
2006	39 %	26 %	376
2007	63 %	49 %	119
Students	**Aware**	**Visited**	**Sample Size**
2006	20 %	14 %	662
2007	26 %	13 %	437

Tabel 2.2. 5 shows the percentage of people who knows www.aalborg-trafikinfo.dk and the percentage who has visited the web page within the last 6 months.

The same survey showed that the most known form for transport information among both target groups was the printed time schedules of buses provided by the public transport authority.

In 2012, as part of measure AAL30: Commuter Travel Plans, the awareness of trafikken.dk/Nordjylland was evaluated among students and employees at the university.

Tabel 2.2. 6 Awareness of the trafic information webpage, Aalborg-trafikinfo.dk / trafikken.dk/nordjylland

Indicator	Before 2006-2007	B-a-U	After 2012	Difference: After – Before	Difference: After – B-a-U
13: Awareness of the web page: **Aalborg-trafikinfo.dk** Students and KMD employees	**Students** 2006: 20 % 2007: 26 % **Employees** 2006: 39 % 2007: 63 %	**Students** 2006: 20 % 2007: 26 % **Employees** 2006: 39 % 2007: 63 %	**Students** 2012: 17 % **Employees** 2012: 33 %	**Students** - (3-9)% **Employees** - (6-30)%	**Students** - (3-9)% **Employees** - (6-30)%

Only marginal changes exist in the awareness of the traffic portal from 2006 and 2012. The changes cannot be directly explained, and could be an expression of random differences between the two samples. The samples are supposed to be comparable, but the sample sizes in 2012 are larger than in 2006. The setup of the survey was different, making it more appealing and easier to use in 2012, which have led to the increase in the response rate, and might have led to a different composition of the sample.

Comparing 2012 and 2007 figures shows a larger decrease in awareness. This is due to the fact that the 2007 figures were unusually high, because the old traffic portal was promoted directly to the target groups through the MIDAS project just before the query. As part of the ARCHIMEDES project, the traffic portal was market towards students and employees in May 2009, as part of the modernisation

and as part of the commuter travel plan. However, since that time it has been more broadly promoted leading to a relative fall in awareness at these specific target groups.

The almost unchanged expressed level of awareness from 2006 does not take anything from the fact, that more people know where to find information, using the portals, in general but especially when traffic conditions are abnormal such as heavy snow fall, strikes, or during road maintenance.

In summer 2011 an additional web based survey was conducted amongst people above 15 years of age in the region of North Denmark. 41 % of the respondents were aware of the web portal trafikken.dk/Nordjylland. 25 % have heard about the portal, but didn't know it. Around half of the respondents were car users and around 30 % were cyclists.

One third of the respondents state that they would most likely not change their mode of transportation no matter what. This underlines that information alone does change people's travel behaviour, but on the other hand information can support people in taking the right modal choices, if they are forced to change behaviour by congestion or other hard facts.

C2.2.3 Number of passengers

Indicators on number of passengers have been covered by an overall analysis of the modal shift in the ARCHIMEDES corridor, developed across the measures. This is included in appendix A.

C3   Achievement of quantifiable targets and objectives

No.	Target	Rating
1	To raise user satisfaction on the involved web pages	**NA**
2	To increase the number of bus passengers[2] and cyclists.	★
3	To improve the image of public transport and other alternative modes of transportation	**NA**
4	To modernise two existing web-services (www.NordjyllandsTrafikselskab.dk and www.aalborg-trafikinfo.dk) and thereby attract more users.	★★
5	To integrate information gathered in other ARCHIMEDES-measures on the web-services in order to provide simple access to updated and reliable data on the web-services.	★★
	NA = Not Assessed O = Not Achieved ★ = Substantially achieved (at least 50%) **★★ = Achieved in full ★★★ = Exceeded**	

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[2] Changes in modal split have been measured within the effects of the package of measures related with this is reported in appendix A.

C4   Upscaling of results

The PT web site in this measure contains the relevant transport information for the whole region. The general transport site contains the information on municipality level. The potentials for upscaling lays thus on two levels. Upscaling the information on Trafikken.dk/Nordjylland to region level, and upscaling both sites to go beyond region level. Both upscalings would be relevant.

The upscaling of the general transport website would require involvement from the other municipalities in the region, but would be complicated first by lack of resources in the small sized municipalities and secondly by the fact, that these municipalities lack drivers in form of congestion or other traffic problems.

The Danish Road Directory is at the moment working on implementing similar websites in other relevant regions.

The PTAs in the other regions does have information websites at different levels, adjusted to local needs and resources.

C5   Appraisal of evaluation approach

Ideally it would have been optimal also to collect information of the impacts on the roads from this measure. However, it has proved impossible to gather data through web-questionnaires as planned.

As all Internet services want to know as much as possible about their users, to target the services - or the commercials - as precisely as possible, users receive invitations to participate in web-questionnaires all the time. As a consequence users refuse to participate in any of them.

Before this tendency became really outspoken, we tried to collect baseline data for www.aalborg-trafikinfo.dk in 2007 through a web-survey, but due to the limited amount of responses (<50 in spite of extension of the survey period, and in spite of a competition with prizes between those completing the survey) the results from this survey is not usable for the evaluation. And collecting after-data in the same way has become quite impossible. It was therefore considered to conduct a query as a telephone survey, but due to the limited amount of users (which were the target group of the survey) it would be an unrealistic task to contact enough people to identify a proper sub sample of active users of the traffic Internet sites.

Direct approach to web services users could be an option in order to determine user satisfaction and the real use of the web services. However, this would be a very expensive way of getting not very valid data. The conclusion is that we have no means of determining whether people are actually changing their behaviour on basis of these services, but that the potential for behavioural changes is present through awareness of the services.

C6   Summary of evaluation results

Evaluation results show a marked rise in number of users of the websites after the modernisation.

The numbers of users on the two sites have risen 88% and 93% on yearly averages.

When looking at figures on month level, two facts can be observed. First an increase in numbers of users of ~50% in a normal situation. Secondly that number of users is heavily affected by unusual traffic situations as for example coursed by heavy snows falls that took place during the evaluation period, which resulted in the web sites being up to 600% more used in these months.

The awareness of one of the web sites, which has been assessed, seems to be at the same level as in 2006 when the baseline was created. However, since the modernisation of the web page and the change of domain, more users are visiting the page also during peak days (e.g. during heavy snow falls). This indicates that more people are aware of where to get their traffic information. The main purpose of this measure has been to give update and reliable information to the road users, and this objective has been fulfilled. People are using the web pages a lot more now in general, but especially in situations when conditions vary from normal.

It has not been possible to see any change in modal split based on this measure alone. The intention has been to collect information about how the use of the website might influence the users choice of mode of transport, but even though several evaluation methods have been considered, it has not been possible to collect this data due to a rather small critical mass.

In terms of the idea of personalised traffic information, the idea worked out best for public transport information indicating that the information for car users has been less relevant to personalise. The barrier of signing up and using the personalised service has been too high for car users compared to just use the regular traffic information on the web page - especially as the usual traffic situation has been so unproblematic that there has been no need for the road users to check the situation on a regular basis.

The demand for personalised web based information has been more marked for public transport users, but the information has also been available on other channels.

C7   Future activities relating to the measure

The measure of updating and maintaining the two web services is continuously under development, in order to fulfil the needs of the citizens. Requests and questions about this measure are taken into account when updating and improving the web pages.

The measure will continue after the end of the CIVITAS ARCHIMEDES project, hence the project has helped to go further in the update of the pages than originally planned. Also the City of Aalborg and the Danish Road Directorate are working together on a mobile site for traffic information in order to facilitate new demands for access of information.

D   Process Evaluation Findings

D.0   Focused measure

X	0	No focussed measure
	1	Most important reason: *The measure fits into the city policy towards sustainable urban transport and / or towards sustainability in general.*
	2	Second most important reason: *Participation of a range of different actors*
	3	Third most important reason: *The measure fits into the EU policy towards clean urban transport and it is possible to make a Cost-Benefit analysis on the experiences in Aalborg.*

D.1   Deviations from the original plan

No deviations from the original plan have been encountered.

The measure with the two tasks of developing and modernising two traffic web portals was planned to be implemented in May 2009. In May 2009 www.nordjyllandstrafikselskab.dk was added the personalised function MitNT which gave the user the possibility to get his favourite public transport information. www.aalborg-trafikinfo.dk was transferred to the regional newly developed site www.trafikken.dk/nordjylland according to the plan. In September 2009 MinTrafik was added to the latter. This gave the user the possibility to design his own traffic web page with the preferred traffic information.

The Description of Work was updated to facilitate continuously updating of the web portals with more functions developed through the ARCHIMEDES project including parking information and congestion information. Parking information and congestion information have been added to the web portal in 2010 and updated in 2011. As of 2012 when the parking information system in the city was modernised in the city (measure AAL20), new information was added to the web portal.

D.2   Barriers and drivers

No crucial barriers have been encountered during the process. Challenges have been solved through technical solutions and project management. The only barrier which has been encountered is that it is important to ensure that sufficient resources are available for continuously maintenance of the websites.

In terms of drivers, the organisational construction where the City of Aalborg, the Danish Road Directorate, the Police, and the Public Transport Authority of North Jutland prior to the ARCHIMEDES Project have formed a strategic traffic management collaboration helped to forward the process of an integrated information portal for traffic.

D.2.1 Barriers

Preparation phase

- **Barrier 1** - (Institutional) Working with more organisations has been a challenge in terms of division of responsibilities. Decisions take more time when more organisations have to agree on them. There are more owners of data and thereby also more stakeholders to maintain data. This can constitute a organisational barrier.

- **Barrier 2** – (Technological) How to ensure that the right information is delivered to the right people at the right time in order to influence their travel habits? In 2009 when the personalised web pages were developed, the technology was state-of-the-art (Google was trying out their iGoogle and other larger web pages were also trying out the personalised way of giving information), but in a short time this technological setup was outdated, replaced by apps in smartphones and on tablets.

Implementation phase

- No barriers identified

Operation phase

- No barriers identified

D.2.2 Drivers

Preparation phase

- **Driver 1** – (organisational) An important driver for this measure was the common objective for Danish Road Directorate, the City of Aalborg, and NT to improve and extend information for road users to improve the traffic conditions in the city.

D.2.3 Activities

Preparation phase

- **Activity 1** – (organizational) A data management group and a development group with participation from all the stakeholders were created during the preparation phase to overcome some of the potential barriers.

Implementation phase

- No activities undertaken.

Operation phase

- No activities undertaken.

D.3 Participation

D.3.1. Measure Partners

- **Measure partner 1** – City of Aalborg in charge of the process management of the modernisation of trafikken.dk/Nordjylland and MinTrafik

- Measure partner 2 – Public Transport Authority of North Denmark – process management of the modernisation of NordjyllandsTrafikselskab.dk and MitNT

D.3.2 Stakeholders

- **Dansih Road Directorate** – Implementation and operation of the modernised webpage traffiken.dk/nordjylland and member of the strategic traffic management group.
- **Web developer** – Developer of individualised services for the users of the services on trafikken.dk/nordjylland and NordjyllandsTrafikselskab.dk

D.4   Recommendations

D.4.1 Recommendations: measure replication

Reliable and modern traffic information is an important element in transport planning and even though it cannot be directly proven that people are changing their travel behaviour as a result of the information, there is a long tradition and a demand for getting information on the traffic situation. And the possibilities for giving information are quite extensive; buses arrivals and departures in real time, real time congestion level, real time parking information, just to mention a few from Aalborg.

Road users are accessing the information in situations where the traffic situation differs from the normal situation, and they might need to use another transport option that they normally are doing. An example of this is during heavy snow fall, where road users needs information about whether the traffic is flowing, whether the roads are passable or if the journey should be postponed, cancelled or done with other means of transportation. For the PT user, the questions are if the buses are going on time, if they are running at all - or if he should walk or stay at home.

The demand for real time information and for a constant news flow has increased with the technological development, first through the new social media platforms on the internet and currently with the smart phone development. Information shall be accessible where ever you are. To facilitate the fast development in the demand for traffic information the following recommendations should be taken into account for measure replication:

- **Recommendation 1 –** Be where your customers are. Establish a comprehensive information services ready to use whatever media the travellers are preferring at the moment. The Internet, the smartphones, the social medias etc.

- **Recommendation 2 -** Investigate what kind of information the end users need and secure that sufficient data is available.

- **Recommendation 3** – Give private companies access to the data collected by the authorities to help spreading the information to the end users by more channels

- **Recommendation 4** – Don't expect that awareness and use will increase due to modernised information facilities alone. Information should be available when needed. In general people know where and how they are travelling – but in deviating situations fast and easy access to information is needed.

- **Recommendation 4** – Target information so that road users get the specific information they need. The information flow is vast, and much of the information that you can get is not important for you. Being able to give targeted information seems to be the trend.

D.4.2 Recommendations: process

- **Recommendation 5** - Involving more authorities to be able to provide as much data as possible is important, but keep in mind that it is also more challenging with more data owners. Make sure that there is a clear agreement on who is responsible for maintaining the data.

Appendix A

ARCHIMEDES corridor - Number of passengers from 2009 to 2011

For the part of the ARCHIMEDES corridor in the region of the University the modal split impact of ARCHIMEDES is expected to be: 2-4% less use of car among the students and employee reference groups; 1% annual increase in public transport use; and a 5% increase in cycling.

In order to investigate these objectives, two counts of bus passengers have been completed. This document will summarize the results of these counts and across measures conclude on the effects of ARCHIMEDES on the use of public transport. In the ARCHIMEDES project five measures directly linked to public transport have been implemented:
-   Measure 1: Biofuels in Aalborg
-   Measure 8: Travel Smart Card in Aalborg
-   Measure 9: Modernising Travel Information in Aalborg
-   Measure 68: Pre-trip & On-trip Mobile Phone Information
-   Measure 69: On-trip Bus Traveller Information in Aalborg

Methodology

The passenger counts have been carried out before and after all measures were implemented. The first counting was made in the period 26 October to 8 November 2009 while the second counting was made in the period 9 November to 20 November 2011. All passengers entering and exiting the buses were counted manually at every bus stop for every second or third departure during daytime.
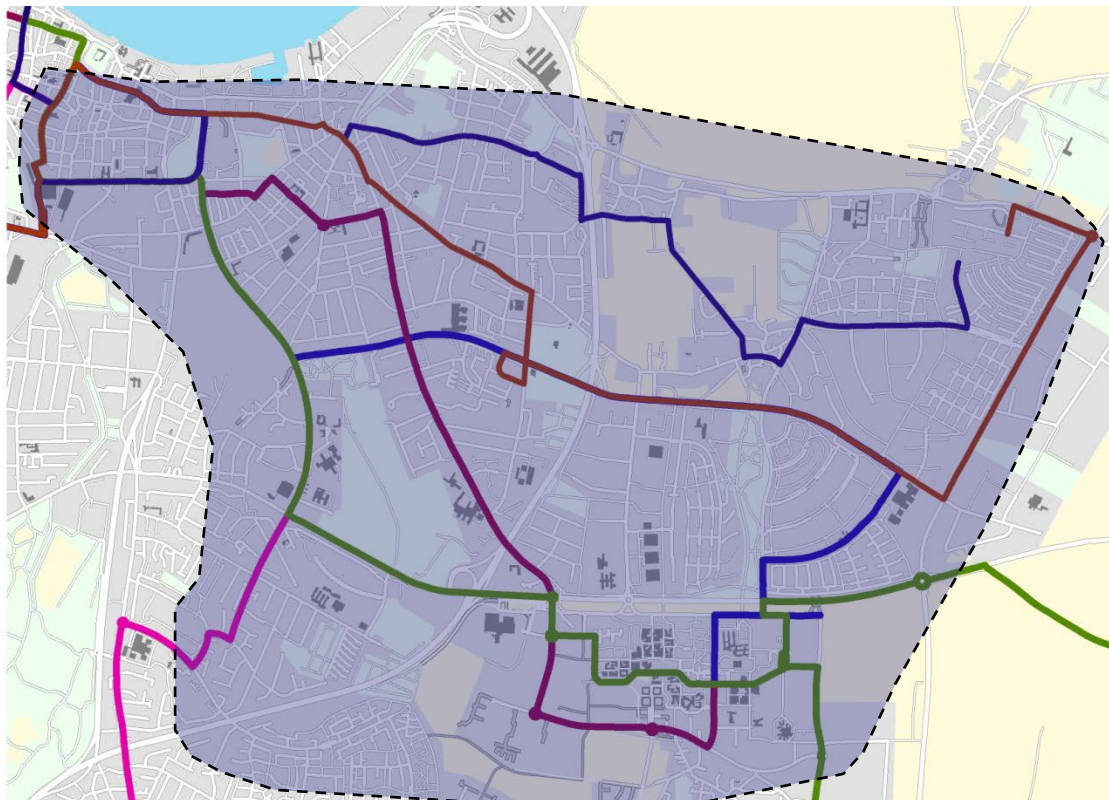

Figure A.1 Bus lines within CIVITAS corridor

The following bus lines are included in this analysis: Bus line 2, 11, 12, 14, 15 and 17. On the map the counting area within the ARCHIMEDES corridor is marked together with the bus lines going through the corridor.

The operational level has been almost the same throughout the period apart from the number of extra buses used.

Results

The overall result shows that there has been an increase of 6.2 % in the number of passengers from 2009 to 2011.

There has been an increase in the number of passengers on all bus lines except bus line 2. An explanation for this might be that during rush hour there was a larger number of extra buses in 2011 than in 2009 and therefore the number of passengers that use the normal buses are spread out to more buses. We have not counted the number of passengers using the extra buses, but based on experiences a plausible estimate is that the number of passengers in average is 30 pr. extra bus. When including this number of passengers from the number of extra buses in both periods there have been an increase of 6.2 % in the number of passengers in the corridor.

	2009	2011	Change in %
Line 2	15,483	13,624	-13.6
Ekstra buses	1,200	3,450	
Line 11	5,258	5,469	3.9
Line 12	7,455	7,766	4.0
Line 14	5,996	6,513	7.9
Line 15	4,727	4,809	1.7
Line 17	5,464	6,767	19.3
Total	45,584	48,399	6.2

Table A.1 Compared results of counts 2009-2011

Appraisal of Evaluation Method

The counts include both entering and exiting passengers, in order to make sure that all passengers are counted. This could be a source of error if there had been a significant change in the way the passengers travel in or across the corridor from 2009 to 2011. We have no indication of such a change.

Counting passengers is a resource demanding task if you do not have an automated system. As we do not have unlimited resources, we had to limit the number of trips and the period of time that we counted. We have counted every second or third trip and calculated the total number from these. The passengers are not necessarily evenly distributed between the different trips, and this could also be a source of error. As the counted trips are randomly chosen based on which trips the counters could reach, there should be no such systematic error.

The two periods in which we have counted are not exactly the same, but they are so close that we don't think this has a significant influence on the result.

In addition to these sources of errors there are a number of externalities that also could influence the result.

The weather is an important factor in Denmark, because a lot of the bus passengers choose to walk or ride their bike when the weather is fine, but when the weather is cold or rainy they use the bus. We

have only counted the passengers over a relatively short period of time, and if there have been more cold or rainy days one year than the other, this will affect the result. If we should compensate for that it would require a lot more counting.

One of the other measures in the corridor is improved bicycle lanes from the city centre to the university. This can also affect the number of passengers that use the bus, if they choose to ride bicycle instead of the bus. This is of course a good thing, but it will affect the number of passengers that use the buses.

Establishing a baseline for comparison

The only passenger counting system we have in Aalborg is an old, simple automatic system that only detect entering passengers but not where, when or on which bus line. Counting from this system indicates that there has been an increase in the total number of passengers in the buses on 7.5% for the whole network. The results of the passenger count in the ARCHIMEDES corridor and this number is not comparable since they are made in two very different ways and with different purpose, but they can give an indication of a positive development in the whole city.

The Public Transport related measures that have been implemented on the bus lines in the corridor have later been extended outsides the corridor by the PT authorities, and is supposed to have same positive effect outsides the corridor as in the ARCHIMEDES corridor. Therefore it is not possible to establish a genuine 'business as usual situation' for documenting the positive effect in the corridor.

Conclusion

Compared to the number of passengers in 2011 to 2009 the numbers have risen by 6.2% or 3.1% a year. This is well above the goal of 1% a year.

Trying to use the numbers of passengers on the rest of the network as a 'business as usual' is not possible, partly due to differences in the counting methods, partly due to the fact that the ARCHIMEDES improvements done in the corridor, later is extended to the rest of the system.

Annex 2

Copy of the surveys in English

Dear student at Aalborg University

This is a survey about your transport habits to and from AAU. The City of Aalborg and AAU started a project about sustainable commuting in 2009. The project is part of the EU project ARCHIMEDES.

Different initiatives were implemented to support sustainable commuting to/from university – amongst other things information campaigns and bicycle pumps at pas in Aalborg East and other initiatives will be introduced in the near future.

The survey aims to provide a status on the commuting patterns to and from AAU. Therefore, we kindly ask you to use 4 minutes to answer the survey. The survey has to be filled out latest on the 16th of may. If you answer the survey, you get the chance to win a electric bike or bike.

All answers are anonymous.

If you have any questions, do not hesitate and contact us

Gustav Friis, Aalborg Municipality GUF-teknik@aalborg.dk or
Anne Mette Dalum Kaalund kaalund@adm.aau.dk

Are you male/female?

(Angiv kun ét svar)

!   Male

!   Female

How old are you?

(Angiv kun ét svar)

!   Under 18 years

!   18-24 years

!   25-44 years

!   45-64 years

!   Over 64 years

Postal code:

(Angiv værdi mellem 99 og 10000)

!   _ _ _ _ _ _

Which Faculty at the university do you belong to?

(Angiv kun ét svar)

!   The Faculty of Humanities

!   The Faculty of Social Sciences

!   The Faculty of Engineering and Science

!   The Faculty of Medicine

Dont know

_ _

_ _

_ _

How do you primarily get to and from the university?

(Angiv kun ét svar)

!   Car

!   Motorcycle/moped/scooter - Gå til 8

!   Public transport - Gå til 8

!   Bicycle - Gå til 8

!   On foot - Gå til 8

!   Other - Gå til 7

Since you primarily drive by car to/from university, do you drive... - Gå til 7

(Angiv kun ét svar)

!   ...by car alone

!   ...drive car together with passengers

!   ...as a car passenger

Since you chose "other" as your primary mode of transport to/from university, please specify if you...

(Angiv kun ét svar)

!   ...drive by bicycle during somm and by car during winter

❗   ...drive by bicycle during summer and use public transport during winter

...other - please specify

_ _

_ _

_ _

What is the distance from your home to the university?

km

(Angiv værdi mellem 0 og 1000)

❗   _ _ _ _ _ _

minutes

(Angiv værdi mellem 0 og 1000)

❗   _ _ _ _ _ _

Have you heard about green commuter plans at Aalborg University?

(Angiv kun ét svar)

❗   Yes

❗   No

❗   Dont know

Where did you hear about the green commuter plans at Aalborg University?

(Angiv gerne flere svar)

❗   From a colleague

❗   Information brochures

❗   From a webpage

❗   In this questionnaire

Other

_ _

_ _

_ _

Which initiatives under the green commuter plans have you heard of?

_ _

_ _

_ _

Have you read/seen the information brochures concerning green travel behaviour at Aalborg University?

(Angiv kun ét svar)

!   Yes

!   No

!   Dont know

Which influence has the information brochure had on your travel behaviour?

(Angiv kun ét svar)

!   I have used the initiative

!   I haven't used the initiative, but I think it is a good idea

!   I don't think the initiative makes a difference

Have you heard of the web-page green.aau.dk?

(Angiv kun ét svar)

!   Yes

!   No

! Don't know

Which influence has the web-page green.aau.dk had on you?

(Angiv kun ét svar)

! I have used the initiative

! I haven't used the initiative, but I think it is a good idea

! I don't think the initiative makes a difference

green.aau.dk

The webpage green.aau.dk is only available in Danish at the moment, but a english version will be introduced shortly.

Do you know about the bicycle pump stations at campus in Aalborg East?

(Angiv kun ét svar)

! Yes

! No

! Dont know

Which influence has the bicycle pump stations had on your travel behaviour?

(Angiv kun ét svar)

! I have used the initiative

! I haven't used the initiative, but I think it is a good idea

! I don't think the initiative makes a difference

Do you know about the bicycle commuter route to campus in Aalborg East?

(Angiv kun ét svar)

! Yes

! No

! Dont Know

Which influence has the bicycle commuter route had on your travel behaviour?

(Angiv kun ét svar)

! I have used the initiative

! I haven't used the initiative, but I think it is a good idea

! I don't think the initiative makes a difference

Do you know about public bikes in Aalborg?

(Angiv kun ét svar)

! Yes

! No

! Don't know

Which influence has the public bikes had on your travel behaviour?

(Angiv kun ét svar)

! I have used the initiative

! I haven't used the initiative, but I think it is a good idea

! I don't think the initiative makes a difference

Have you heard of the web-page trafikken.dk/Nordjylland?

(Angiv kun ét svar)

! Yes

! No

! Don't know

Which influence has the web-page trafikken.dk/Nordjylland had on you?

(Angiv kun ét svar)

! I have used the initiative

! I haven't used the initiative, but I think it is a good idea

! I don't think the initiative makes a difference

Have you heard of the web-services: MitNT or Min Trafik where you can design your own traffic side?

(Angiv kun ét svar)

!   Yes

!   No

!   Don't know

Which influence has the web-servies: MitNT or Min Trafik had on you?

(Angiv kun ét svar)

!   I have used the initiative

!   I haven't used the initiative, but I think it is a good idea

!   I don't think the initiative makes a difference

Are you interested in entering a draw to win a electric-bike/bike then please fill in your contact information. All data will be confidential

Name:

– –

E-mail:

– –

Telephone:

– –

Thank you for your participation!