



Best Practices with Pedelects

2012-06-28

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Pedelec test with elderly people within the EU project „Active Access“

Introduction

Within the EU project „Active Access“ (EU program STEER) a pedelec test was carried out among 20 elderly people (aged between 40 and 70) in Graz/Andritz, Austria. The project was also funded by the city of Graz. The pedelecs came from the company „Scherz“ and were of the model „Steiererbike“. The target of the test was to find out how middle-aged and senior people use pedelecs for their daily trips and what kind of advantages and disadvantages appear in daily use. Another goal was to reduce scepticism towards e-mobility. The pedelec test focused on shopping and recreation trips. During the test period the testers took note of their experiences in a mobility log. Additionally, they were interviewed individually after the test period.

Facts and Figures

At a start-up meeting testers were briefed about the tests and about pedelecs in general. During the test period the testers had the possibility to call a hotline for solving problems with the pedelecs. After four weeks of testing results were discussed and testers were interviewed.

Within one month the 20 testers cycled 1500 kilometres. About half of this distance would have been driven by car otherwise according to the specifications of the testers. . The average speed was 23 km/h, which shows that pedelecs can compete with public transport (11 km/h) and motorized individual transport (29 km/h). Velocities are specified for the city of Graz.

One of the main findings was that people changed their opinion on pedelecs to the positive. At the beginning test drivers were sceptical about pedelecs and about their ability to handle the pedelec technology. After the tests most of the doubts and fears were gone. The most important barrier for purchasing a pedelec for the testers is the high prize. Subsidies of Graz and the surrounding province of Styria were predominantly unknown to the testers.

Another result was that senior and medium-senior people appreciate pedelecs because pedelecs enlarge their mobility radius. „The city is getting smaller“ was a significant statement. However, if pedelecs should be part of future's transport system for senior people, one has to approach people at an earlier stage. The pedelec test revealed that people in working age who try pedelecs for their journey to workplace get a stronger connection to pedelecs than people who get in contact with pedelecs at a progressed age.

The test also revealed that testers are afraid of burglary. That's why people store their pedelec in their basement or in their flat. Consequently, they do not carry the pedelec, which has is quite heavy, out for a short trip.

Source: „Pedelec-test in Andritz“ within the „Active Access“ project: http://www.active-access.eu/docs/Aktive_Access_Pedelec_Test.pdf, accessed on 11th July, 2011.

Box of advice

- Pedelec tests should be offered to citizens more often (especially in smaller scale): Additionally to a first short test, people should have the chance to test pedelecs in their daily life for a longer period of time.
- For the tests pedelecs of good quality should be used (there is a regularly updated test report available from www.extraenergy.org).
- Within tests people should be offered information on subsidies for pedelecs.
- Firms are a target group for pedelec tests: Pedelecs could be either used for reaching the

workplace or for trips during work. Additionally, in companies many people can be reached in short time and with relatively little effort.

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Chapter: Infrastructure – Rental systems

Rental systems – cooperation between electricity company and nature park

Introduction

Many touristic regions have now discovered the pedelec as a new means of transportation for leisure activity. Also in the Austrian nature park „Almenland“ (province of Styria) a new pedelec rental system has been established. For this reason, the VERBUND (Austria's biggest electricity company) and the regional association „Naturpark Almenland“ have founded the „VERBUND Mobile Power Region GmbH“ (MPR), a company that has now purchased 50 pedelecs of the Swiss „Flyer“.

Facts and Figures

The pedelecs (40 bicycles of the C-series and 10 bicycles of the S-series (mountain bikes)) can be rented at 5 rental stations and the battery can be exchanged at 3 battery exchange stations. Local touristic businesses or restaurants host the rental stations and use a special software that has been developed by the MPR. If someone wants to rent a pedelec he/she has to submit her/his name and address which is then entered into a software programme that automatically establishes the contract. The contract has to be signed before use. After returning the pedelec the end-time is entered into the programme which calculates the price. The rates are the following: C-series (1h: 6€, 4h: 12€, 1 day: 17€), S-series (1h: 7€, 4h: 14€, 1 day: 20€). The bill can then be paid in the modes as offered by the operator. For every rented pedelec the operator receives a commission. At the end of every month the earnings of the rental less the commission are transferred to the MPR.

For 2011, the MPR plans to additionally establish a fixed rental station at the lake from where the surrounding businesses can rent the pedelecs for a monthly fee per pedelec. As described above, the customer has to sign a contract. With this contract the customer assumes the liability for the pedelec. This means he is responsible for parking and locking the pedelec accordingly. Every hotel has a list with the prices for the spare parts according to the supplier „Flyer“. If some part of the pedelec breaks the customer has to pay for this broken part. At the end of the year the MPR takes stock of the pedelecs. If one is missing, the business that gives the pedelec is charged the asset value of the pedelec. Amortization period for determining the asset value is 5 years, e.g. if a 2,5 years old pedelec was missing, the hotel would have to pay half of the original price. Optionally, the businesses that participate in the long-term renting have the possibility to contract a theft insurance. The servicing of the pedelecs is done by a local retailer who is commissioned by the MPR.

Box of advice

- Energy suppliers can be possible partners for your pedelec rental system.
- Look for local partners such as restaurants, hotels or touristic facilities where rental stations can be placed.
- Choose pedelecs of a high quality that do not break down easily.
- Clarify the liability with the customers; consider a theft insurance for the pedelecs.
- Look for a local retailer who can do the servicing of the pedelecs.

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Experiences from „Wien Energie“'s pedelec test initiative

Introduction

Wien Energie, Austria's largest energy provider, owned by the city of Vienna, and KTM, an Austrian bike company, started a big pedelec test initiative in Vienna in spring 2010. From over 500 applicants, 50 sportive men and women were chosen to test the pedelecs for two months. During this period the testers had to cycle as much as possible, share their experiences in an online blog and participate in the community meetings. The comprehensive blog is funny to read and can be obtained at Wien Energie at individual request. The five busiest cyclists and bloggers were chosen from a jury and were allowed to keep their test pedelecs for free. The overall goal of this initiative was to increase the acceptance of e-mobility and awareness of the new technology.

Facts and Figures

The planning for the pedelec test already started in summer 2009. The idea behind this initiative was to sensitize the population and to reduce CO2 emissions. On the other hand, the motivation for Wien Energie was also to increase customer ties and to strengthen the company's image. The reason for choosing KTM was the good reputation of their pedelecs and the fact that it is an Austrian company. The whole initiative was accompanied by a marketing campaign including announcements in news papers, in bike journals and on the internet including social media as well as posters on the street.

The conclusions that can be drawn from this test initiative are that the acceptance for the new mode of mobility in Vienna is high – people are interested to test e-mobility and share their experience with others. For such a broad campaign several partners are necessary (such as Löffler, UVEX, Intersport Eybl, etc.). Open questions are still the weight and the recycling of the batteries as well as the standardization of the charging infrastructure and prize and availability of vehicles. Wien Energie will continue campaigns for e-mobility focusing on infrastructure and handling of refueling accompanied by info days in Vienna, regulars' tables for e-bikers and the one or other smaller pedelec test. A online-website (tanke-wienenergie.at) will be established to inform about the further initiatives.

Apart from the pedelec test, Wien Energie already installed 25 charging stations in and around Vienna. Experience showed that pedelec users mainly charge their pedelecs at home or at established cycling places. If more charging stations are set up they should be placed at hotels and restaurants or at parking garages as well as at cycling areas.

Further more, the subsidy initiative of Wien Energie and City of Vienna has been extended until the end of 2011. Per pedelec a subsidy of 30 percent of the purchase price or max. 300 Euros are available. The application is done at MA 22 (Municipal Department for Environmental Protection in Vienna).

Box of advice

- Investing much into public charging without a clear idea on the future acceptance can easily result in lost money
- If you plan to do a broad long term testing event the promotion and visualization is very important.
- Choose a good mix of target groups in order to get an interesting variance in the lessons learned.
- Stay in intensive contact with the testers and provide them with good servicing. Incentivate them to share their experience, e. g. providing them a blog or similar.

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„Landrad“: Pedelec research project in the province of Vorarlberg, Austria

Introduction

The aim of the project was to find out how electrically assisted bicycles can substitute cars in Vorarlberg and what is the market potential for pedelecs in Vorarlberg. The project was initiated and implemented by Kairos gGmbH, additional partners were the office of the State Government of Vorarlberg, 25 bicycle retailers and the Energy Institute Vorarlberg. Landrad to date is the largest fleet test in Austria with a limited edition of 500 pieces of high quality pedelecs. The idea for the project was born in June 2008. After negotiations and the selection of the pedelec type, which is a special edition of the iStep Cross of Matra-Manufacturing, the first bikes were delivered by end of May 2009.

Facts and Figures

Between May and July 2009 500 pedelecs were sold to interested people or companies/organisations. The price was 1250 Euros for private persons and 1250 Euros excl. VAT for companies/organisations. In order to get this reduced price, the Landrad-buyers had to provide data of their pedelec-driving behaviour for the research project. The data acquisition took place between August 2009 and August 2010 and was done via online forms who were sent back via e-mail which proved to be very efficient. In addition, a GPS tracking in selected pedelecs was done to obtain more detailed information on the driving behaviour, the ranges and the speed. The results were directly transferred into the development of future projects.

One of the main questions in the project was to what extent the pedelec is able to replace car travels. The modal shift through the use of the pedelec is the following according to a poll among the test riders: 52 % of all ways done by the pedelecs in the project would have been done before the project with an ordinary bicycle; 35 % of all ways would have been done with the car. (Similar results were obtained by the Swiss project „E-TOUR“ from the year 2004: There, electric two-wheelers replaced about 30 % car travels, about 30 % ordinary bicycle trips and about 30 % travels with public transport.) A rough estimation gives a value of 230.000 car kilometres per year, which are replaced by the Landrad project. What has to be highlighted is that every fifth „Landrad“ user has changed his mobility behaviour fundamentally according to his own specifications which means that he has used the „Landrad“ much more often than the car. This shows that one can motivate people to switch their car for a pedelec. The same people would never do so, would it be only a bicycle. Also very interesting are the three main motives that lead to the purchase of a „Landrad“: „To cycle without sweating“, „to be mobile without harming the environment“ and „to drive the car less“.

What regards subsidies the results show that in Vorarlberg further subsidies are not necessary for a further spread of the technology. However, a possible subsidy strategy should consider bike weak regions and to target better shifting from the car to the pedelec.

Sources:

Kairos gGmbH, Landrad Endbericht, http://landrad.at/fileadmin/downloads/110103_bericht_landrad.pdf, accessed on 6th July, 2011. Bregenz.

Presentation of Heidi Hofmann, „Erfolgreiche Förderung von Elektrozweirädern in Schweizer Gemeinden“, held in Graz on 4th May, 2010.

BUWAL (Bundesamt für Umwelt, Wald und Landschaft) 2004: *Elektro-Zweiräder. Auswirkungen auf das Mobilitätsverhalten*. <http://www.bafu.admin.ch/publikationen/publikation/00266/index.html?lang=de>, accessed on 14th July, 2011.

E-TOUR: Electric two-wheelers on urban roads (Projekt im Rahmen des 5. EU Forschungs- und Entwicklungsrahmenprogramm), <http://www.ikaoe.unibe.ch/forschung/e-tour/>, accessed on 14th July, 2011.

Box of advice

- 35 % of the ways done with pedelecs within the Landrad project replaced car travels. Pedelecs have an additional positive environmental impact over conventional bikes.
- Subsidies are not necessarily an essential prerequisite for pedelecs to be established in the market.
- To promote pedelecs in your city for everyday traffic, to build new public charging stations is not essential. In many pedelecs, the batteries can be removed and charged anyways at every standard power socket. The situation may be different in touristic regions where tourists should be offered possibilities to recharge their pedelecs. Still, the storage of the charger during the charging remains a major problem.

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Chapter: Infrastructure – Rental systems

Pedelecs and tourism: Wörthersee-lake region in Carinthia, Austria

Introduction

The local tourist association (Veldener Tourismus GesmbH) in Velden, province of Carinthia, has decided to establish an electric vehicle rental system. The system is already realised in Velden and will be expanded to the whole Wörthersee region during the year 2012. With this initiative Velden wants to avoid CO₂-emissions and pollutants. By now, 100 vehicles (bicycles and scooters) have been ordered. The charging points are situated at 30 locations such as public places, touristic sights, restaurants and cafés, stations and hotels around the lake.

Facts and Figures

The running costs which consist of maintenance and service costs are borne by the tourist association itself and are refinanced through the rental fees. Responsible for the maintenance is an external partner who is paid a flat rate of 25 € per pedelec. For the acquisition of the vehicle fleet, subsidies of the „klima:aktiv“ program (national subsidy program) were received. The funding represented 30 % of the costs. However, if a municipality applies for funding, 50 % of the costs are covered.

The pedelecs of the brand „YOOM – Power Plus“ are provided by the company „Zimmer“ in Vienna. The rental costs for electric scooters and electric cycles are 12 € per day, 10 € for 3 hours, 50 € per week. In addition, with a „Wörthersee card“ one receives a 30 % discount. If someone wants to rent a pedelec, he/she only needs to show an identity card. There is no need of a deposit. The rental fee can be paid in cash, with bank or credit card. If a pedelec breaks down or gets stolen, an insurance will cover the costs. Currently 15-25 vehicles are rented per week.

There are two types of charging stations: hanging devices (which can be adjusted at walls) and standing devices. The charging stations consist of a stainless steel case and are equipped with slots. At the moment the charging is for free. The construction of the devices was done by a local company called „Art und Metall“ which is also responsible for the maintenance. The charging time of an empty battery to full load is three to four hours, but normally the charging does not last that long. The costs for the charging stations were covered by „Lebensland Kärnten“, an initiative for e-mobility of the provincial government of Carinthia. Costs depend on the size of the charging station (big: approx. 3500 – 5000 €, small: approx. 800 – 1500 €).

The marketing is done through the media, internet, brochures, tourism offices and business partners. Printing costs can also be subsidized by the klima:aktiv program.

Box of advice

- It is advisable to have a central coordination with a corporate design.
- Involve different stakeholders (e.g. insurance company, energy provider) from the start.
- Test the pedelecs exhaustively before purchasing.
- Use national subsidy programs (such as „klima:aktiv“ in Austria or „Lebensland Kärnten“ in Carinthia) for co-financing your project.

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klima:aktiv (subsidies): www.klimaaktiv.at

Lebensland Kärnten (catalogue with prices for charging stations; subsidies): www.lebensland.com

Österreichische Lebensmittelkette fördert E-Mobilität

Einleitung

Das österreichische Handelsunternehmen „Spar“ unterstützt die Forcierung der Elektromobilität. Besonders im Bereich Pedelecs wurden in den vergangenen Jahren mehrere Initiativen gesetzt. Zum Einen wurden in den Filialen Pedelecs zum Verkauf angeboten, zum Anderen errichtete Spar bei zahlreichen Filialen in Wien, Niederösterreich, Oberösterreich, Vorarlberg, Kärnten und der Steiermark Elektrotankstellen, an denen Strom für die Pedelecs getankt werden kann. Mit dieser Offensive möchte Spar vor allem dem hohen CO₂-Ausstoß bei den zahlreichen Einkaufsfahrten Einhalt gebieten. Gerade diese kurzen Strecken können ideal mit dem Pedelec durchgeführt werden.

Daten und Fakten

Spar führt in seinem Sortiment Pedelecs in verschiedenen Preiskategorien, davon das günstigste um 599 Euro. Im letzten Jahr wurden insgesamt (inkl. Hervis, eine österreichische Sportartikelkette) 2000 Pedelecs verkauft. Der Verkauf von Pedelecs wurde 2011 fortgesetzt. Sollte bei einem gekauften Spar-Pedelec ein Problem auftreten, so gibt es einen Servicepartner an den man sich wenden kann. Dieser ist auch für den Ersatz der Batterie zuständig. Es gibt dabei einen Vorortservice. Wenn der Kunde einen Defekt meldet, wird dieser innerhalb von 10 Tagen vorort repariert, d. h. der Kunde braucht sein Pedelec nirgends hinbringen. Die Hauptlieferanten im Supermarktbereich sind zwei österreichische Lieferanten (Schachner aus Seitenstetten und PKS aus der Steiermark; bei Hervis sind es KTM und ave.

Die zweite Schiene der Elektromobilität bei Spar sind die E-Tankstellen. In Kooperation mit lokalen Partnern errichtete Spar 60 Stromtankstellen für Pedelecs. Der Strom dafür wird in Photovoltaikanlagen produziert. Spar besitzt eigene PV Anlagen, derzeit in Murau und Weiz. Es wird der Stromverbrauch der E-Tankstellen gemessen, somit hat Spar Informationen über die Nutzung und den Verbrauch. Derzeit gibt es keine Daten über den Gesamtverbrauch. Die Kosten für eine Stromtankstelle variieren sehr stark von 1.000,- bis 10.000,- und dazu kommen noch die Verkabelungs- und Installationskosten, die standortabhängig sind, sodass die einfachsten Tankstellen etwa 2.000,- kosten. Kommt ein Kunde zum Geschäft, so kann er das Ladegerät samt Batterie in der Tankstelle verstauen und versperren und nach dem Einkauf aufgeladen wieder abholen.

Zusätzlich zum Verkauf von Pedelecs und zur Errichtung von E-Tankstellen bietet Spar auch seinen MitarbeiterInnen Vergünstigungen in Form eines 300-Euro-Gutscheins beim Kauf eines Elektrofahrrades an. Durch diese Einbeziehung sollen die Spar-Mitarbeiter zur Botschafter der E-Mobilität werden.

Durch die beständige Information über E-Mobilität durch Flugblätter sowie durch die auffälligen E-Tankstellen vor den Spar-Märkten soll die Öffentlichkeit mit dem Thema E-Mobilität vertraut werden.

Tipps

- Intensive Kommunikation (z.B. durch Events) ist sinnvoller als teure Investitionen in aufwendige E-Tankstellen.
- Es ist noch viel Aufklärungsarbeit notwendig, v.a. das Erleben, wie genussvoll das Fahren mit einem Pedelec ist.

Kontaktinformation

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Chapter: Infrastructure – Rental systems

Let's go solar! - Young people discover the pedelec

Introduction

When young people reach a certain age their mobility behaviour changes rapidly. By the age of 16 they swap from the bike to the moped and by the age of 18 they make the driving licence. With the project „Let's go solar“ the youth centre in Dornbirn, Vorarlberg (AT), wants to highlight alternative modes of transport for young people, especially the pedelec. The goal of the project is to sensitize young people about this problem and to try to change their mobility behavior to a more environmentally friendly way.

Facts and Figures

The project started in spring 2009 and in June 2009 three pedelecs of the „Landrad“ brand were bought („Landrad“ was a research project in Vorarlberg), each with a price of 1500 Euros. These brands were purchased because of the good reputation. Apart from that also two pedelecs of the brand Swift 140 from China were purchased who proved to be of low quality and broke only after short time. At first, the pedelecs were used by the staff of the youth centre when visiting young people around the city. With time the pedelecs were also tried out by the young people attending the youth centre. Now they have the chance to borrow the bikes on a daily basis. In addition to pedelecs they can also borrow scooters and segways in order to keep the interest high. The project is mainly set up within the youth centre Dornbirn, however, it is also presented at public events such as the „Dornbirn fair“ or the „environmental week“. Thus, young people and adults with similar interests get into contact with each other which is an additional benefit.

The costs for the project were about 7000 Euros. From that, 4500 Euros were spent for the three pedelecs, staff hours and public events. The costs were born by the youth centre which is subsidised by the city, the province, the state, the EU (Interreg IV), the employment service (AMS), the Hit Foundation and the Rotary Club. The running costs consisting of staff costs and repair costs are about 800 Euros per month.

The project is considered highly successful because young people visiting the youth centre in Dornbirn were induced to rethink their behavior. They are now more open towards these new modes of transport. Additionally, they are now more courageous what regards their mobility behavior. The future goals are to ensure the change of mind is sustainably established in the young people and to reach even more people.

A lesson learned was that the success of such a project essentially depends on finding the right language to talk to youngsters and to accordingly motivate them. Hence to involve the corresponding qualified staff is a must.

Box of advice

- Do an extensive research on the different products before purchasing because the prices and the quality range from very low to very high.
- Motivate young people to try out the pedelecs by organizing trips.
- Keep the focus on the factor „fun“. Offering different E-vehicles prevents getting bored.
- Organize races and obstacle tracks.

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Best practice example – Czech Republic

Replace the “Official cars with Official electric bicycles”

Many venues such as film, theatre and fashion festivals have their official carrier. Usually it's well known car manufacturer who connect its brand to the festival stars. In Cannes its Renault, for Film festival in Karlovy Vary Toyota and the Fashion Week in London coop with Mercedes-Benz.



The organisers of the well known festival TANEC PRAHA (The International Festival of Contemporary Dance and Movement Theatre) selected for the 12th edition as their official vehicle electric bicycles from ekolo.cz. Why?

The festival is taking place in June 2010 in three theatres in the center of Prague, the Czech capital. The production office is located in the suburb of Karlín and the transport during the daily rush hours from and to here is problematic.



Festival committee selected four electric bicycles – folding and city style for the production managers and runners, who were touching the tight schedule during the Festival preparation and the along the venue. Occasionally the bikes were also used by performers and dancers for the city rides.

Comparing the previous years, when the cars were used for transportation, the organizers enjoyed the speed and comfort given by bicycles. Especially the parking in a big issue in the city centre, so there were new mobile bike stands installed in front of all theaters. Interestingly they were immediately used by other cyclists as well. The Festival city e-bikes were adapted for loading over 30kg of cargo, so all leaflets distribution among the festival location was also done on the bicycle.

The usage of electric bicycles brings to the TANEK PRAHA festival interesting money and time savings. The bikes itself raise the huge public awareness for the project.

BOX OF ADVICE

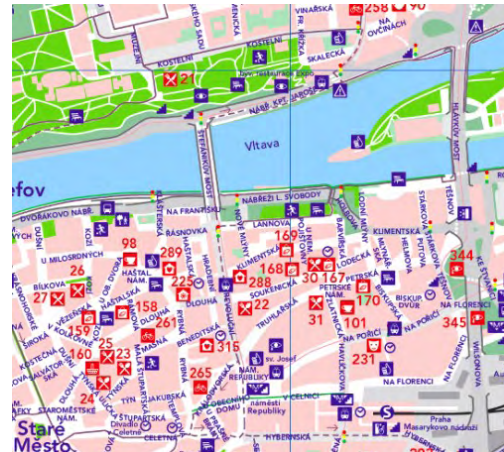
- Municipality representative could monitor events/festivals. In am to actively participate in such issues – to have clear and visible activity in such an event
- To prepare a budget for several activities (renting e-bikes cca 2000 CZK/bike/week, to hire temporary workers for spreading out leaflets etc.)
- For personal transportation, even with some light cargo, the electric bicycle is the fastest vehicle in the busy city centres.
- The electric bicycles can be hired from sponsors the same way as the “official cars”. Advertising on the Bicycles will make the venue much more visible.
- The safe parking of bicycles is easy, as the bike stands can be installed everywhere. The charging of the e-bike batteries is usually done in the office, while the bikes remain locked outside. Regarding safety it would be better to take battery out of a frame. But the safety minimum is to lock it (keep the key). There is usually no problem to recharge battery in restaurants or pubs, cafeterias if needed. It was tested several times and in 9 cases from 10 there was no problematic issue. And as Municipality participates on usage (and support it) of an e-bike it is much more better and positively accepted by



Best Practice Example – Czech Republic

Green Map Prague

The green map of Prague was made to help the citizens of Prague to get through the city easier with bikes. The green map was developed in 2010 mainly by volunteers and was published by AutoMat, a non-profit organization, with support from the Nadace Partnerství and the Ministry of the Environment of the Czech Republic. The target group for this green map is people who use any kind of bicycle in Prague.



The Green Map offers a new perspective of the city for bike riders. It differs from conventional maps in that way that it maps green living, ecological and cultural resources. It achieves this by emphasizing the city's walking and bike paths, parks and pedestrian zones. Thanks to the green map, riding with electric bikes is becoming one of the fastest ways of getting around Prague.

The green map includes hundreds of guidelines and tips like places to eat, bars etc. It is also suitable for tourists, because the cultural monuments and touristic sights which are reachable by bike are included. Furthermore the green map gives you the possibility to go around the city quickly by avoiding heavy traffic streets, and streets not suitable for bikes.

The green map has some unusual features, like the scale in the lower left corner. The scale does not show the distance, but the time in which you can walk the distance on foot or by bike.

Finally, this map is free of charge, and according to the official web site, there are around 40.000 printed maps so far. The number of green maps printed may be increased in the future. So far the feedback has been positive, and the map is being used by the bikers in Prague.

Box of Advice:

+ Green Map can be especially useful tool to boost the usage of bikes in cities that do not have developed infrastructure for bikes.

+ If the green map is available in the city where you operate, try to have samples of the green map in your showroom for bikes, so the customers can easily spot it.

- Do not put too many information on the map, it might become difficult to use.

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Best Practice Example – Czech Republic

Smart Gadgets for Smart Customers

To have an impact on society it is necessary to target as many customer groups as possible. To achieve this it is recommended to have a variety of optional equipment which suits different preferences of consumers. One group that might be of special interest for pedelec dealers are technically interested individuals. For this group of customers it is not design or conveniences that dominate their buying behaviour, but rather the technical specifications of their pedelec. To meet this interest, our shop has begun to offer different technical devices which are able to collect sophisticated data on the performance of one's pedelec.



The electric components of pedelecs turn the common bike into a quite advanced piece of technology. In the past it was common to have a speedometer on a bike, but on a pedelec the possibilities are more numerous. Connecting a gadget to the motor allows the customer to collect data on speed, voltage, current capacity and power of the battery and more. In combination with a GPS receiver it is even possible to track the changing performance of one's pedelec in different terrain. The connection of the device and a smart phone is easily achieved through Bluetooth and thanks to the internal memory, that stores data of up to 12 hours, it is possible to track an entire trip.

Maybe in the future it could also be possible to tweak your pedelec with such a device. In this way it could for example be possible to change the different steps of assistance or the responsiveness of the support. This could also appeal to the sports sector that wants to optimize the performance of their bikes to suit their need, e.g. Up-/Downhill drivers.

Offering such gadgets to customers has helped us attract people interested in electronics or individuals who are just enthusiastic about fancy gadgets. Besides, this is also a good way for dealers to track the performance of their pedelecs and also present it to customers. As we promoted gadgets for pedelecs it became clear that the relation between the dealer and customer is quite different. Usually there is information asymmetry in favour of the dealer; in other words, he knows more about technical details of pedelecs in general and his own in specific. However, technically interested consumers typically now just as much or more about pedelecs and technical details as the dealer trying to sell his product. Therefore we have found it important not to pretend to have knowledge of every technical detail, as the customer might notice and lose faith in your qualification as a dealer and service point.

Box of Advices

- + Offer special equipment for different customer groups to best satisfy their demands
- + Gadgets can be interesting for dealers to evaluate the performance of their pedelecs, as well as technically oriented customers who want to know more about their e-bike
- + Gadgets can make pedelec much more attractive for those users who are using regular bikes and are a bit afraid to change for an e-bike in regards they “loose” some of the accessories of regular bike
- + In case municipalities would be thinking of testing (to rent several e-bikes for a short period of time) pedelecs in their organization, they should focus on additional equipment which could be find as complement by regular bike. Testing such a small fleet of about four e-bikes could costs cca 8000 CZK/week and it does not stand for such a big *cut* in budget.
- Do not approach everyone with this, because ordinary customers could be bored or even alienating
- Do not pretend to know much about technical details if you don't, as interested customers are often very proficient in technical topics

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Best practice example – Czech Republic

Bike trainings for safer and happier customers

With the emergence of pedelecs it has been of great interest to attract not only people who already use a bicycle, but also new customers. After all, getting people to switch from cars to pedelecs will help the most in reducing city congestion and CO₂-emissions. However, this new target group has often very little practice in riding a bicycle and especially in a city like Prague, which has very bad infrastructure for bikes, this is a huge problem. It happened to us quite frequently that a customer who just a week before left our store with a new pedelec came back disappointed to return it, as they got scared off by city traffic.



To address this we have therefore introduced trainings for driving in a city environment which has been quite successful so far. In the last two years we offered four trainings with groups of 5 to 8 people plus a few company trainings. As all the participants had already bought their pedelec from us, we did not have to provide additional ones, making this an experiment without much to lose for us.

The trainings consisted of a short introductory presentation, where some important differences of driving a bike and a car in city traffic were made clear. After this, a short practical training in our courtyard was immediately followed by hands-on action in Prague traffic. With these trainings we have two main goals. Firstly, it should help the participants feel and actually be safer when cycling in traffic. Secondly, we wanted to give them the ability to be faster and therefore get the most out of their newly acquired pedelec.

Skills taught included basic things like how to make car drivers aware of one's presence through hand signs and signal colours, but also specifics on the best way to accelerate with a pedelec. It

is important, though, to be aware of the different skill levels of the participants. During our trainings we taught people who never sat on a bike more than a couple of times in their lives to people who cycle very frequently. To get the most out of the trainings it is therefore important to offer something for both groups, so no one gets bored or left out.

BOX OF ADVICE

- + Organize a special event with testing pedelec for your organization – for your employees, partners. Contact local company selling/renting e-bikes and ask for a price list for a day rental of several pieces of e-bikes. Ask for a trained assistance (put in budget not only renting e-bikes but costs for hired staff as well), find a common public place which is cross by bunch of people every day and make an public advertisement of a event (placed in w.e. time is convenient) in local regional newspapers, magazines, radio. Municipality should be visible and know as a administration body taking part in green transport actively.
- + When you have partners/co-workers that are new to biking it is important to probably prepare them for moving around in the city, especially in cities that do not have good bike infrastructure
- + Demonstrate to them that driving a pedelec in the city can be just as fast as or faster than travelling with a car, by showing them short cuts and other ways to be quicker
- + Organize the trainings for free when customers buy a pedelec, as these trainings should not cost you much, except a little time
- + Be aware of the different skill levels of the members of a training group
- Do not have groups of more than eight people for trainings, as this has proven for us to be hard to coordinate in traffic

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Best practice example - Czech Republic

Strike benefit - more bikes on the streets

As sometimes happens in any other European cities, Prague had to face in June one day strike - the unions announced the strike of public transport - DDP (Prague Public Transport Company) for June 16, 2011 and Prague stayed without metro, trams, bus or train services.

Thanks to this fact, many people, to avoid taking unpaid day off, tried to get to work by bike. Therefore the strike itself helped to push people use completely different transportation tool about which they would not be even thinking of due to either pure laziness or disinterest. They could get known biking to work is easier, faster and without a stress and discomfort when they stuck in traffic.

The strike led to creation of new bike routes (see the map) organized by the Municipality. Disappearance of the motor vehicles welcomed the Mayor of Prague, Bohuslav Svoboda and expressed his desire: "When I see how bikes are showing up in Prague streets ... it would be really fantastic if this remained." The increase of using bikes and electric bikes was significant. The outputs from the individual counters showed about 6 times increase of bike usage bikes compared with the average data (10 thousand people) and by this fact Prague overtook Vienna (nowadays about 34 thousand people use bikes in Vienna) and came close to "biking city", Copenhagen.



The positive scenario is - Prague could be face the same follow-ups in city biking as it had happened in Budapest in May 2008. Driving around the City was quite laborious. After one month lasting strike organized by the unions, the situation in Budapest change for the better thanks to the fact people were forced to find an alternative

transport to reach their destinations. Bicycles did improve the car situation and the pollution levels were reduced. Biking itself started to “be cool” and the much more people started to prefer bikes to the cars. Whole situation led in a debate city hall's new Budapest on Bicycles plan. The plan was ordered by the mayor's office was a sign that the authorities were beginning to change their attitude and the infrastructure of bike routes and other supportive and additional issues were put in the practice. Today c. 5-6 % Budapest citizens are biking. The number for Prague is lower, the city can offer still too little in the *bike sphere* comparing to the other European cities therefore it is necessary to use all occasion and chances rising in this issue which could be helpful for further development

- to increase kms of the routes and bike lines
- to develop whole infrastructure (parking places for bikes, stands etc.)
- to support rentals
- to give [preferential treatment](#) to bikers
- etc.

Nevertheless the actions are taking real places and the citizens are starting to be more conscious about using bike as transportation tools in daily life.

The strike in Prague took only one day, comparing to 30 days in Budapest, and the whole impact on the larger usage of a bike as a conveyance did not represent marked increase of bikers. Is more than likely the strike took more than a week, e.g. we could count with higher share bikes versus vehicles and about 1,3 % Prague citizens who would sit on a bike saddle to get to work, to shop, to visit friends etc.

BOX OF ADVICE

- + As the strike is officially announced, be ready with sufficient number of alternative type of transportation - bikes are very good one - mainly to rent.
- + Have prepared the bike routes map (free of charge in the main city points) so people have a feeling of additional support from the municipality side.
- + Any other additional services or marketing/promotion activities (as follow -up) are more than useful. To use all advantage of the current situation in city transport. Why not to use the day without a public transport as an example of new possibilities of city mobility.
- + Municipality representatives themselves should use pedelecs in aim to present the clear “green” attitude of the Municipality towards the strike. To show this *unpleasant* situation in better light - to ride on pedelecs constantly (after strike is over), to present on municipal web pages an outline (several days before the strike starts) how can people manage their transport targets alternatively, where can they rent bikes, where are map

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Best practice example – Czech Republic

Prague has its first “E-bike rental”

Since May 2011 Prague belongs to other European cities providing the E-bike rental. By opening the first E-bike rental “PREkolo” Prague is ranked among the metropolises to be seen in one day in comfort, effortless, without any rush.

E-bike rental PREkolo is a common project of **Pražská energetika Group (PRE)**, the third largest electricity supplier in the Czech Republic and **ekolo.cz**, a Czech distributor of electric bicycles. The title of rental came up quite quickly as the combination of both project actors. PREkolo it self is one of the activities of the E-mobility, in which PRE supports the development of electric cars, to electric bikes, electric scooters and takes parting in developing a network of charging stations in Prague (by the end of 2011 there will be 22 stations). PRE had been already organizing lending e-bikes for free for short-term testing for certain period of time before project start-up. The interest for rent rose up and PRE decided to address ekolo.cz in aim to cooperate on e-bike rental. The action roles were split in several directions in which PRE provides the financial funds for the project and ekolo.cz is responsible for providing several types e-bikes, running the marketing issues, and administrative and operational part.



PREkolo was situated in Prague center, on the bank of the river Vltava and offers 4 types of e-bikes: folding bike, city bike, folding bike Lowstep and mountain bike. Rental e-bike is open daily and people can rent it from 2 hours up to 14 days according their needs and convenience. As in any other rental a valid ID/ passport (in case of longer rent credit card as well) are required as renting documents. Based on the rental time there is a deposit in amount from 100 € to 500 € (possible to pay in CZK as well). There is an offer of discount for customers of PRE who can rent e-bikes for a special price. Nevertheless the pricing is very reasonable and e-bikes are obtainable for everyone. Along with individual renting e-bikes PREkolo is offering several tours with various tour focus and length. The tours are organized in English, German or Czech with guides who are trained to handle the causal repairs.

Up to now the there are 7-14 rents per day (individuals) recorded. The main require is for the week-end rents. In such cases people ask for AGOGS Uphill to be able to use them for terrain trip in countryside. On the other hand AOGGS CiyLiner and Lowstep are more than welcome for Prague city tours. The tourists from abroad themselves says about e-bike rental: "We took the e-bikes for couple of hours and we visited many famous places. It was so quick and easy! We weren't even sweating. And it's not expensive. I definitely recommend this type of transport for Prague. It is the most comfortable end exciting one."(Paraphrase of tourist from Amsterdam published on www.tripadvisor.com Aug 13, 2011).

Using bikes in Prague it self is quite popular type of transportation nowadays as the traffic is blocked by several ongoing constructions works. A hilly terrain – so typical for Prague – could represent a specific barrier for an untrained cyclist and thanks to e-bike people can achieve easily places without fatigue, strain and in shorter time than by using public transport. PREkolo represents both the right choice how to bond a joy of sightseeing with active cognition of the city (mainly for tourists) and the possibility to try e-bikes for those who had never ridden on them.

BOX OF ADVICE

- + To cooperate with a local bike produce in aim to get the city more attractive for tourists - very fast and comfortable way how to manage to see the main sightseeing in short period of time (individual or group tours organized as well).
- + Boost of variability of the city tours together with making city much more accessible and remarkable from the bike saddle.
- + The creation of a complement of *green* city map which offers a new perspective of the city for bike riders and highlights the green living, ecological and cultural resources.
- + Presentation of the co-partner (e. g an energetic company as "green" and ecological.

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Best practice example – Czech Republic

E-bike – perfect advertisement

To run successful business without tailor-made well-founded advertisement is highly inefficient. E-bikes represent modern and attractive type of transportation and the advertisement on them can effectively reach the right audience. These aspects could be effectively used from marketing and promo point of view. Pedelecs largely offer up to now unused possibilities of company brandings. By prints, stickers, notice holders or colouring of bike parts this innovative, eye catching street advertising medium attracts attention wherever it goes, delivering high-impact impressions at a very low cost per thousand.

The number of companies thinking to invest in bike fleet is increasing Comparing to 2009 where only 5,7 percent of the companies in the Czech Republic were interested in such an issue, the numbers in 2011 show increase up to 12,4 percent. The printed advertisement is variable can be designed and installed on the frame, rim, wheel (discs) or battery on e-bike and can be seen by thousands of people every day. As the bike itself can reach those secluded places other vehicles are not allowed, the advertisement is spread out largely than by using other types of transportation.

There are many ways and how to make an advertisement on-bike visible and efficient without bad taste and while keeping full functionality of the bike all at once. To use e-bike as an advertisement tools is lasting, non-invasive and quite very price reasonable way of company presentation. Not only thru the stickers the company has its promo but thru its visibility on an ecological vehicle – as firm supporting the environment and taking part in the *green transportation*.



As set sample among others is a fleet in Česká pošta (Czech Post). The fleet (240 electrical bikes and 917 bikes) is used by employees on daily working routine based and e-bikes with stickers with the company logo “travels” around the city. Even the organization of festival may benefit from the original propagation – the production of festival “Tanec Praha” (Prague dance) – 23rd International Festival of Contemporary Dance and Movement Theatre – used in June 2011 e-bikes not only as transportation (and moving advertisement) but as a cashier in the same time. Multifunctional e-bikes provided transportation to the festival organisers and photographer. With e-bike they managed to be on several places at the same time. On the other hand e-bikes themselves attract attention and that was the right impulse people untouched by



2012-01-17

the up to that moment started to search for further info.



With little constantly growth of using bikes, the significance of *bike advertisement* is growing in importance and it would be a pity not to exploit it for a multi-way benefit.

BOX OF ADVICE

- + The stickers must not stand in the way to bike utility. To use with a sense all the parts of e-bike in accordance of e-bike function.
- + This innovative, eye catching 'street' advertising medium attracts attention wherever it goes, delivering high-impact impressions at a very low cost per thousand.
- + The municipalities could use this type of advertisement connected to many issues – public notices and announcement, to distribute variable info which should be known widely.
- + To present municipality as a subject fully supporting "green" transport and pedelecs as a nature part of a life.
- + Thru announcement on pedelecs – real possibility to make an union between municipality and enterprises taking part CSR – company proving the pedelec, municipality additional supportive services thru parking slots, special cycle lines etc.

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Best practice example – Czech Republic

Electric bicycles rise awareness at MTB competitions

Everyone and everything is competitive. Why not to put on starting track bikes and electric bikes next to each other to compare the performance, power and endurance. Across the Czech Republic are organized several bike contest during the calendar year. The most popular and familiar in the sphere is “MTB” – mountain bike contest under which bikers are measuring their strengths and speed.

In May 2011 the 6th MTB contest “Konrd Man 2011”, BIKEATLON, took place in Liberec and it was specific in participation of e-bikes as well. This popular race had a time trial up the hill about 1.3 kms length and five XC rounds with a total length of 15 km. One of the bikers was riding e-bike and finished as the second one. At the end of the circuit riders had to go through a very difficult and technically challenging off-road downhill. As it turned out, final part of the circuit for the electric bicycle has been severely tested, but certainly not an obstacle. At the very beginning, many other bikers, the “orthodox” ones, who boycott any bike which has an additional help for a biker were quite disgruntled by presence of e-bike. Later it was understood the participation of e-bike within the contest is unofficial (the results were not counted) the e-bike just went thru the real challenging test in heavy terrain among the bikes.

Most of these bikers still have some prejudice towards pedelecs overall and do not get their intention and objectives. This specific group of bikers constantly give e-bike a bad look in the sense that this actually is not a bike as they strongly believe on a bike everyone must *sweat blood*. Therefore these types of fairs are a perfect occasion how to present pedelecs to a group of people who would most likely never attend the events focused strictly on the presentations of pedelecs. Among bikers themselves it is a smooth way how to introduce e-bikes to other ordinary people attending the event in aim to enjoy the bike competition. They can test and try e-bikes whole day long (during the duration of the contest) and find out their function and assets.



This contest launched follow-up participation of pedelecs on other similar fairs in June and July - "MTB 24HOURS" (24 hours race), "Šumavský MTB", marathon in Šumava mountains. In all fairs the e-bikes faced to the interest in testing and tryouts. All mentioned above is under the *stamp* of the Czech series bike contests "Kolo pro život" (Bike for life) sponsored by Česká Spořitelna. Very useful is a partnership of ekolo.cz with this sequence as that is a great occasion to demonstrate e-bikes *in all their glory*.



People participating on these races and events are able to test e-bikes not only for the race but on e-ride as well. For the disposal are usually several types of e-bikes (and different brands), guided trail with full information about e-bikes provided by trained people. The project "Kolo pro život", lasting now for 11 years, runs mountain bike races around whole country and deals with the municipalities and private organizations regarding the event spots. The places are

picked up in public accessible locations to be visited as many people as possible and to have very successful attendance with the right value added - not to organize just a content but to present other objectives. The project actively addresses thousands candidates of all ages and stands for a very beneficial launching of e-bikes to public.

BOX OF ADVICE

- + Boost the budget used for providing test rides of e-bikes on such events.
- + Close cooperation with *bikes show* organizers - to be informed about the planned contest/event, to communicate in person or via mail to get finalized vision of whole action in aim to be able to take part in
- + Actively participate on events connected with bike contests to promote e-bikes as part of "cyclo world" - to be presented in person (or on behalf of) to be visible that the municipal body is standing on the *green style* side
- + To stock all data about the event for further evaluation (e.g. How many people were presented, how many of



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Best practice example – Czech Republic

Vodafone has its own e-bikes fleet

Since July 19, 2011 each of the 1,100 employees of Vodafone Czech Republic (one of three Czech mobile operator) at the company headquarter in Prague has an opportunity to travel around the city faster than a car, more comfortably and without sweat.

Vodafone presents itself as a company conscious of the environment. At the beginning of 2011 the firm started to run the campaign "First Green Network" – usage of energy sources to the maximum extent possible from renewable energy. To follow the company's internal strategy to be part of Corporate Social Responsibility (CRS) in April 2011 the company leased in the long term the electrical vehicle *smart ed* for Vodafone's employees free disposal. This act was soon followed up by the idea to enlarge the Vodafone fleet about the electrical bikes. The company ekolo.cz was one of the addressed companies and promptly provided lease of three electric bicycles, popular model of folding pedepec - AGOGS SilverGo. The technical maintenance of all e-bikes is fully covered by the provider of pedepec fleet.



The current project of lease the bicycles started in the middle of July, and will last for three months. Vodafone's employees have now the possibility to pick up the e-bike at headquarter and easily move from "point A to point B". As Mrs. Kateřina Husová, project coordinator representing Vodafone says: „Our company presents as one of the leaders in term of CRS, innovation and modern, green lifestyle.

We now offer our employees free e-bikes for their disposal to use them for their transportation to home or business meetings. It is the next step towards sustainable transportation of 21 century after the pilot electrical vehicle in our fleet". The interest to use bikes is notable, 4 employees take a bike per day in average and they take them for a week-end, in this case they usually take 2 of them, for one of the relatives (even family relatives are allowed to use the pedepec).

Mostly the bikes take place in daily working routine - the employees use them for the transport within their job. To active usage of pedepecs precedes getting familiar with the Rent conditions and Instructions for use. These are available both electronically and on paper. And Mrs. Husová adds: "We really appreciate the possibility of this kind of pedepec testing. It seems like our employee like to use pedepec during their working to have much pleasant ride. Thanks to the direct personal experience of electric bike there is fall

off prejudice linked to traffic hazards, slow ride on a bike or sweating. Our company of whole test project is profiting as well – no customer cannot overlook an interesting bikes parked at the reception. The company is realizing its green-life style, plus our employees come to work refreshed and rested and less reliant on cars. I do believe that our fleet of electric bikes will gradually expand."

Today, three months since the start up of project, the testing is evaluated. Based on the gained data and success within the employees, Vodafone will took the decision to buy a standard electric bicycle fleet, not only for its headquarter but also for its branches – Callcenter in Teplice and IT dataroom in Ricany, outside Prague.

BOX OF ADVICE

- + Bond with large corporation, one of the biggest leaders in CRS on the local market – close cooperation between the company and municipality. To make visible and known aware the companies in municipality follow the ecological way of transportation.
- + New type of benefit for the employees from the employer's side and offering better working (out of work as well) conditions – could be used as a benefit for municipality employees as well.
- + Highlighted actions taken under CSR – very good opportunity of presentation company/municipality taking part in "green" policy of transport.
- + To sent municipality representatives to one of the workshops focused on e-mobility to be aware of an info and to collect or needed details in aim to submit a

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Best practice examples of Stuttgart

4 March 2011

PEDELECS AS MUNICIPAL VEHICLES

Electric mobility has become one of the key topics for the City of Stuttgart. The municipality has developed a strategy for the promotion and implementation of electric mobility in the city. Stuttgart was one of the first



cities in Germany to present together with ExtraEnergy a test track for Pedelecs to citizens. Since 2009 municipal employees can use a **"Stuttgart Pedelec"**. The municipality has leased twenty Pedelecs with a special design (official colours and logo) in order to pursue two objectives:

- 1) The **testing of Pedelecs** as official vehicles for employees who have to move a lot in the city, e.g. school janitors who have to lock four schools every evening or construction site controllers.
- 2) **Raise awareness** among citizens about this new way of "cycling without sweating" which is very important in a city with 300 meters of height difference.

Twenty Pedelecs are available in the city hall and other municipal departments. The municipal fleet also includes 25 e-scooters which in cooperation with the energy provider Energie Baden-Württemberg (EnBW) are being tested by municipal employees. The reactions of the testers are very positive.



BOX OF ADVICE

- It is recommendable for municipalities to look for the best offer by a **public procurement process**. In Stuttgart the best option was a leasing model.
- Users have to get a **special training** before getting permission to use the Pedelec.
- **Different operator models** are possible. In the Municipality of Stuttgart there are Pedelecs assigned to one person. In the city hall two Pedelecs can be used by all employees and also by members of the city council. The handing over and the charging are managed by the porter.

Best practice examples of Stuttgart

PEDELEC TEST WEEKS FOR COMPANIES IN AACHEN

The City of Aachen in Germany (258.000 inhabitants) has set up a bike rental system called **“Radstation Aachen”** which includes since 2009 twelve pedelecs (15 Euros per day). These pedelecs can be used also by municipal staff. A special highlight is a pedelec which is designed for handicapped people or people with limited physical capacities. The pedelec has three wheels and a range of 50 km.

A good example of Aachen on how to combine pedelecs with corporate mobility management is the project **“Pedelec test weeks for companies”** which ran from



Pedelec test weeks for companies in Aachen

June to September 2010. The project was financed by the City of Aachen and STAWAG (Stadtwerke Aachen, local energy supplier). Thirteen companies that applied for the project had the opportunity to test five pedelecs (including charging devices) during one week. The users received a training unit and could receive technical support at any time. The companies participating in the project only had to provide a safe parking space and take over the charging of the pedelecs.

The action was initiated by the departments of environment, urban development and transport of the city of Aachen as part of the clean air plan. The city wants to promote environmentally and health conscious mobility behaviour and aims at a reduction of the pollution originated by transport. The Chamber of Commerce Aachen (IHK Aachen), which supported the project, advises companies to more efficient and environmentally friendly travel.

In the test week, the bike station at the main train station delivered every Monday five pedelecs and charging facilities to a company and collected them Fridays. Technical training and maintenance were included in the service. The project was a success; the offer was fully booked by the companies during the 13 weeks of duration.

Best practice examples of Stuttgart

10 March 2011

ZUMO - SUSTAINABLE TOURISM IN THE BLACK FOREST

The tourism project "Future Mobility in the holiday region of the Black Forest" (ZUMO) is the first practical project as part of the "Initiative Zukunftsmobilität" (Initiative Future Mobility). ZUMO for the first time creates



an entire climate-friendly mobility chain in a tourist destination, in order to enjoy full leisure activities with unlimited mobility and maximum protection of climate in the Black Forest.

The first step of realization is an offer of specially designed travel packages focusing on future mobility. During the "Automobile Summer 2011" these packages can be booked at travel agencies. The holiday guests can enjoy their holidays with a "good conscience" and "full mobility" - by using electro-vehicles. The range extends from individual tours with pedelecs and segways to the use of electrically powered scooters or cars. The use of the vehicles is included in the price of the stay in the Black Forest. The energy for the vehicles is 100% from renewable and regional energy sources.



The Black Forest Tourist Association offers a one-week stay between 30.7.2011 and 10.9.2011. The trip is optionally available in four cities and regions in the Black Forest and includes travel by train, a CO2-neutral car with the latest drive technology, the overnight stays and attractive tour programs. The guests can move freely with "their" car. They get an

orientation map showing the location of charging stations and tourist attractions.

The accommodations are available in the mountains of the southern Black Forest (Todtnau and Schönaue) and the holiday region of central Black Forest (Triburg, Furtwangen and Schonach).

During their stay, the guests can choose for free climate-friendly vehicles such as segways and pedelecs. They have also the possibility to use CONE – the public transport system with bus and train in the beautiful Black Forest landscape. This extraordinary programme inspires to make new experiences and also raises the environmental awareness of the tourists. The “zumovacation” in the Black Forest is a pilot project, which will surely be a model for vacations in the future.

BOX OF ADVICE

- The project is a good example for an overall and broad approach to sustainable mobility in the field of tourism. It is important to accompany the offer with an awareness campaign.
- It is very important not only to hand out the vehicles, but also to provide charging infrastructure and technical guidance.
- The key to success is to incorporate the use of electro-vehicles in the holiday package in order to overcome possible inhibitions of the users.

Best practice examples of Germany

ALLGÄU REGION - PEDELEC NETWORK



Generally, cities and public utility companies are seen as the ideal partners in promoting electric mobility. It is even widely assumed that municipalities first have to provide the necessary infrastructure to allow users to recharge their e-vehicles in many public locations before potential clients would start purchasing these instead of conventional ones.

As the following example of the local use of electric vehicles within the framework of the CO2NeuTrAlp project of the EU programme “Alpine Space” shows, there is no doubt that local authorities can make valuable contributions to the development of sound strategies to promote e-mobility. However, it is evident that without national governments setting the legal and tax related frame conditions right, and without industry responding with proper technology and products to a massive demand of electric vehicles, cities will remain powerless as promoters of the “age of solar mobility”.



The regional power supplier *Allgäuer Überlandwerk* has managed to bring together all relevant local and regional stakeholders to launch the age of electric mobility in one of Germany’s leading tourism regions. Within a few months, 250 hotels, restaurants and bike retailers joined in a network of pedelec rental and battery exchange stations throughout the Allgäu.

The partner who is providing the pedelecs of the brand Swiss Flyer is the company “Movelo” with Berchtesgaden, Germany. pedelecs in many a network of 1.000 high season, Movelo offers maintenance service to pedelecs. Even for free exchange batteries is attracts further clients who pedelec. For 2011 have planned to double the within the network.



headquarters in Movelo offers more than 4.500 European regions and has built cooperation partners. During an attractive leasing and build-up a rental fleet of Flyer restaurants, the provision of profitable, as this service tour trough the Allgäu by enthusiastic tourism partners number of pedelecs and stations

Without an expensive marketing initiative, the Allgäu region is already widely

associated with “green” electric mobility. Since 2009, “eE-Tour Allgäu”, an important R&D project funded by the German Ministry of Economy, even puts the region in a pole position regarding the development of intelligent e-vehicle management and smart grid technology.

Best practice examples of Stuttgart

SOEST COUNTY - CYCLING WITH BUILT-IN TAILWIND

The Soest County in the Federal State of Nordrhein-Westfalen, Germany covers an area of 1.327 km² and 305.000 inhabitants. There is a good cycling infrastructure of 450 km of cycle tracks across the county.



The county's company for economic promotion has invited the departments for marketing and tourism of the cities in the county and private companies to join an initiative for e-bikes. The result of the common effort was a network of stations for rental and charging which are spread all over the county.

All stations offer unitary rental fees and free charging:

- Half Day: 15 Euro
- Day: 25 Euro
- 3 Days: 60 Euro



An innovative element of the system is the close link to the network of thematic routes and long distance cycle ways in the county. A flyer for the pedelec users shows a map with 8 regional thematic and 7 supra-regional long distance routes across the county area – and of course the location of the stations for rental and charging.

Additional offers such as a “cycling magazine”, cycling-friendly hotels and restaurants, guided tours and the possibility to use of the “cycling bus” complete this unique offer.

Best practice examples of Germany

PEDELEC PROMOTION STRATEGY IN AACHEN

The City of Aachen in Germany (258.000 inhabitants) has set up an overall strategy for the promotion of pedelecs. The pedelec strategy is a key element of the strategic plan for e-mobility in Aachen ("Strategieplan Elektromobilität Region Aachen").



As one of the cities in the „Model Region Electric Mobility Rhein Ruhr“ (one of eight model regions in Germany supported by the National Government), the city of Aachen has set up a strategy for the increasing use of e-mobility. The ambitious aim is to have 10.000 e-bikes in Aachen by 2015. This means that in 2015, one of 20 bike owners in Aachen will own a pedelec. There are actually no data available about the existing number of pedelecs in Aachen, for this reason the city administration included a question referring to that in the "mobility survey 2011"; the results of the survey are expected for autumn 2011.



Right now, there is huge variety of measures and offers in order to incentive the use of pedelecs:

- Expanding the cycle path network, e.g. by marking of new bicycle lanes
- Motivating employers to create secure storage space for e-bikes and to authorize the charging of the batteries in the workplace.
- Award for "bike-friendly employer" of the year

- Controlled bicycle parking at events by the bike station WABE eV
- Homepage with information under www.aachen.de / E-Bike
- Information meetings for citizens about e-bikes. There has been a first event on June 30, 2011, with 110 participants.
- Test drive and expert advice in the shops of many bicycle retailers, There is a list of retailers in the homepage (http://www.aachen.de/DE/stadt_buerger/verkehr_strasse/verkehrskonzepte/elektronomobilitaet/E-Bike/index.html)
- Grants up to 150 Euro for customers of local energy supplier STAWAG
- Subsidies of the city administration up to 150 Euro /bike for companies in the park zone "East2".
- In 2009, the city has purchased 12 pedelecs Aachen. Anyone can rent these at the bike station at the main station.
- Together with the Deutsche Bahn, STAWAG and ASEAG there will start in Autumn 2011 a new rental system with pedelecs (as in Berlin, Frankfurt and Stuttgart). There are three stations in the pilot phase where pedelecs can be rented at reasonable prices around the clock, for example, 4 Euros for 4 hours of use. The continuation of the project depends on whether citizens or tourists make frequent use of this convenient solution.
- Last but not least, the city and the KALEIDOSKOP, a forum for films, have started the a serious of roadshows called "Red Carpet for Aachen". In ten events at different public places in Aachen, there will be shown short films and pedelecs to the public (http://www.aachen.de/DE/stadt_buerger/verkehr_strasse/verkehrskonzepte/elektronomobilitaet/E-Bike/E-Bikes_on_Tour.html).
- Recently there has been designed a new logo as a trademark for all activities (see above).

All activities of the City administration in the field of mobility are part of the program: "Mitmachen – aufatmen" (Participate, breathe deeply) of the City of Aachen for a better climate.



Best practice examples of Stuttgart

November 2011

PUBLIC BIKE RENTAL SYSTEM WITH PEDELECS

Since 2007, the German Railway Company Deutsche Bahn AG (DB) has been offering the public bike rental system "call a bike" in several German cities. Users have to be registered once by phone or via the website as members of the call a bike community. There are different forms of call a bike in Germany: Some cities like Cologne or Berlin provide a free system, that means that the users can catch the bike or deliver the bike at any place in the city. Stuttgart decided to establish a station-bound system ("call a bike fix") with 60 stations in the city where the bikes have to be rented or delivered. The 450 bicycles could be rented by mobile phone only. In order to promote the use of call a bike, the City of Stuttgart gives a yearly subsidy of 100.000 Euro to offer a cost-free use of the bikes for the first 30 minutes. The system was well received, in 2010 there were more than 5.000 registered users and a total of 80.000 trips, mostly of young male persons in the evening or at night.



In 2009, the German Government made a call for innovative bike rental systems. DB and Stuttgart decided to participate and developed together a new system with bikes and pedelecs. The partners finally won a grant of 3

Million Euro of the German government. The overall aims were a new mixed offer of pedelecs and bicycles at all stations, a charging infrastructure, an easy handling and the integration in public transport.

In November 2011, the e-call a bike system was launched. There are 44 stations with currently 60 pedelecs (from January 2012 on 100) and 450 bicycles. Every station has a new designed terminal with a touch screen and slots for the DB customer card and ec/credit cards. The pedelec is the same vehicle as the conventional bike plus motor and battery. In order to avoid destruction by vandalism, there are no buttons or displays, only a small LED which shows if the battery is charged or not by a green or red light. The motor is from *BionX*, it starts automatically when the pedelec is being moved. The drivers can choose between 3 gears. Despite the weight of more than 20 kg, the handling of the bike is easy, especially the brakes are excellent.



The installation of the charging facility was a huge effort, as all stations needed to be provided with a standard power connection. The solution was a subterranean *serial bus* with connection to charging devices. The cable which is used to lock the pedelec to the station has an integrated plug, so if the pedelec is locked, its battery will be charged. If the plug is connected correctly, a green or red light on the top of the locker columns shows the actual charging status of the battery. A pedelec with less than 20% of

energy level is blocked for rental until it is charged again to an acceptable level.

For better service at the stations, DB has developed a terminal which is being used in Berlin and Hamburg. It is possible to rent a bicycle or to bring it back, using the menu on the touch screen of the terminal. In Stuttgart there are different terminals due to cooperation with energy supplier EnBW in the field of electro-scooters. EnBW is promoting electromobility in the Stuttgart region, and therefore it carried out a one-year-test with 700 "elmoto"-scooters with participation of citizens, companies and local authorities. The test has ended in August 2011. Users have driven more than 1 million kilometres. Based on this experience, EnBW decided to co-finance the terminals provided that they are modified in order to serve as charging facilities for e-bikes. The result is a flat terminal column with a "blue side" for EnBW with two sockets for the charging plugs of e-bikes, and a "red side" for DB with the touch screen for the bike rental. So there are 90 charging sockets for e-bikes in Stuttgart, which is the basis for a good supply of the users of e-bikes and scooters all over the city. The energy is "green energy" form renewable sources.



Prices

While the normal *Call a bike* bicycles can be used for free in the first 30 minutes, the use of *e-Call a bike* pedelecs costs 12 cent per minute (daily rate 22,50 Euro). Another alternative is to pay a yearly flat rate of 54 Euro. In this tariff the first 30 minutes are free of charge. For frequent public transport users of DB and the regional transport consortium (VVS), who posses a yearly ticket, there is a discount.

BOX OF ADVICE

- It is important to **test the pedelecs** with a close user group before operation starts. Thanks to a four week test with 20 users many technical problems were identified and resolved.
- The launch must be accompanied by a **marketing campaign** tailored to the target groups. For example through the distribution of teaser postcards in clubs, bars and restaurants.
- Aspects like the **limitation of public space** for the stations should be taken into account.
- Different **charging offers** (for pedelecs, e-bikes, etc.) should be combined to reduce costs and space demand.

01_ BEST PRACTICE CALL FOR BIKE SHARING MEASURES

Financial Incentives

In 2010, the Ministry of Environment has issued a call for projects for **bike-sharing measures with pedelecs** combined with energy efficiency and renewables (innovative systems, installation of charging stations, use of renewable energy). To co-finance these projects the Ministry has allocated 14 millions of Euros of State funds., in order to promote the sustainable mobility with zero emissions.

Beneficiaries of funding were Municipalities and regional managers of national parks even under association for the following activities:

- Achievement of cycling lines with at least a control point with webcam;
- Construction of parking for bicycles in public area;
- Pedelec rental system with innovative devices;
- Installation of charging columns;
- Renewables to support bikesharing services;
- Computer systems and network to monitor and distant management of bicycles;
- Communication and dissemination of sustainable mobility and renewables.

Priority requirements for approval of proposals were:

- Creation of a network of cycling lines;
- Synergy with other measures for sustainable mobility;
- Buildable measures;
- Quality of communication action;
- Presence of agreements already signed (interchange areas, ecc);
- Co-financing required.

Co-financing was at maximum of 80% of eligible cost at maximum **€ 500.000,00 (VAT excluded)**; for communication and dissemination initiative co-financing is at maximum of 10% of eligible costs (at maximum of **€ 25.000,00**).

At first Ministry delivers a pre-financing of 50% (works have to start until 120 days after communication of the proposal approval), the **final financing** is provided at the end of works (works have to end in 365 days).

To date **367** applications form have been submitted **from all Italy uniformly**.

57 proposals were approved (46 municipalities and 11 managership of National Parks).

Contact: bike.rinnovabili@minambiente.it

Box of Advice:

- Particular attention in creating a network of cycling lines and synergy between sustainable mobility and innovative technologies.
- Searching for the quality in communication.

BEST PRACTICE PEDELEC RENT – BICINCITTA'

How *Bicincittà* works

Through the use of an [electronic pass](#), each individual user can take his/her bicycle or pedelec from any bike-parking stand present in the city and return it wherever they find an open parking space - even in a different rack from the original. The parked bicycle will be automatically available for the next cyclist.

Every movement of the bicycles is transmitted to a server that updates in real time their availability in the area, so you can view in real time the available bikes just going to the website www.bicincitta.com.

Each cyclist, by his electronic card, is registered in the server. The system's interface supplies us with the user's personal information at the moment of the hire, giving us a general overview of who is exploiting the system. As a result we can analyze bike movements and study their statistics in order to increase or decrease the number of bicycles according to demand.

The personal touch

To spread the word about *Bicincittà* to all potential bike riders, it is necessary to focus attention on service's public image. Firstly, the equipment and structures are personalized according to a precise design study to reflect the style and tones of the agency (the bikes, the bike-parking, the parking signs and the electric card are all [personalized](#) by means of white *Bicincittà* lettering on a blue background), the next step is personalizing the advertising campaign using the follow

- Flyers/pamphlets
- Posters
- Upright displays
- Temporary promotional towers
- Promotional freebies and souve



The itinerary panel

In order to communicate the proper use of the system, *Bicincittà* offers a series of informative panels: either free-standing signs or directional signals imbedded with the aim of leading the cyclist easily through the historic center, surrounding neighborhoods, parks and bike paths.

Contact: comunicare@spaziocomune.com

Box of Advice:

- You can view in [real time](#) the available bikes in that moment.
- The system can analyze bike movements and study their statistics in order to increase or decrease the number of bicycles according to demand.
- The equipment and structures are personalized according to a precise design study to reflect the style and tones of the project

04_BEST PRACTICE – MUNICIPALITY OF BRESCIA

Campaign: Today I try another way.

The aim of this campaign, started in 2006, was to convert municipalities employees who use cars to get to work using pedelec and to reduce traffic, during working hours and lunch break.

A questionnaire was done to detect the main features of commuting for employees of the different operating units of the municipality.

Number 5 racks were installed with 14 pedelecs available for municipality employees.

Employees who want use the pedelec (until now 50) have to sign a form with the requested period (up to one month or more) and use the pedelec at least 2/3 time of the requested period signed in the form.

After every use they have to compile a questionnaire with date of use, time of departure, travel time, observations (*Critical of the route, number of cars parked on bike path or along the roadway, Presence of holes, sidewalks unsmoothed, advantages and disadvantages*).

Pedelecs are charged in *charging points* sited in the municipality venue.

The municipality has spent € 130.000 to buy pedelecs and electric scooter, thanks to CIVES help (Italian Commission for electric vehicles) who makes a gentle agreement with pedelecs manufacturers. Thanks to this initiative it was possible to buy 304 pedelecs and bicycles (including bicycles purchased by resident citizens with local incentives), 15 electric scooters and 64 old scooters scrapping.



Box of Advice:

- Questionnaire after use is really important in order to have immediately a feedback also about route conditions
- It's important to make gentle agreement with several pedelecs manufacturers

Contact: mobility.manager@comune.brescia.it

03_BEST PRACTICE_REGION OF VENETO

In december 2002, Veneto Region has carried an awareness campaign financing the purchase of pedelecs and providing € 360,000.00 for capital towns Venice, Verona, Treviso, Padua and Rovigo. These municipalities have quickly run out of funds available thanks to the great interest aroused among the citizens. Based on this success the Region has allocated new funds also for municipalities "at risk PM10":

- **in 2004:** € 430,000.00
- **in 2005:** € 600,000.00
- **in 2006:** € 320,000.00

In order to regulate the initiative, a "Letter of Intent" signed by the Veneto Region and pedelecs retailers /manufacturers has been prepared.

Main Letter of intent contents are:

- *The incentive for each pedelec was € 250,00 and may not exceed 50% of the vehicle's price;*
- *Signatory companies have to indicate the list of pedelecs for sale, with technical characteristics, fixed prices and assure a promotional discount*
- *The manufacturers have to assure to the citizens a maintenance services and supply of spare parts etc.*
- *The traders are responsible in collecting old batteries when citizens replace the battery and they also must dispose of the batteries in accordance with current legislation (usually through the Consortium Required batteries - COBAT).*
- *The Region and municipalities can make audits on products, costs and availability of spare parts.*

Procedure to buy pedelecs:

- *Citizen who want to buy a pedelec (1 pedelec per citizen) must go to one of the shops who joined the awareness campaign*
- *The retailer, first of all, have to verify the availability of the fund by calling own Municipality and will receive a "financing reservation number"*
- *Citizen will pay the price minus the regional contribution.*
- *Municipalities will pay dealers within 60 days from the contribution request.*

*Thanks to this best financial instrument n° **6.840 pedelecs were sold.***

Box of Advice:

- *A Letter of Intent is essential to regulate relationships between public administration and retailers*
- *It's important that retailers assure maintenance services and disposal of old batteries*
- *The percentage of discount it's a retailer choice*

06_BEST PRACTICE_MUNICIPALITY OF NAPLES



In February 2000, the municipality of Naples launched an action aimed at reducing emissions generated by two-cycle engines used by mopeds, which are primarily responsible for benzene concentrations in urban areas.

Electric scooters and Pedelecs offer an interesting alternative, but their sales price - at almost twice that of traditional vehicles - remains prohibitive.

To encourage people to use electric scooters and pedelecs the municipality of Naples and manufacturers of electric vehicles signed a joint agreement: the municipality paid 40% of the production cost of these scooters, and the manufacturer applied a 15% discount to the sales price. Thanks to this measure, the price of electric scooters and pedelecs became more competitive than that of traditional vehicles. The municipality also paid an additional amount for old and polluting vehicles that are turned in when a new one is purchased.

This financial incentive measure was advertised through a campaign that bore the slogan: "It's time to change: move to electricity - pollute less and move ahead". Publicity took the form of posters, brochures, press conferences, a free telephone number and radio spots. A page on the ANEA's Internet site gives all of the necessary information to take advantage of the subsidies, as well as the list of dealers participating in the operation. The participation form could also be downloaded there.

In order to convince citizens of the ability of electric vehicles to perform, the municipality and the ANEA organised a demonstration day called the "2nd Ecomotor Show". It took place during an "Ecological Sunday", a day that is set aside every month in accordance with the principle of the European day called "In the city without my car!". On a major promenade in Naples, two test routes were set up in which most electric vehicle builders participated. A special stand, set up to teach people about general environmental problems, received 3,000 visitors.

This programme, which was financed by the municipality, cost 620.000,00 euros. Approximately 500 pedelecs were sold to people whose profile was determined very precisely: they were mostly adults from 30 to 60 years old, with an advanced educational level, with a job requiring technical expertise or skills, and with comfortable income. They are aware of environmental problems and, in particular, of the linkage between atmospheric pollution and traffic.

Direct and personal contacts constitute an important element in the campaign in order to instil long-lasting good habits. For this reason, the campaign was closely monitored and relationships were established with participants in order to collect their reactions, comments and suggestions. Three methods were used to this end:

- whenever subsidy requests were made, interested persons had to fill out a form indicating among other things their age and profession,
- when purchasing, they also filled out a questionnaire in order to ask certain, among other things, their reasons for taking advantage of this offer,
- they were then questioned by telephone on their degree of satisfaction with the electric vehicle and on their suggestions.

The telephone contacts are particularly useful. They provide precious information in order to tailor the action to the needs and the expectations of citizens.

Box of Advice:

- To define high quality parameters
- To identify several pedelec's manufacturers in order to satisfy all needs and age
- To make a good information campaign
- To monitor campaign results with telephone contacts

05_BEST PRACTICE_UNIVERSITY OF CATANIA



‘Pro.bici’ service

The mobility management office of the University of Catania (MOMACT), since April 2010 provides the service named ‘Pro.bici’ to employees, researchers and professors. They can borrow a *pedelec* from MOMACT and use it for work-based trips, thus avoiding to use University cars or their own vehicles.



MOMACT has bought three pedelecs with own funds and maintenance is carried out by a dealer closed to Momact office. The service runs from Mondays to Fridays from 8:30 am till 1:00 pm. To get the *pedelec*, it's enough to book the bicycle by phone or e-mail and fill a simple form.

The main objective of the service is to promote the culture of sustainable mobility among the personnel and to show how can be easy and amusing to travel by bike instead than by car in the urban centre. Since its beginning the service has been used by some teachers and many employees. At the present day many of them consider it essential and get disappointed if they find that all bikes have been already booked.

MOMACT promoted the use of pedelec by means of many activities and events:

- In October 2010 an internal dissemination meeting was organised, named “MOMACT: avvertenze e modalità d’uso”. Employees were invited to a small cocktail and while talking about sustainable mobility, had the opportunity to have a look and try pedelecs;



- In November 2010 MOMACT organised an event within the framework of the ESD (Education for Sustainable Development) Decade promoted by UNESCO, in 2010 dedicated to sustainable mobility. Among other activities (conferences, technical tables, personal travel plans) MOMACT placed its e-bikes at citizens' disposal in one of the most beautiful square of the historical centre of Catania (Piazza Università), inviting them to ride along a special path closed to traffic, involving more than 200 people.



MOMACT still keeps on promoting the use of pedelecs. Some internal statistics show that during the last months the rate of pedelec booking is increased, thus transforming an experimental initiative into a real service.

07_ BEST PRACTICE FOR EMPLOYEES

Pescara: Best-practices to promote Pedelec

Pescara is one of the top 30 European cities most polluted by PM10, so the project was born from the estimation that only by calculating a displacement of 10 km per day, using a pedelec, in a month and only on working days, 1 pedelec can already saves about 40 kg of CO2.

In this context FATER Spa, a Pescara Company, in 2010 launched an incentive plan to help own employees to purchase Pedelec to be used both for travel from home to work, both for leisure.

The company has financed the 60-70% of the pedelec value and the remaining part could be paid in 14 months, and deducted from their payslip, without interest rates.

Most of employees travel more than 20 km per day. Using a pedelec, instead of the car, they will save 46 euros per month.

In few weeks, 130 Fater employees has requested the incentive. As a result it could be estimated a monthly reduction of about 5,148 kg of CO2.

The project is part of a broader sustainability strategy that the company is developing. From December 2010, in fact, a new network of bike paths, built by the Province of Pescara with the contribution of Fater Spa, will offer citizens a different way to get around the city.

An evaluation survey was held in 2011. The 80,3% of those interviewed declared that, since they have the pedelec, they use the car less. The 53% found personal advantages (no traffic, physical motion, easy parking). The 96% is completely satisfied with the features of pedelec choice.

This represents an excellent example of how the synergy between public and private sectors can deliver benefits to the urban environment and an excellent model easily replicable in many other Italian and European cities.



Contact: sambuco.m@fater.it

Box of Advice:

- The incentive to sustainable mobility by using pedelec is accompanied by an adjustment of infrastructures and urban design.
- It is necessary a synergy between public and private sector.

08_ BEST PRACTICE FOR CITIZENS

The **BI-BO** project is promoted by a group of active citizens called "Primavera urbana" (Urban Spring) with the aim of making Bologna a city more welcoming, cleaner, richer in cultural opportunities and socialization. With own resources, the group purchased an electric *rickshaw* and put it at the disposal of citizens, with the help of volunteers cyclists who carrying, for free, all the people who need to travel within the historical city center.

The BI-BO vehicle is a *rickshaw* with some special technical features:

- It is reclined (sitting more comfortable then a traditional bicycle)
- It has 3 wheels (for the benefit of stability)
- It is able to carry - in addition to the driver - two people and their bags
- It is electric assisted pedal (which is acceptable, especially when loading large)
- It is faired (for maximum protection in case of rain)
- It is equipped with a photovoltaic panel on the roof, in order to charge partially the battery of the electric motor increasing its autonomy.



No monetary compensation can be accepted, but citizens can support the purchase of additional rickshaw to enhance the service by making a voluntary donation. Just for this reason there is a clear bank account accessible from the site www.bi-bo.it.

Each volunteer cyclist can devote the time he wants and he can. It is welcome even a minimum commitment, as long as regular. Everybody can stop BI-BO along the road and hitch a ride.

The initiative was welcomed by dealers who are displaying a poster advertising the project. With BI-BO citizens can be carried directly in front of shops in the center.

Bi-Bo is also available on Friday and Saturday nights to provide free transport even in the most dark and less busy streets of historical city center.

Long-term objectives are:

- to promote the expansion of the BI-BO transport network
- to develop alternative public transport and eco-friendly;
- to promote the traffic limitation of the old town;
- to promote the socialization;
- to make the center safer and less degraded;
- to create new job opportunities for students, unemployed and migrant workers
- to make BI-BO a project supported by the public administration.

Box of Advice:

- Purchase rickshaw with private sources
- To catch volunteer cyclist
- Accept voluntary donation only by bank account

Contacts: www.bi-bo.it +39 393 0202456

Gopedelec best practice Utrecht NL

Regional 'electric' bike map

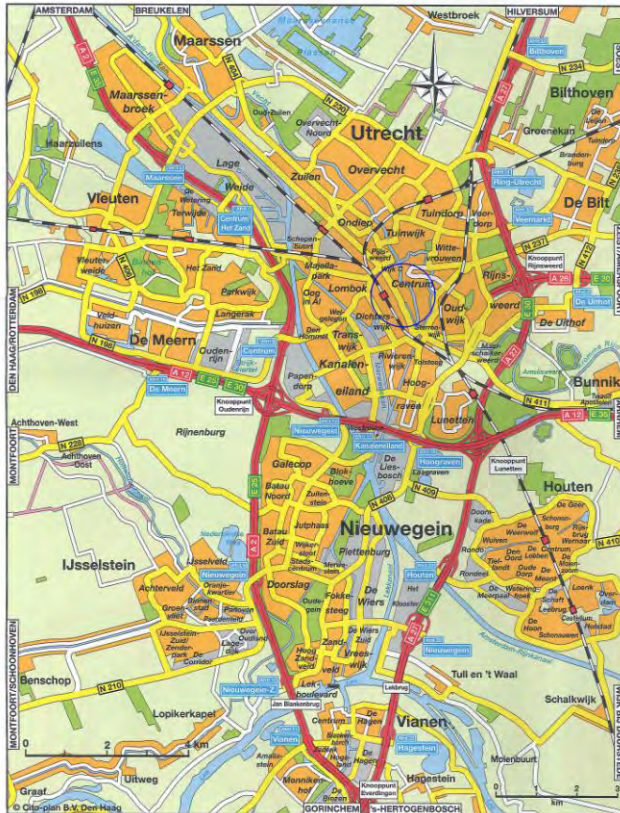
Author: Ruud Ditewig municipality of Utrecht



Regional bike route in the Utrecht region

Introduction

The city of Utrecht itself has a population of 310,000. The build up area of the city is 6 km x 8 km. But Utrecht is part of a larger region.



Around the city there are several suburbs, like Bilthoven, De Bilt, Zeist, Bunnik, Houten, Nieuwegein, IJsselstein, De Meern, Vleuten and Maarsse.

The total population of this region is 650,000. The build up area is 15 km. x 20 km. (see map above).

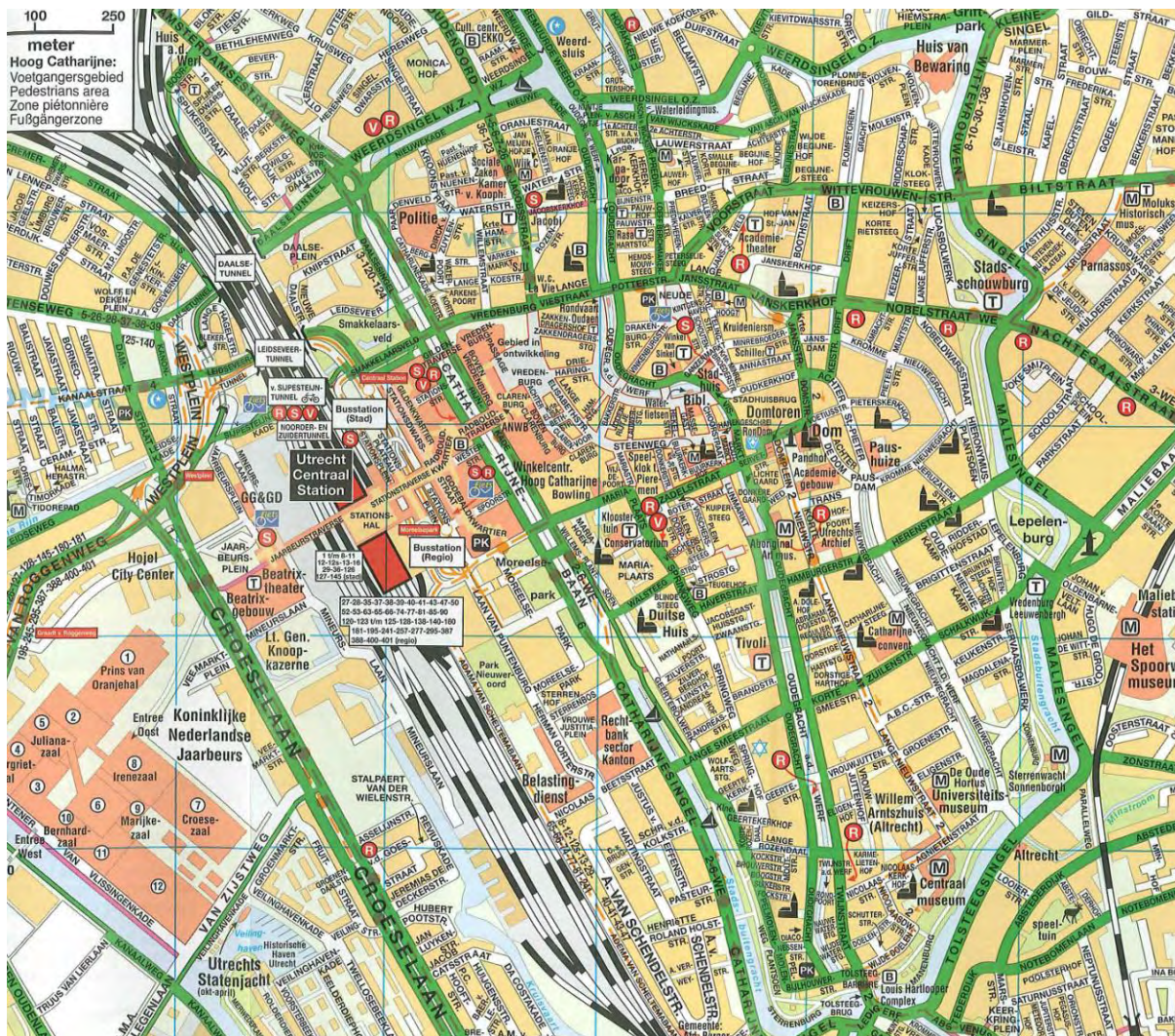
The number of bike trips in the region is less than within the city of Utrecht. One of the reasons are the longer distances of a trip.

Utrecht bicycle map

In 2007 Utrecht introduced a bicycle map of the city. It was a large scale high detailed map with a lot of additional information about the bike routes, bicycle parking, bicycle repair, etc. Later, also three maps of the suburbs has been made.

The scale of all of these maps is 1 : 14,000. The area shown on these maps is around 15 km. x 15 km.





Fragment of the Utrecht city bicycle map

Bicycle highways

The Netherlands are building a network of high speed bicycle routes. These bicycle highways should seduce the commuters who now are travelling by private car on a distance of 15 km. or less.

The bicycle highways are planned to get to the city (centres) and should work as an attractive alternative for commuters who are travelling by car.

The national government has reserved 21 million Euros for 16 bicycle highways paid by the ministry of Infrastructure. Provinces and municipalities contribute for another 60 million Euros which makes a total of € 81 million for realising high quality bicycle infrastructure.

Two of these bicycle highways are planned in the Utrecht region. One connects the western suburbs and the other connects the eastern suburbs.

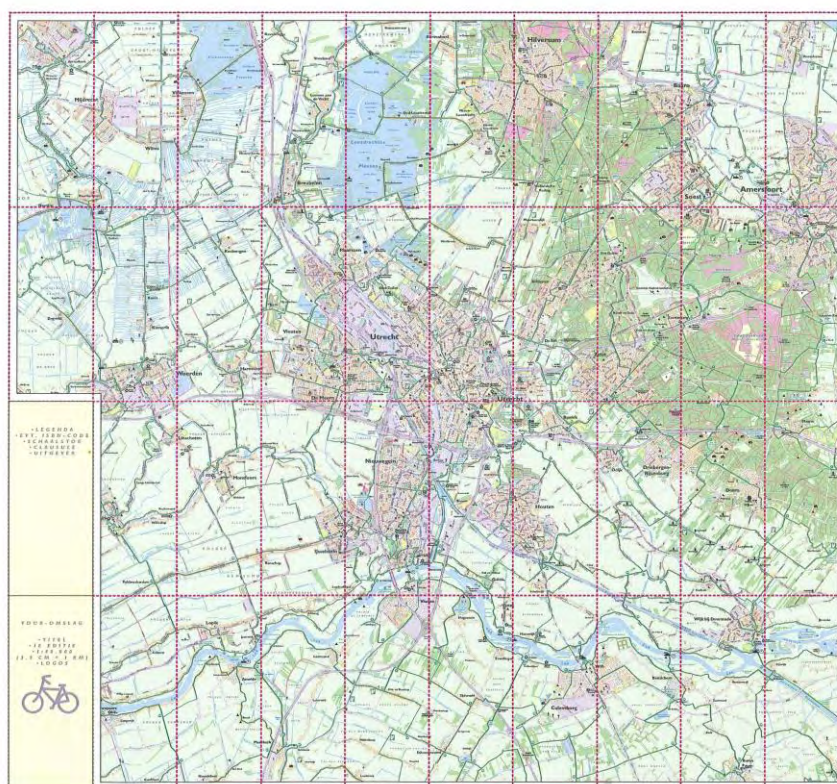
The realization starts in the second half of 2011. A communication plan is also part of this project. One of the communication products is a long distance bike map or a regional bike map.

Regional bike map and the relation with electric bikes

Promoting electric bikes is part of the policy of the new Utrecht city council. Because we are building bicycle highways for the longer trips in the region (5km. – 20 km.) we may expect that a part of the users of these routes use an electric bike. So a regional bike map can also be an excellent product for promoting the electric bike.

On the front side you find the map with information about the bicycle routes. On the back side there is a lot of space for additional information, for example information about the electric bike and the Gopedelec project. The scale of the map will be 1 : 40,000.

The introduction of the map is foreseen in june 2011. The map can also be used as a gift for visitors of the Gopedelec roadshows 2011.



Draft of the regional bike map



March 2011 R. Ditewig



Gopedelec best practice Utrecht NL

Electric public bike

Author: Ruud Ditewig municipality of Utrecht



The standard OV Fiets public bicycle

Introduction

Since 2003 The Netherlands has a nationwide public bike system, named OV Fiets (= public transport bike).

The company OV Fiets is owned by the Dutch railways. You can find rental locations at railway stations, metrostations, bus- and tramstations and Park and Ride locations.

OV Fiets is growing very fast.

Not only commuters use OV Fiets, but also a high number of bussiness trips are done by public transport and OV Fiets.

The growth of OV Fiets:

Year	Number of rental locations	Number of passholders	Number of public bicycles	Number of trips
2004	70	11.000	800	100.000
2005	84	20.000	1.300	189.000
2006	101	30.000	2.500	250.000
2007	140	43.000	3.000	335.000
2008	182	51.000	4.000	480.000
2009	200	67.000	4.500	670.000
2010	226	85.109	5.000	850.136



The bicycle is an important means of transport for trainusers in The Netherlands

OV Fiets

To rent a public bike you have to be a member of OV Fiets. Membership costs 10,- Euro a year. As a member you can rent a public bike at all 226 locations in The Netherlands. Renting a bike cost 3,- Euro for 24 hours. A lot of companies buy a membership for their staff.

OV-fiets is used most often for business purposes. 49% of customers uses OV-fiets for business trips and 14 % for commuting. The percentage of customers using the bicycle to reach a recreational destination or for a recreational trip is 20 %. Many users rent at the big railway stations as Amsterdam Centraal, Den Haag Centraal, Leiden Centraal and Utrecht Centraal. The number of users at suburban stations is growing.

Thanks to the OV Fiets the use of the train has increased: 36 % of 10.000 customers states travelling more often by train thanks to OV Fiets. Car use has fallen: 12,1 % of customers preferred train over car sometimes or regularly. Therefore the competitiveness of the train has increased in comparison to the car.



Rental location with self service

Electric public bike

OV Fiets wants to introduce the electric public bike in June 2011. Because the company's headoffice is in Utrecht, the OV Fiets company and the city of Utrecht decided to introduce the electric public bike for the first time at one of the Utrecht Central Station rental locations. We may expect nationwide publicity from this.



March 2011 R. Ditewig

Gopedelec best practice Utrecht NL

Recreational ‘junction’ network

Author: Ruud Ditewig municipality of Utrecht



A junction in the regional bicycle network with signs and networkmap

Introduction

In The Netherlands 31% of all social-recreational trips are done by bike. To serve and promote recreational cycling The Netherlands always had bicycle signing in recreational area's.

Nowadays new signing systems are introduced, combined with several services.

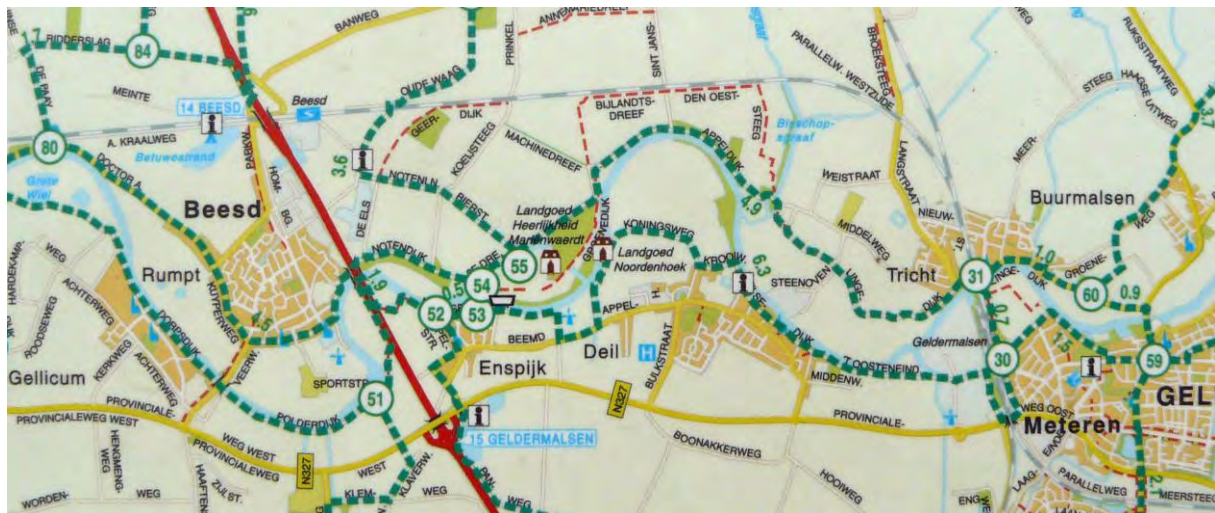
The 'junction' networks

Cycling is after walking the most important means of recreational day activity. There are around 232 million trips a year.

An important recent development are the regional 'junction' networks. That's an intricate regional network which enables many of the circuits in the region.

The junctions are numbered. Every junction is provided with a networkmap and signing. The principle is that you cycle from number to number.

These networks became very popular in a short time.



Fragment of a recreational 'junction' network bicycle map. The junction numbers are clearly seen. The green dotted lines are the bicycle routes



The networkmap and the signing you find on every junction

New facilities for the recreational cyclists and electrical bikes

Since last year the regional junction networks are improved with so called 'bicycle stops' (in Dutch: Fietsstop). Bicycle stops are facilities for the recreational cyclist. Mostly at restaurants, etc. You find catering, parking facilities for your bike, information, a toolbox for maintenance and power supply for electric bicycles at these bicycle stops.



The bicycle stops are well signed. Note the pic for power supply



A typical scene at a bicycle point: a restaurant, bicycle parking, networkmaps and touristic information and facilities for power supply for electric bicycles

Best5 practise IBC NL

Title: **Bicycle highways and pedelecs**

Author Ton Daggers, Utrecht 03 03 2011

Go  Pedelec!
Go easy!



Routes

Gerealiseerd

Wordt gerealiseerd

Haalbaarheidsonderzoek
uitgevoerd



Fast tracks for cyclists

The Netherlands are building a network of high speed bicycle tracks. This bicycle highways should seduce the commuters who now are travelling by private car on a distance of 15 km or less.

No crossings, no traffic lights. A smooth surface of asphalt with a width of 4.00 metres. On bridges and other open spaces protection shields for wind and rain. The infrastructure of the bike highways will also include charging facilities for electric bikes as well as repair services delivered by mobile cycle repair units.

The bicycle highways are planned to get to the city (centres) and should work as an attractive alternative for commuters who are travelling by car.

The national government has reserved 21 million Euros for 16 bicycle highways paid by the ministry of Infrastructure. Provinces and municipalities contribute for another 60 million Euros which makes a total of € 81 million for realising high quality bicycle infrastructure.



Source: ligfietsen.nl

From this budget pavement, illumination, crossings designs, tunnels and bicycle bridges are to be financed. All measures with the aim to create attractive, fast and direct and comfortable connections for commuter cyclists.

General criteria for bicycle highways.

- Fast: No or not many delay(time) on crossings and at traffic lights.
- Comfortable: high quality pavement, illumination
- Attractive: the route chosen is attractive considering noise, nature, and environment
- Coherent: the routes are part of a network so before and after transport is easily integrated.

Measures

In the project ¹²[Bike congestion-free](#) the Ministry of Infrastructure and Environment, provinces, urban regions, municipalities and the work together to improve the cycle routes. That means, for example:

- Construct new bike lanes;
- Bike Tunnels under highway construction;
- Improve existing cycle paths with asphalt pavement;
- Widen existing paths;
- Give cyclists priority at a similar crossroads;
- Create more bicycle parking;
- Create safe crossings for cyclists.

Results and effects

Some results are already been registered according to the director of the Dutch cyclist federation, Mr H van der Steenhoven. He claims that in some cycle tracks frequency of users have been doubled. He also claims that using the bicycle highway along the corridor where the motor highway is situated saves 10 minutes compared to motorcar in travel time. The Dutch Ministry of Infrastructure hopes by creating the bicycle highways to diminish traffic jams and less car traffic. Besides this side effects are to be expected in the field of health, noise and emission reduction.

Target groups

In general the aim of the bicycle highways is to improve the competition with the car.

The group target is

- the daily commuter by car travelling a distance of 15 km max.
- Another target group are students of secondary schools. Research has shown that about 50% of car commuter distance has this maximum of 15 km range.
- Companies (employers) are, first target, but on the other intermediary.
- Existing cyclists in the role of ambassador or cycling buddy.



(Social) benefits of bicycle highways

Recent research by Goudappel Coffeng¹ shows that investing in bicycle highways can result in a rapid improvement in mobility, the economy, health and climate. A brief summary of the key findings:

¹ Study done by Goudappel Coffing and Stefan Stefan Bendiks (Artgineering) feb 2011 by the “Stimulerings fonds voor Architectuur

- Bicycle highways cause less cars use and therefore a raise of some 80 million kgless CO2 emission yearly.
- Moving on bike leads to greater vitality. The use of bicycle highways saves € 100mln annually on health care savings and premature death.
- By faster cycling, the travel time in peak hours diminishes with 15,000 hours per day. Converted to valuation this means a saving of € 40 million per year.
- By bicycle highways there are 1% fewer car trips and 1.5% more bike rides.

Nowadays about 25 % of al people cycle to wrk in the Netherlands. If this figure would grow by only 1 % a cost reduction of 27 million euros would be acquired as a reduction on absenteeism from work.



Special effects for pedelecs

It is obvious that pedelec users are a special target Group as potential users for the bicycle highways. First of all they fit in the targeted profile of commuters who are willing to leave their car for some days a week only when conventional cycling is not a serious alternative. Further the higher average speed of pedelec cyclists is optimal for using on the fast cycling lanes which are created on this project.

Sources:

Site of the program on bicycle highways:

www.fietsfilevrij.nl

site of Dutch national government

<http://www.rijksoverheid.nl/onderwerpen/fiets/elektrische-fiets>

volkskrant interview

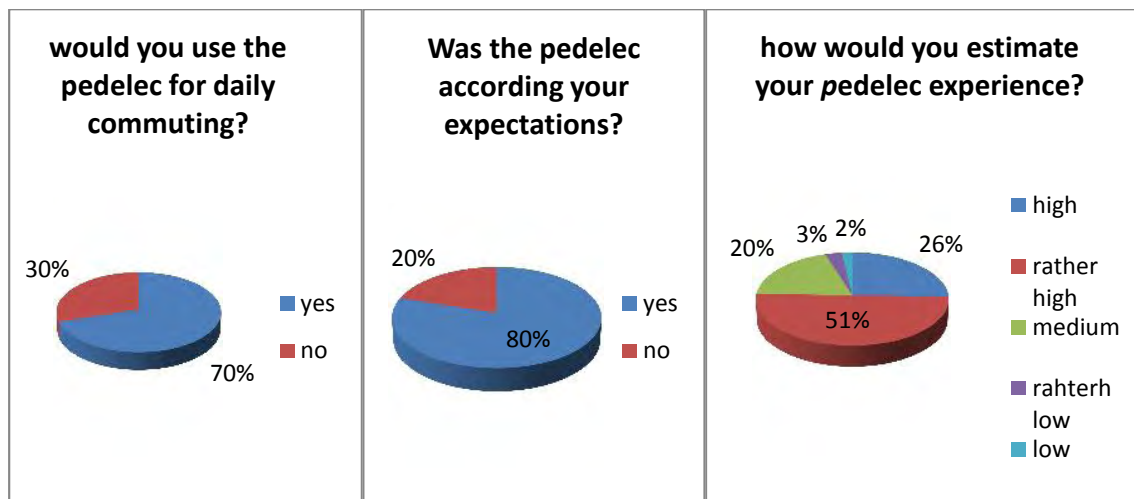
BP5NL

Pedelec promotion as part of mobility management in Eindhoven region

In de region Eindhoven a promotion program for pedelecs was launched targeted for commuters. The promotion program was part of an integral mobility managements program to stimulate public transport and cycling instead of individual motorized car traffic for commuting. In 2010 the project “try a pedelec” was launched, which offered to company employees to try a pedelec for free in commuter traffic. 14 companies were approached and 330 employees tried a pedelec.

As a result 70% considered to buy a pedelec whereas 5% stated to buy a pedelec immediately. Positive arguments were:

- Easy for larger distances
- Good for health
- Good feeling of always tailwind
- Helping for green environment
- Also the argument to avoid congestion and therefore time and cost benefit were arguments.



Some results of the campaign „try a pedelec“ in region around Eindhoven. Source: BRAMM

As a follow up of the campaign the lease pedelec was launched. Aim of the campaign was to bridge the gap between the relative high price of a pedelec compared to conventional bicycles. Employees of several industrial and office parks in the region could win points by cycling to work by using the pedelec. Result was more than 50 requests for pedelec lease offers.

Box of advice

- Most people even in the Netherlands have no experience with pedelecs. This means that offering a way of trying helps really to convince people of benefits of pedelecs
- When targeting commuters it is more efficient to combine efforts with mobility management programs.
- Most commuter traffic is car traffic. In most situations 50 % of commuters live < 5 km from work and is therefore open for alternatives.

Preparation: IBC, Ton Daggers

Pedelec lease system

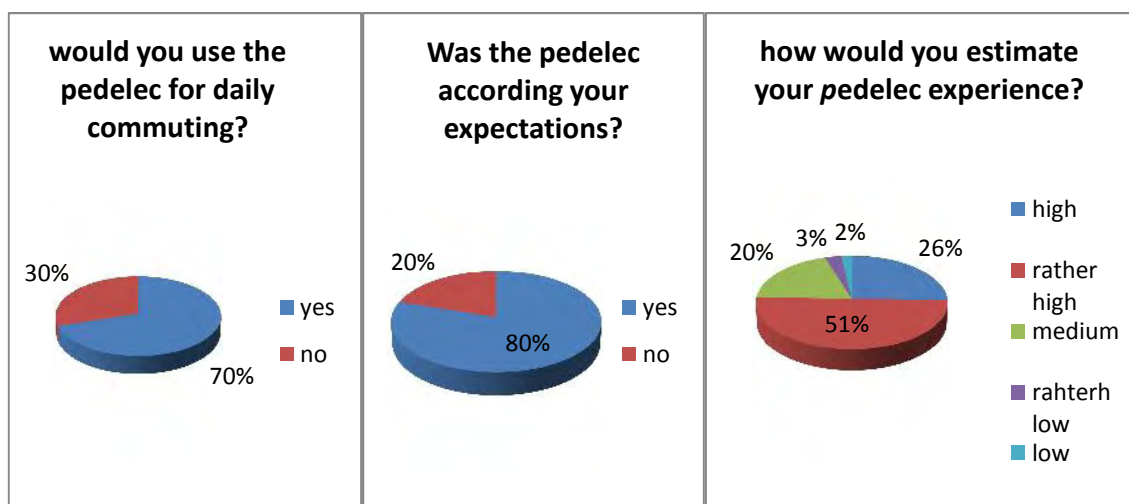


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