



Report on AENEAS Training Workshop 9 and 10 June 2010 City of Odense



Cycling and Health in an Ageing Society

AENEAS is supported by



Project no.:	IEE/07/674/SI2.499208
Project acronym	AENEAS
Project title	Attaining Energy Efficient Mobility in an Ageing Society
Project Start Date and Duration	1 August 2008 – 34 months
AENEAS document no.	D 3.2.4
Date / Version	29 June 10 / V2.1
Dissemination level	Draft for comments of speakers and participants
Work Package	WP3 Good Practice Exchange Ring
Author(s)	Maarten VAN BEMMELEN (DSS) and Matthias FIEDLER (RC)
Co-author(s)	Dorthe Gyldenlund Råby, Tomasz Zwoliński, Bernd Decker, Andreas Schuster, Ilenia Gheno

Document History

Date	Author(s)	Main Change	Status
20 May 10	Maarten van Bemmelen		First internal draft
28 May 10	Maarten van Bemmelen		Final draft for workshop participants
28 June 10	Maarten van Bemmelen	Including abstracts of presentations and summaries of discussions and workshops	Final draft for comments of speakers and participants

Disclaimer

The sole responsibility for the content of this document lies with the authors. It does not necessarily reflect the opinion of the European Communities. The European Commission is not responsible for any use that may be made of the information contained therein.

Table of Contents

1	Introduction.....	5
1.1	AENEAS in a nutshell	5
1.2	The AENEAS training approach	5
1.2.1	Training Methodology	5
1.2.2	Five Training Workshops.....	5
1.3	Scope and structure of this reader	6
2	Cycling at an older age.....	7
2.1	Key facts on Mobility of Older People	7
2.1.1	Definition of “Older People”	7
2.1.2	General Trends.....	7
2.2	Cycling among older citizens in Europe.....	9
3	The benefits and constraints of cycling at older age	10
3.1	Health benefits from cycling	10
3.2	Cycling and traffic safety	12
4	How to promote cycling among older people?.....	15
4.1	Convince the younger old to start (or return to) cycling	15
4.2	Encouraging older people to continue cycling.....	17
4.3	Promote adapted bicycles.....	19
4.3.1	Incentives for Pedelecs	20
4.3.2	Guide to adapted bikes.....	20
5	Further reading and related projects.....	24
5.1	Related [European] Projects.....	24
5.1.1	Active-Access	24
5.1.2	Lifecycle project.....	24
5.1.3	Go-pedelec	24
5.1.4	VIANOVA.....	24
5.1.5	Health Economic Assessment Tool (HEAT).....	25
5.1.6	PRESTO	25
5.1.7	MESsAGE - Mobility and Elderly: Successful Ageing in a Sustainable Transport System	25
5.1.8	MOBILATE - Enhancing Outdoor Mobility in Later Life: Personal Coping, Environmental Resources, and Technical Support	25
5.1.9	FRAME – Freizeitmobilität älterer Menschen (Leisure related mobility of older people)	26
5.2	Further reading.....	26

5.2.1	Cycling and health	26
5.2.2	Cycling and traffic safety	27
5.2.3	Electric bicycles	27
5.2.4	Good practices in promotion of cycling	27
6	Workshop presentations and group work.....	28
6.1	Introduction to the theme of cycling and health.....	28
6.1.1	Official welcome, Steen Møller, City of Odense	28
6.1.2	Introduction to the workshop, Bernd Decker	30
6.1.3	The AENEAS project, Matthias Fiedler	30
6.1.4	The interplay between cycling and health, the case of older people, Lars Østergaard, University of Southern Denmark.....	31
6.1.5	Needs and attitudes of older people regarding cycling, Pernille Ehlers, Council of Safe traffic.....	35
6.2	Practical experiences cycling training and motivating older people to cycle... 40	
6.2.1	Activating older people to cycle in the UK, Chris Peck, CTC	40
6.2.2	Motivate & keep senior citizens cycling: Approaches from Odense and Munich, Dorthe Råby, City of Odense and Andreas Schuster, Green City.....	42
6.2.3	Mobility in Odense with focus on older people, Connie Juel Clausen, City of Odense	46
6.2.4	Training for safe cycling in the Netherlands, Mario Kramer, Fietzersbond	48
6.3	Role play by workshop participants	50
6.4	Cycling site visit.....	51
6.4.1	Rehabilitation training centre	51
6.4.2	Cycling infrastructure in Odense	52
6.4.3	Services for bikers	53
6.5	Working group session on transfer of experience	54
6.5.1	Provision of adequate infrastructure for improving the safety of cycling	54
6.5.2	Training and campaigns to raise the awareness for safe cycling in cities	56
6.5.3	Responding to societal change in advanced cycling locations	57
7	Evaluation by participants	59
8	Main conclusions from the workshop	61
9	Participants list	62

1 Introduction

1.1 AENEAS in a nutshell

AENEAS is a new European project in the framework of the Intelligent Energy Europe (IEE) programme. Its acronym stands for "Attaining Energy-Efficient Mobility in an Ageing Society." Europe is facing tremendous demographic shifts. As the "car generation" is growing old, older people (50 and above) are increasingly using the private car instead of environmentally sustainable modes of urban transport – with massive impacts on energy efficiency. Bringing together leading European players in the field of older people's mobility, AENEAS aims to improve the attractiveness of sustainable transport and to contribute to modal shifts towards energy-efficient modes of transport among older people.

In AENEAS, the cities of Donostia-San Sebastián, Kraków, Munich, Odense, Salzburg and their supporting organisations are pursuing the following aims:

- Raise awareness concerning the challenge of energy-efficient urban mobility in an ageing society among stakeholders in European cities;
- Enable key actors to address these issues by applying successful, non-technological concepts;
- Raise awareness concerning energy-efficient travel options (walking, public transport, cycling, car sharing and public bicycles) and promote them as alternatives to the private car;
- Train older people on how to use sustainable transport according to their needs and expectations; and
- Improve the attractiveness and safety of energy-efficient modes by small-scale, innovative interventions.

Find out more on www.aeneas-project.eu!

1.2 The AENEAS training approach

1.2.1 Training Methodology

The main target group of the AENEAS training workshops are professionals from city mobility departments and public transport operators. Representatives from NGOs working on the theme of sustainable transport are also considered as part of the target audience. There is a maximum of 30 participants for each workshop. The training workshops last two days. The first day has a more plenary character where the 30 participants are all in the same room. During the second day, AENEAS works with smaller groups of up to 15 participants.

Before each workshop, AENEAS produces a Workshop Reader with background material to allow participants to prepare themselves. After each workshop the reader is complemented with the conclusions from the training workshop.

1.2.2 Five Training Workshops

The Odense workshop is the fourth workshop in a series of five. The themes of all workshops are included in the table below.

AENEAS training workshops		
Date	Location	Theme
17-18 June 2009	Kraków	Understanding mobility of older people
28-29 October 2009	San Sebastián	Walking and traffic safety
4-5 March 2010	Munich	Multimodal mobility marketing in an ageing society
9-10 June 2010	Odense	Cycling and health
25-26 November 2010	Salzburg	Older passengers: It's all about communication. How to address them? How to keep them?

The reports with conclusions from the workshops and the presentations of the speakers can be downloaded from the project website.

1.3 Scope and structure of this reader

This reader is meant as a preparatory document for the participants of the Odense workshop of June 2010. Chapter 2 contains an overview of studies and statistics about cycling at older age in European countries. Health and safety of older cyclists is the topic of Chapter 3, where the benefits and constraints of cycling are discussed. In continuation, in Chapter 4, the reader provides practical examples of projects to promote safe cycling among older people. Chapter 5 contains suggestions for further reading and useful links, while Chapter 6 presents specific information on the programme of the workshop including the preparation of the teamwork and site visit on the second day of the workshop.

2 Cycling at an older age

2.1 Key facts on Mobility of Older People

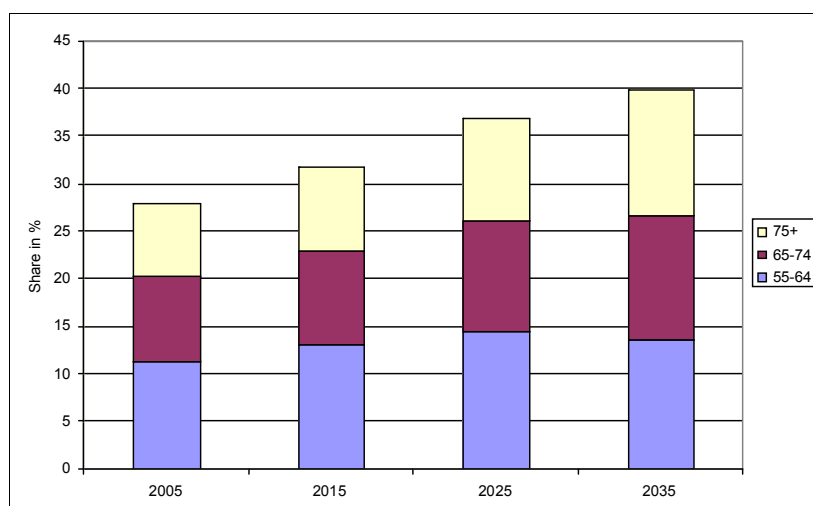
2.1.1 Definition of “Older People”

Who is an old person? Is it a person beyond a certain numeric age or beyond working age? Are abilities and activities crucial or is it the individually perceived age? Various approaches can be found and are valid. In terms of mobility behaviour, there is a clear difference between the working population and retired people. Therefore, we will focus on people beyond working age within the AENEAS project. As this definition is not often to be found in statistics, we use in parallel the age limit of **55 years**. At this age, the share of retired people equals the share of working people in European countries. In addition, the number of people with locomotor disabilities starts to rise notably at this age.

2.1.2 General Trends

With the ‘Baby Boomer’ generation entering retirement age, increased life expectancy and decreasing birth rates, **the proportion of older people will increase** in all European societies. The share of the 55+ population in Europe is forecasted to rise from 28% in 2005 to 40% in 2035 (cf. Figure 1). While the group of the “young old” (55-64) will only grow for the next approx. 20 years, the share of “very old” (75+) citizens will continue to grow steadily (see Figure 1).

Figure 1: Expected Demographic Shifts in Europe



U.S. Bureau of Census – International Database (2006)

However, the ageing of the population will not have the same character and dynamics all over Europe. In the year of 2035, the population aged 65 or more will make up to 28 – 33% in many European countries such as Austria, Bulgaria, Germany, Italy, Slovenia and Spain. The “youngest” six countries of the EU-27 (with 20-23% older than 65 years) are expected to be Cyprus, Hungary, Ireland, Luxembourg, Romania and Slovakia. All other EU-27 countries as well Norway and Switzerland will have rates around 25%.

Age related personal constraints

The likeliness of impairments, which affect mobility, is increasing with age. While only 10% of the 45 to 54 year olds in the EU suffer from locomotor disabilities, the figure is more than 20% of the 65 to 74 year old and more than 50% for persons aged 85 and beyond (see Figure 2). This means that there is a clear link between age and disability. It is also worth mentioning that above the age of approx. 75, women are more likely to suffer from such a disability than men (see Figure 2).

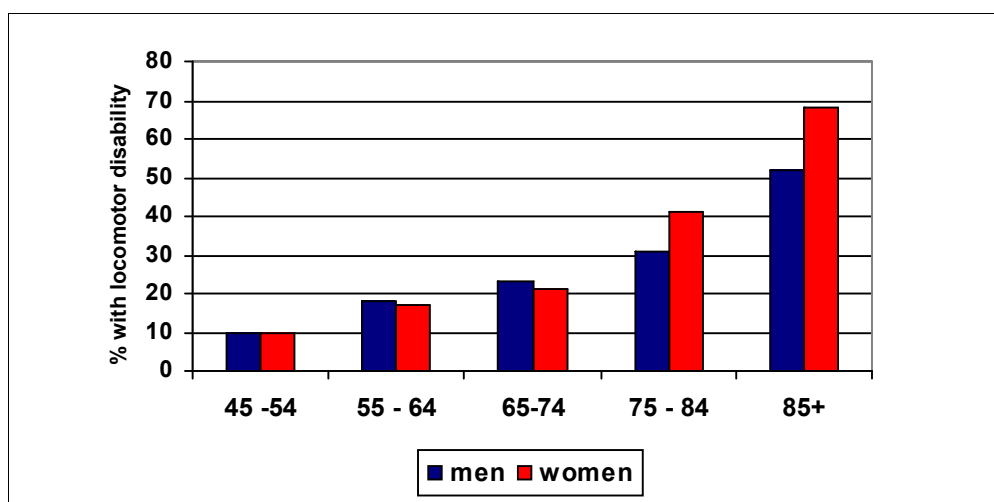


Figure 2: The link between age and locomotor disability (EU)

Department for Transport (2005)

Mobility behaviour and car ownership

Based on the MOBILATE¹ survey and national data from Germany, the United Kingdom, France and the Netherlands, Matthias Fiedler² identified the following conclusions on the mobility behaviour and car ownership of older people:

- Older people use public transport more frequently than middle-aged persons. They also walk and cycle more, while car usage still is lower;
- They cover lower distances and make fewer trips than younger people. Also less time is dedicated to outdoor mobility;
- The trips are getting shorter. Older peoples' mobility focuses on the proximities of the own home;
- When analysing the mobility of older people, age effects and generation effects must be separated. This means that it is unlikely that an average 75 year old person in the year 2025 will have the same mobility behaviour as a 75 year old person today.

¹ MOLLENKOPF Heidrun, MARCELLINI Fiorella and Isto RUOPPILA (2003/1): *The MOBILATE Cohort Study 1995 – 2000*. Enhancing Outdoor Mobility in Later Life: Personal Coping, Environmental Resources, and Technical Support

² FIEDLER Matthias (2007), *Older People and Public Transport*, EMTA & Rupprecht Consult

2.2 Cycling among older citizens in Europe

Large differences in cycling culture among EU countries

The use of the bicycles differs greatly among EU countries. In countries with a strong cycling culture, like Denmark and The Netherlands, it can be found that also a large part of the older people are cycling. A recent survey from the SENTRIP project, with 5.000 respondents between 62 and 70 from three countries, showed that for this group of younger old the modal share of cycling was 29% in the Netherlands, 9% in Sweden and 6% in Austria. (AENEAS workshop San Sebastián).

In Germany, the share of cycling on the modal split has increased for the younger olds (up to 74) in 2008 compared to 2002 (Mobilität in Deutschland 2008). It is however remarkable that the modal share is about 10% for all older people, which underlines the important role the bicycle still has among the elderly in Germany, despite higher motorisation.

In general it can be observed that in countries with a cycling culture, cycling is also an important transport mode for the younger old.

Bicycle use decreases with age

Also in the countries with a cycling culture, the group above 75 cycles less than the “younger olds”. Even so, in Denmark, the modal share of persons between 75 and 84 years old is still 8%. (Denmark’s statistics). In Germany about three quarter of the older people own a bicycle, however this decreases rapidly for the 75+ ones, where only 44% have a vélo (Mobilität in Deutschland 2008).

In Spain cycling decreases with age to the point that among the oldest groups a vast majority (almost) never cycles: 74% for 55-69 and 86% for the 70 plus (Barómetro Anual de la Bicicleta, 2009. La Fundación ECA Bureau Veritas y al Fundación Movilidad).

In Poland, 19% of 60+ people use the bike regularly (every day or usually in the weekends) compared to 38% of the total population. (OBOP Survey, for association „Miasta dla rowerów” 2002/2003).

The role of the bicycle for older people

More difficult to answer is the question what role the bicycle plays for the mobility of older people. It is clear, that it loses its key transport function with increasing motorisation, so one may argue that it is mostly used for leisure / sports rather than for transport. On the other hand, one could argue that many older people are aware of the health (and further) benefits of cycling and prefer it deliberately to the private the private car. In this context, an interesting research result from Germany is that older people of all age groups felt that they had less health problems impeding their mobility in 2008 than six years earlier in 2002 (Mobilität in Deutschland 2008).

Also in this case differences among member states can be observed. Recent research among Spanish citizens showed that in Spain most people relate cycling to doing sports. This explains that people that own a bike usually have a mountain bike. Both findings are also true for the older people (Barómetro Anual de la Bicicleta, 2009).

A study among Dutch cyclists, on the other hand, showed that the most mentioned destinations for the older cyclists were shopping (87%), followed by leisure (79%) and visiting friends and family (72%).(Ingrid van Loon (Fietzersbond), 2006, Fietsen zolang het kan).

3 The benefits and constraints of cycling at older age

3.1 Health benefits from cycling

Active travel, and particularly cycling, can contribute to better health and increase of life expectancy. These facts are well known and have been promoted by different scientific studies and European funded mobility projects, such as Lifecycle, Active Access or Vianova. But what about older people? Is it not too dangerous for them to cycle, and do the positive impacts of cycling apply also at this stage of life?

Physical activity, muscle and bone mass usually decrease with age, and the less active people are, the more significant is the loss of power. But the lower physical activity also may result in diseases such as diabetes, heart diseases or even depression. Senses and abilities, including coordination, balance and others may decrease as well. All these issues may finally lead to disability and consequently to dependence.

However, physical training can be done effectively until a very high age, and regular cycling can be such an exercise, combining health benefits with the enjoyment of moving outdoors independently. As it has been outlined by Lis Puggaard at the first AENEAS workshop in Kraków, regular cycling helps older people to increase or maintain³:

- Balance;
- Muscle endurance and power;
- Oxygen uptake;
- Reaction time abilities;
- Sensory abilities (visual and hearing);
- Coordination skills.

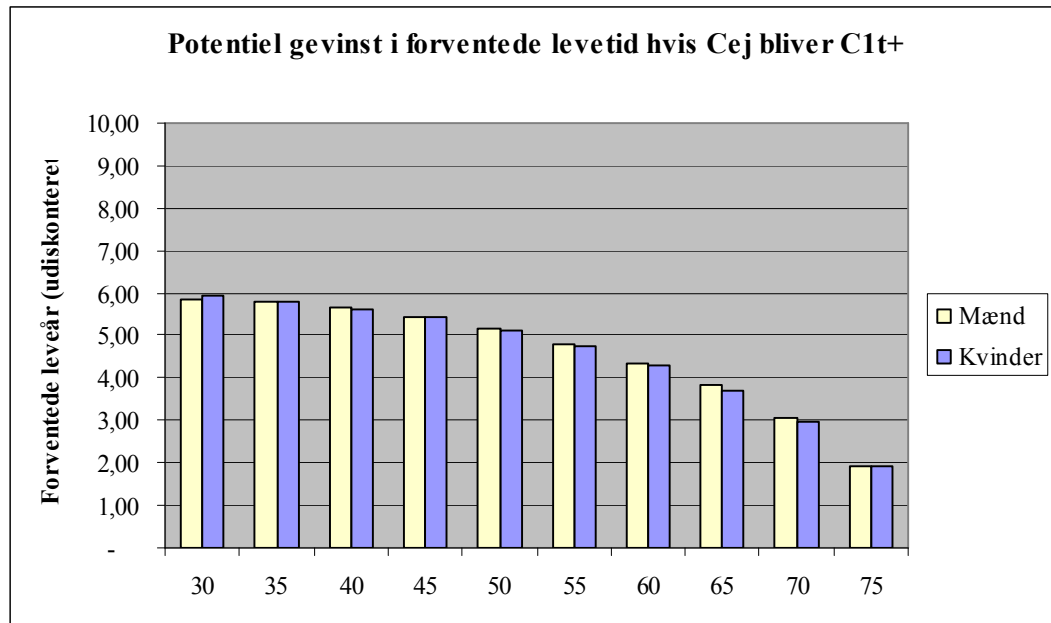
Furthermore, cycling reduces the risk of

- Lifestyle diseases such as cardiovascular diseases, obesity and diabetes;
- Functional limitations;
- Immobility.

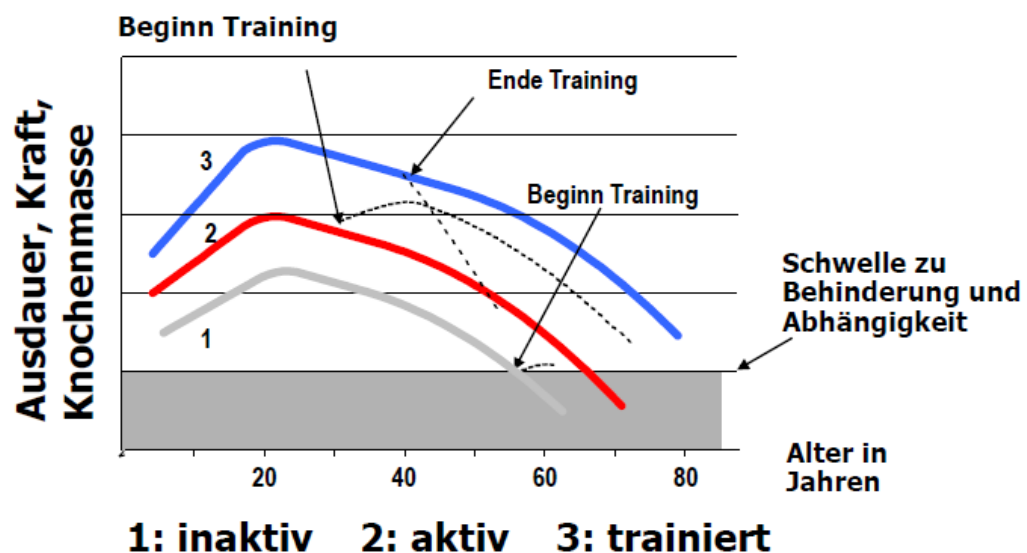
Medical studies show that a person that starts cycling one hour per week at the age of 50 may increase life expectancy by about five years, while it is still two years of increase for a 75year old person (see figure 3⁴).

³ Lis Puggaard (2009): Understanding Mobility of Older People. Presentation at the AENEAS workshop in Kraków. Download via http://www.aeneas-project.eu/docs/KrakowTraining/AENEAS_WS_Lis_Puggaard.pdf

⁴ Lars Bo Andersen (2007): Cycling and all-cause mortality? Presentation at the Velocity Conference in Munich.

Figure 3: Increase of lifetime due to regular cycling

Regular physical activity not only increases life expectancy, it also contributes to a prolonged period of independence and health. As a matter of fact, people lose strength and bone mass when ageing. At a certain degree, this loss causes disability and dependence. People that are doing physical exercise, such as cycling, can slow down this process, even though they start to train relatively late (see figure 4)⁵.

Figure 4: Extended independence period through physical exercise

Source: Pucher & Öhlknecht (2010), based on Martin BW, Marti B. Ther. Umschau (1998)

⁵ Jürgen Pucher & Arne Öhlknecht (2010): Mobil und sicher auch im Alter – radeln in allen Lebenslagen. Presentation at ECOMM in Graz (base on Martin BW, Marti B. Ther. Umschau, 1998)

It is relatively easy to cycle, intensity and speed can be chosen individually. Apart from contributing to better health, cycling simply means smart mobility and fun, to older and younger people equally. All in all, there are good reasons for local, regional and national authorities to promote cycling among older people.

However, one needs to be realistic: An older person that did not cycle for years should not re-start before having participated in a dedicated training (see section xx of this reader), and changing for a specialised bicycle if appropriate. And furthermore, AENEAS does not recommend starting cycling to older people that never had been cycling before. In any case, in general older people are rather overcautious than running the risk of doing something they are not fully convinced of. The next section contemplates the safety aspects of cycling.

3.2 Cycling and traffic safety

Cyclists, like pedestrians, are relatively vulnerable road users compared to drivers of private cars and public transport passengers. This vulnerability increases when becoming older because of the increasing function limitations related to ageing. The table below is taken from the specific AENEAS training workshop reader on traffic safety⁶. It summarizes the most relevant function limitations and typical accidents of older people.

Function limitations and types of accidents of older people when cycling			
Transport mode	Vulnerability	Most relevant function limitations	Typical accidents of older people
Cyclists	High	<ul style="list-style-type: none"> Motor coordination Keeping balance Reduced reaction time (on dangerous situations caused by others) Noise perception 	<ul style="list-style-type: none"> Intersections without traffic lights Not giving right of way/Not yielding Loosing control of the bicycle

Source: AENEAS workshop report on Walking and Traffic Safety in an Ageing Society and Fietzersbond

Problems with motor coordination, balance and reduced reaction time grow in importance with age and can have a high impact because of the vulnerability of the older cyclist.

Research from the Netherlands determined the probability of having a fatal traffic accident per billion kilometres travelled and differentiated by age group and transport mode. The results, in the table below, show that in general cycling is safer than walking but less safe than travelling by car. There is a trend, over all transports modes, of increased risk with higher age compared to the middle-aged.

⁶http://www.aeneas-project.eu/docs/2th_workshop_donostia/D3_2_2_AENEAS_TrainingReport_Donostia.pdf

Fatality rates per billion kilometres travelled by age and transport mode in the Netherlands (calculated using data from period 1999-2003)					
Age group	Pedestrians	Cyclists	Car drivers	Car passengers	All transport modes
20-24	25	10	15	8	10
30-49	18	7	2	2	4
60-64	29	18	3	2	5
65-74	44	37	6	5	10
75 and older	191	174	22	12	39
All ages	32	14	4	3	6

Source: European Safety Observatory (2006), based on SWOV/Transport Research Centre, CBS

Statistics on traffic safety need to be treated with care. For instance, the data is biased because of the fact that the car drivers are making use of the much safer motorways, which are not used by cyclists. When taking out the motorways, the Dutch Ministry found that the balance turns around in favour of the cyclists: nearly twice as much motorists are killed as cyclists. The table below compares the risks for accidents (including the non-fatal ones) for each of the two modes. Overall the risk for accidents is similar. However, also these numbers do show that with older age (50 plus) the risk of accidents is higher for cyclists.

Risk for accidents per million kilometres travelled by age and transport mode in the Netherlands (without traffic on motorways)		
Age group	Cyclists	Car drivers
18-24	7.7	33.5
25-29	8.2	17.0
30-39	7.0	9.7
40-49	9.2	9.7
50-59	17.2	5.9
60-64	32.1	10.4
65-and older	79.1	39.9
All ages	21	20.8

Source: Cavill, N. & A. Davis, 2007

Several studies have found indications in different countries that policies leading to increases in the number of people walking or cycling appear to be effective in improving the safety of people using these modes (Cavill, N & A. Davis 2007, Theo Zeegers 2010). In other words, safety increases when the number of cyclists increases. A recent study in the Netherlands concludes that in municipalities where older people cycle more (per person per day), their average risk for an accident with injury is lower than in municipalities where older people cycle less. Possible explanations could be that in the first case, the older people have more routine in cycling because and also that in these municipalities the cycling infrastructure is safer and therefore invites more older people to cycle (Theo Zeegers, 2010).

The health benefits and safety constraints seem to contradict each other, since the first leads to an increase in life expectancy while the second reduces life expectancy. In investigations

initiated by the British Medical Association, Hillman (1992), found evidence that the benefits outweigh the loss of life years in cycling fatalities by a factor of around twenty to one⁷.

For authorities, there appears to be good reasons for promoting cycling and offering safe infrastructure for cycling. Infrastructure, however, is not the topic of the AENEAS project. Related to AENEAS, the research provides arguments for the recommendation to promote cycling among the younger old, up to 74 years old. People above 75 require a much more tailored approach, for example, through using adapted bicycles. The focus in this age range should be on keeping people cycling as long as they can in a safe way. In general, educational and awareness raising projects for cycling by older people need to take safety aspects into account.

⁷ Hillman, M. (1992). Cycling and the promotion of health, PTRC 20th Summer Annual Meeting, Proceedings of Seminar B, pp. 25-36

4 How to promote cycling among older people?

4.1 Convince the younger old to start (or return to) cycling

Studies have also shown that active older people can take care of themselves for a longer time. In addition, cycling gives a longer motion radius compared to walking. Thus, getting older people to cycle is linked with a number of health and social benefits besides being good for the environment. So there are several reasons to focus on elderly when working on cycling promotion.

However, it can be difficult for senior citizens to start cycling again, since it might be related to unfamiliar exercise. Often cycle courses tailored to older people who do not cycle on a regularly basis, focus on encouraging cycling as a way to exercise and for leisure trips. These courses are worthwhile because older people are encouraged to start cycling and even though they may only use their bikes for occasional trips in the beginning, there is a high probability that they will start to cycle more after completing a cycle course.

Time to Ride (Australia)

A project carried out by Bicycle Victoria in Melbourne, Ballarat and Wangaratta in 2005 and 2006 with the aim to gain an insight as to the barriers and motivators for older people taking up or returning to cycle. **Time to Ride** was targeted at people aged over 50 but extended to 45+ due to high demands from people between 45 and 50 years old.

A 12-week programme was designed to encourage and provide the participants with skills, ability and knowledge to take up or return to cycling. In addition, the project was designed to deal with the main barriers to why the target group was not cycling. Here, the main barriers were defined as:

- Lack of motivation;
- Bad weather;
- No social support network or partner to cycle with;
- Lack of time;
- Lack of skills and knowledge.

These barriers were addressed in several ways such as weekly group rides, suggestions for local rides, a buddy group system, volunteers who acted as local ride leaders and mentors, suggestions for how to manage time, cycle training and bike maintenance courses aimed at beginner cyclists and, furthermore, the project was carried out in spring and summer.



Guided cycling trip (Source: Bicycle Victoria)

The participants were recruited through local newspaper, radio, posters, word of mouth and internet or email contact. In total, 168 people participated where 68% were women.

The majority of the participants were non-cyclists, where 74% of the participants had not cycled in the previous year and 46% had last cycled more than 20 years ago.

In a survey carried out afterwards stated 94% that they intended to continue cycling and app.

66% said that their overall level of activity had increased. In addition, some participants had also encouraged other people to start cycling.

Overall, the importance of the social elements, getting fit, meeting other people, relaxation, fun and enjoyment were mentioned as the main reasons that had motivated the participants.

<http://www.bv.com.au/bikes-&-riding/30336/>

The cycling for health schemes (England)

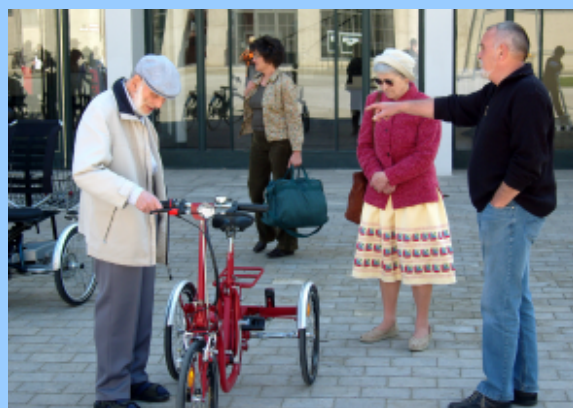
The schemes operate in partnership with local health authorities, called Primary Care Trusts (PCTs). They reach novice and returning cyclists: the target group is people showing a lack of physical activity and people returning to exercise after a health crisis. Participants are prescribed or advised by doctors to attend cycling activities sessions. The schemes include ten sessions during ten weeks. Exercises take place in a safe training area first and in real traffic later. Each site is supported by a local CTC Development Officer, who coordinates part-time ride leaders to run the project. CTC is the UK's National Cyclist's Organisation.

The aim of this project is to establish Cycling for Health schemes as a recognised referral scheme. [Cycling for health schemes of England by CTC](#)

Older People cycling training scheme in Munich (Germany)

The major goal of these AENEAS training courses is to make older people enjoy everyday cycling once again. Moreover they should be trained for critical situations in traffic and overcome inhibitions towards alternative bikes for people with mobility impairments.

During the summer months, several training courses, especially conceptually developed for older people, are carried out. The duration is about four hours with a small theoretical introduction and a practical training. They are conducted in different districts in Munich. Older People Service Centres are involved as venues for the training courses.



Older People cycling training
(Photo: Green City)

The training scheme includes both the elements of addressing the risk of falling/ balance (providing adapted bicycles) and of behaviour of cyclists in traffic.

More information: www.greencity.de (DE) and www.aeneas-project.eu (EN)

4.2 Encouraging older people to continue cycling

Guided cycling trips, Odense (Denmark)

In 2009, as part of the AENEAS project, the City of Odense and eight volunteer cycle captains planned and carried out 24 cycle trips with the aim to encourage and promote cycling among older people. The trips had different lengths, destinations and starting points in order to reach as many people as possible and to show the variety of cycling possibilities in Odense.

The target group was defined as people who were 60 years old or older. However, the cycle captains were defined as people who were at least 55 years old and experienced cyclists. In the planning phase the cycle captains among other things participated on a first aid course, learned about cycling in larger groups including safety and participated in an information meeting about cycle planning in the City of Odense.

Up to 15 participants, signed up by telephone or by the Internet, besides two cycle captains were participating on each trip. On several trips, the participants met with a person from the municipality who told about the area they were cycling in.

The trips were announced in the local newspaper, magazines and web pages targeted at older people. Further, posters and brochures were distributed to libraries, organisations representing older people, sport clubs etc.

Each trip took between 2 and 4 hours depending on the length, number of breaks and whether the

participants met a person from the municipality.



Having a break (Source: City of Odense)

Bicycle information day for older people (The Netherlands)



Bicycle check

(Source: Fietzersbond)

De Fietzersbond (The Cyclists Union) in the Netherlands has developed a bicycle information day for elderly people called 'Safe and Healthy on the bicycle'. It is a one-day bicycle information day from 9 o'clock until 4 o'clock.

The programme starts with a welcome from the mayor or alderman pointing out the importance of cycling and local traffic safety policies. Next there is an interactive session when participants can show their knowledge about traffic regulations. Then there is a safety check-up of the participants' bicycles by a skilled bicycle repairman. He checks brakes, reflectors, lights and also the height of the saddle. Many times the seniors cannot reach the ground with their toes, which is dangerous since stopping and starting is hard for seniors. Also the senior cyclist herself is checked, including sight, hearing and quickness of response.

After the coffee break, a local police officer talks with the group about unsafe traffic situations in town. Possible improvements are discussed, also pointing out alternative routes or a safer time in the day. This is followed by physical exercises to train balance and speed of response are practiced, both important skills for cycling.

In the afternoon, the participants first train their bicycle skills in a safe environment. The exercises include: starting and stopping; steering (slalom); looking over your shoulder and at the same time giving a hand signal while going straight and going straight for 5 meters on a 15 cm wide path. The final part of the programme is a ride through town, putting all the trained skills and safety instructions into practice.

The results from the evaluation at the end of the day show that most participants enjoy the programme and state that they have learned something and that they feel more secure on the bicycle. There are several cases of participant groups that start a cycling club to make half-day tours.

Four-stage cycling training in Graz (Austria)

The City of Graz and the “Association for family & health management” have started an initiative to promote safe cycling at older ages in autumn 2009. The training scheme aims at: Making the generation 50+ fit and enable safe cycling; Increasing the mobility of older people; and to Contribute to better health.



Mastering the obstacle course (Source: Jürgen Pucher & Arne Öhlknecht)

The scheme includes four modules (plus one optional) on different days. The first module consists of a theoretical session on traffic rules and safety tips in cooperation with the local police. The second module imparts knowledge on the bicycle itself – how to select the right bicycle for yourself and how to do smaller repairs independently. The third module becomes more practical: Participants get on their bikes and train typical situations, such as getting on & off, braking and turning off etc. The fourth module addresses fitness, balance and coordination by dedicated exercises. Finally, the participants may join a cycling trip in the framework of “Cityradeln”, an event to promote cycling in the city.

The training groups are small to medium sized (approx. 20-30 persons each) and people usually bring their own bikes. In general, people participating in the courses are still able to use standard bicycles. In order to generate publicity and to promote the training scheme, the initiative is closely cooperating with the local newspaper.

4.3 Promote adapted bicycles

Pedelecs and Electric Bicycles have become increasingly popular in Europe over the last few years. Only in the Netherlands and Germany, approx. 250.000 units were sold in 2008, and the markets are still growing, so it is estimated that in 2010, the sales could achieve for the first time one million pedelecs across Europe⁸. Although no thorough statistics are available on the “typical purchaser”, feedback from the bicycle industry suggests that older people are a key user group. A Belgian manufacturer states for example “The clientele [of electric bicycles, MF] exclusively of 50+ people, many of them in early retirement having time and money for their disposal”. Another Belgian manufacturer added: “the most important group is 50 to 70, whereas the clientele of 70+ is negligible⁹.” Thus the availability of mature electric bicycles on the market is well perceived by the “younger old” or “silver agers”, since it permits them longer trips without extreme efforts. Although there are no scientific results available, it can be guessed that electric bicycles not only contribute to make cycling easier for older people, but also enable them to cycle more often and for a longer period of their life. Since pedelecs still require physical activity by its owner, they also contribute to good health and fitness.

⁸ PRESTO (2010): D3.2 PRESTO cycling Policy Guide: Electric Bicycles

⁹ ETRA (2010): Bicycle Market Report Belgium 2009

4.3.1 Incentives for Pedelects

In the past years, in **Italy**, some governmental (Ministry of Environment¹⁰)/regional bonuses (around 200€ per pedelec, in other cases up to 700€) were available for all citizens. Nevertheless some local administrations addressed the bonus specifically to people of 60+. Both the general and the age-targeted experiences had a big success. It is relevant to read from one of the major Italian newspapers: *“even if the incentive has been addressed to bicycles and mopeds, the highest success has been registered in the number of pedelecs bought”¹¹*.

4.3.2 Guide to adapted bikes

Cycles for older people

When you talk about cycles for older people you are confronted with a very heterogeneous group. As every cyclist, older people are defining themselves as individual riders. From a Mountain-Bike or Trekking-Bike to a Town-Bike or Racing Bike. Nevertheless, there are physical and psychological changes while aging. A lot of this could bring a person to stop cycling. But there are a lot of special bicycles that enable people to cycle under a lot of circumstances.

Electric bicycles:

An electric bicycle is a bicycle with an electric motor used to assist driving the vehicle while pedalling. All following special bikes are able to be equipped with an electric motor.



One problem of most electric bikes is the weight. They are normally between 25 and 30kg and therefore hard to carry in the cellar or train or they are too big to use the escalator. For people that depend on these uses, a folding electric bike, which weights around 16 to 18 kg, could be a solution.

¹⁰ <http://www.ilsole24ore.com/art/SoleOnLine4/Norme%20e%20Tributi/2009/04/incentivi-biciclette.shtml> for the initiative developed in 2009.

¹¹ <http://www.ilsole24ore.com/art/SoleOnLine4/Economia%20e%20Lavoro/2009/04/incentivi-bici-inchiesta.shtml?uuid=36a93c10-348d-11de-ba2a-2c5e3bbd96fd&DocRulesView=Libero&correlato>



Tricycles:

If the equilibrium sense is not good enough to ride a bicycle or the people are afraid in heavy traffic, a tricycle could be a good option. There are tricycles with two wheels on the front or rear as there are with saddles or seats. All variations are suitable for different persons and needs and so it is very important for the people to try out a lot of different ones. Tricycles have often the opportunity to be used as cargo bikes and can easily transport groceries.





Special frame geometry

For people that have problems getting on a bike a lower frame can be a good solution. There are even frames that have a flat area where people can put their feet and use the bike like a scooter in situations where they are afraid to cycle.



Another important aspect is that a lot of older people want to be able to easily put their feet on the ground. Because of this, they lower the saddle too much so they are not in a good position for pedalling and therefore can get knee problems. To get a good pedal position and a low position to the ground, some manufacturers change the position of the rider and bring the pedals in front of the cyclist. With this small rotation, the saddle can be fixed very low and the feet have an optimal position for pedalling.



Accompany systems and partner cycles:

There are a lot of people, that are still able to move either their hands or legs in a pedal movement but have not the control to enter the road traffic by themselves. For this persons, partner cycles are an ideal vehicle to get the joy of cycling and moving.



And even if someone has not the ability to move by himself he could be accompanied by an cyclist.

5 Further reading and related projects

5.1 Related [European] Projects

Since the late 1990ies, there have been a couple of projects dealing with demographic change and mobility. Far from being exhaustive, AENEAS wants to provide a short overview of some selected projects on the European and national level. AENEAS put emphasis on initiatives that are going beyond the technical accessibility focus and are also addressing the issue of a car generation growing old and “soft” issues (psychological & cognitive).

5.1.1 Active-Access

Active Access aims to increase the use of cycling but especially walking for short everyday trips in local areas, in order to benefit people’s health, and the health of the local economy. It aims to transfer longer car trips to shorter walking and cycling trips by changing people’s mental maps of their local neighbourhoods so that they realise what is available on their doorstep, rather than in the edge of town retail park.

Active Access started in 2009 and is co-funded by the Intelligent Energy Europe programme. A number of interesting deliverables, like the lessons from best practice case studies, is available for download on the website: www.active-access.eu. For the theme of this AENEAS reader, the focus on cycling for leisure time and cycling for shopping is especially relevant.

5.1.2 Lifecycle project

LIFE CYCLE is a project funded by the EU Public Health Programme, aligned to its overall goal of improving the health of EU citizens by fostering more physically active lifestyles. The project and its website considers itself as a source of practical ideas to inspire life-long cycling habits. Seniors have been identified as one of the target group and several case studies related to safety and health can be consulted on: <http://www.lifecycle.cc/index.phtml?ID=1427&id=1443>

5.1.3 Go-pedelec

The slogan „Go Pedelec!“ is the name of a EU-co financed project, carried out by four municipalities, three non-profit-organizations and three private companies. The goal of the project is to raise awareness about pedelecs among citizens as well as among municipal decision makers. The „pedelec“ is an electric motor assisted bicycle, which is never powered solely by the motor, but the motor is just supporting the pedalling cyclist, e.g. doubling her current muscle power contribution. Find out more on: <http://www.gopedelec.eu>.

5.1.4 VIANOVA

Within the VIANOVA project in the Interreg IIIB Alpine Space program, several projects and reports on the mobility of older people were produced. The project website is no longer online but some of project results can still be found on the web.

A safety training for older cyclists that was already being implemented in Switzerland was transferred to Liechtenstein. In Liechtenstein (<http://www.vcl.li/>), the trainings are still being provided.

Furthermore, a resource pack on biking to work was developed. This resource-pack contains a manual and various other practical and useful documents for practitioners that would like to

set up and carry out the campaign "By bike to work". Of the workers that participated in the campaign during the project life-time, 24% was 50 years or older. The resource pack can be downloaded from ELTIS: www.eltis.org/tools.phtml?mainID=457&id=495.

5.1.5 Health Economic Assessment Tool (HEAT)

The World Health Organisation has developed a guidance document and a calculation tool for economic assessment of cycling (and walking).

Download the guidance document, HEAT for cycling and user guide from: http://www.euro.who.int/data/assets/pdf_file/0011/87482/E90948.pdf

Download the calculation tool as an Excel spreadsheet:

http://www.thepep.org/en/workplan/candw/documents/Cycling_HEAT_v1.0.xls

5.1.6 PRESTO

PRESTO, a project co-funded by the Intelligent Energy Europe and is about competence building in cycling policies. The project aims to offer a set of tools for technicians to create cycle friendly urban environments, to implement sound cycling plans and to start up targeted promotion campaigns. On the Presto project website there is an interesting section on Policy guidelines and fact sheets. <http://www.presto-cycling.eu/en/policy-guidelines-a-fact-sheets>. From here Policy Guidelines on, among others, Cycling Promotion and Pedelegs can be downloaded. There are several relevant fact sheets, including the topics Adult training programmes, electric bicycles and bike testing events.

5.1.7 MESsAGE - Mobility and Elderly: Successful Ageing in a Sustainable Transport System

The Belgian MESsAGE project (2007-09) can be considered as complementary to AENEAS, since it is very much addressing the same issue: How can an ageing car generation be convinced of sustainable alternatives (walking, cycling, public transport & more), using mobility management, investments and policies/ strategies? While AENEAS is focusing on the implementation of soft measures, MESsAGE worked on the theoretical background.

The project aimed at identifying policy measures that contribute to maintaining independent mobility of the older generation and to achieving shifts towards more sustainable modes, particularly among the 55-70 years old. It also sought for good practice on participatory actions of older people in local mobility policy.

More information (in English) is available via <http://www.mobiel-21.be/Index.aspx?SGREF=627&CREF=3214>.

5.1.8 MOBILATE - Enhancing Outdoor Mobility in Later Life: Personal Coping, Environmental Resources, and Technical Support

The European MOBILATE survey (2000-02) analysed the mobility patterns of older people in five European countries and identified factors that further or hinder older people's mobility.

The MOBILATE survey stands out for two reasons: First, it describes and compares mobility patterns of older people across Europe. Second, it is a Cohort Study, meaning that it has been repeated two times with the same cohort (however not all countries/ persons were in it), indicating how personal travel patterns change when people advance in ageing. This way, the process of ageing and its impacts on personal mobility could be described quite precisely.

The website of the MOBILATE projects is not available anymore, if you are interested in products of the project and do not find them elsewhere on the web, please contact Matthias Fiedler (m.fiedler@rupprecht-consult.eu or +49-221-60 60 55 22).

5.1.9 FRAME – Freizeitmobilität älterer Menschen (Leisure related mobility of older people)

This German research project ran from 2000 until 2003, highlighting a very important part of older people's mobility: Leisure related trips. Since the elderly usually do not work anymore, this kind of trips makes up a good part of their daily mobility. However, it became clear that there are very different forms of leisure related activities, and very different forms of being mobile. With pluralising lifestyles of the older generation, leisure related mobility even becomes key to understanding the changes in mobility patterns of older people compared to twenty or thirty years ago. The study setting also differentiated between urban, suburban and rural areas, showing barriers and promoting factors for older people's leisure related mobility, particularly as regards reducing car use.

Unfortunately, only some basic parts of the FRAME website are still available (in German <http://www.evaluation.uni-bonn.de/FRAME/index.htm>). However a 17 p abstract in English can be accessed via:

<http://www.sre.wu-wien.ac.at/ersa/ersaconfs/ersa03/cdrom/papers/159.pdf>. A couple of further documents are available from Matthias Fiedler (see contact details above).

5.2 Further reading

The AENEAS team wants to recommend some further studies, good practice guides and websites that have been considered as valuable input. All documents should be available via download (where indicated) and have last been checked on the 28th of May 2010. If you have any problems accessing these documents, please contact Matthias Fiedler (m.fiedler@rupprecht-consult.eu or +49-221 60 60 55 22).

5.2.1 Cycling and health

Cavill, N. & A. Davis, 2007. Cycling and health, what's the evidence. Cycling England. http://www.dft.gov.uk/cyclingengland/docs/cycling_and_health_full_report.pdf

Lifecycle Consortium, 2010, "ACTIVE TRANSPORTATION BEST PRACTICES, http://lifecycle.cc/docs/handbook_lifecycle_finished.pdf

Lars Bo Andersen; Peter Schnohr; Marianne Schroll; Hans Ole Hein, 2000. All-Cause Mortality Associated With Physical Activity During Leisure Time, Work, Sports, and Cycling to Work, Arch Intern Med, Jun 2000; 160: 1621 - 1628.

<http://archinte.ama-assn.org/cgi/content/abstract/160/11/1621>

Blair et al. 1989, Physical Fitness and All-Cause Mortality, JAMA, 262: 2395-2401

<http://jama.ama-assn.org/cgi/reprint/262/17/2395>

Lars Bo Andersen (2007): Cycling and all-cause mortality? Presentation at the Velocity Conference in Munich.

http://www.slf.no/Trafikk_sikkerhet/Sykkelkonferansen_2006/32936/P1_Andersen.pdf

5.2.2 Cycling and traffic safety

Saelensminde, K., 2004. Cost-benefit analyses of walking and cycling track networks taking into account insecurity, health effects and external costs of motorized traffic

<http://www.sustrans.org.uk/assets/files/International/Norway%20cost-benefit%20analysis.pdf>

Theo Zeegers, Fietzersbond, 2010, Ongevallen met oudere fietsers (Accidents with older cyclists).

http://media.fietzersbond.nl.s3.amazonaws.com/documenten/ongevallen_met_oudere_fietse rs.pdf

Ingrid van Loon (Fietzersbond), 2006, Fietsen zolang het kan.

<http://www.fietsberaad.nl/index.cfm?lang=nl§ion=Kennisbank&mode=detail&repository=Fietsen+zolang+het+kan>

5.2.3 Electric bicycles

Annick Roetynck, 2010, PRESTO Cycling Policy Guide, Electric Bicycles, www.presto-cycling.eu.

Ingrid Hendriksen et al, 2008, Elektrisch Fietsen, Marktonderzoek en verkenning toekomstmogelijkheden, TNO.

<http://www.fietsberaad.nl/index.cfm?lang=nl§ion=Kennisbank&mode=detail&repository=Elektrisch+Fietsen+-+Marktonderzoek+en+verkenning>

ETRA (2010): Bicycle Market Report Belgium 2009.

5.2.4 Good practices in promotion of cycling

Péter Wolf et al (Active ACCESS consortium) 2010, Report with lessons learnt from best practice studies and adaptation to local context, www.active-access.eu

Healthy and Active Living for Seniors, Time to Ride Project, Final Project Report, Bicycle Victoris, May 2006

<http://www.bv.com.au/bikes-&-riding/30336/>

<http://www.cyclingengland.co.uk/docs/time-to-ride-project-report.pdf>

PRESTO Project consortium, Bike testing event, Give Cycling a Push, Implementation fact sheet. <http://www.presto-cycling.eu/en/policy-guidelines-a-fact-sheets.pdf>

6 Workshop presentations and group work

The AENEAS workshop of the 9th and 10th of June consisted of 5 main blocks:

- Introduction to the theme of cycling and health;
- Practical experiences cycling training and motivating older people to cycle;
- Role play by workshop participants;
- Technical site visit on bicycles;
- Transfer workshops in small groups.

In this chapter a summary of the presentations and discussions of each of the blocks is provided. The complete power point presentations can be downloaded from www.aeneas-project.eu. The results from the evaluation among participants are presented in chapter 7. Chapter 8 contains the overall conclusions from the workshop.

6.1 Introduction to the theme of cycling and health

Introduction	
Official welcome	City of Odense
Introduction to the training workshop	Bernd Decker, Rupprecht Consult (Moderator)
The AENEAS project; objectives and actions	Matthias Fiedler, Rupprecht Consult
The interplay between cycling and health, the case of older people	Lars Østergaard, University of Southern Denmark
Needs and attitudes of older people regarding cycling	Pernille Ehlers, Council of Safe traffic

6.1.1 Official welcome, Steen Møller, City of Odense

As member of the City Council and the Committee on culture and urban planning Steen Møller welcomed the participants to the city of Odense and to this workshop. The focus of the workshop is: How we can make the bicycle more convenient for older people? The share of older people in the population will increase dramatically. It is a mayor challenge to get this group from the car into more sustainable modes.

In recent time financial issues have become more important. The role of the bicycle can increase being an economic mode of transport. Cycling can also play a role in fighting health parameters. My mother needs here daily bike ride to keep in shape. Elderly who cycle on a daily basis are healthier and can take care of themselves for a longer time. It is important to develop local policies on cycling.

D3.2.4 Cycling and Health in an Ageing Society

Odense has been the bicycle capital of Denmark for several years. We have a network 540 kilometres of bike lanes and hundreds of speed bumps. Cycling is a popular way of transportation. The modal share of cycling is:

- 24% of trips in Municipality;
- 50% of trips in central areas.

From the AENEAS actions in Odense, more people will benefit. The goal is to cycle more and to be more active in daily life. We co-operate closely with local associations. In 2009, 24 cycling trips with cycling captains have been organised. There were up to 15 participants for each trip. On each trip there were talks by people from the municipally on cycling and traffic safety measures. The cycling trips are very popular. The 8 captains want to continue this year and the average score given by the participants has been 4.9 on scale of five. We have already decided to continue the cycling trips in 2010 in the framework of the Odense Cycling Capital programme.

Sharing knowledge across national borders will benefit us all in finding ways to increase the use of sustainable modes among elderly citizens.



6.1.2 Introduction to the workshop, Bernd Decker

The focus of AENEAS is on older people who are moving from their working life to a retired life. What are the challenges? The participants of the workshop are coming from different types of organisations and during the training we want to facilitate the exchange among the participants.



The objectives of the workshop are:

- Basic understanding of the challenges emerging from a car generation growing old, looking at their requirements, behavioural routines and preferences;
- Showing the links between cycling and health regarding the generation 50+;
- Provide examples of practical experiences on activating older people to cycle and training schemes for safe cycling for older people;
- Create an interactive environment and work in small groups to enhance learning and knowledge exchange;
- Give an insight into the integrated approach for cycling in Odense, through technical site visits and case study transfer sessions.

6.1.3 The AENEAS project, Matthias Fiedler

Matthias Fiedler, AENEAS project coordinator, presented AENEAS, a project started in August 2008 and co-funded by the Intelligent Energy Europe Programme of the European Commission. The project is carried out by a consortium of five cities, two European networks, two supporting organisations and a project ambassador.

Population 65+ is expected to double between 1995 and 2050 in the EU-25. Europe is challenged with a car generation growing old. More and more older people have a driving licence. There is also a growing motorisation rate among older people. Things are changing. We need to react both for sustainable mobility and for reasons of independence of older individuals: for them to have more mobility options. AENEAS is not about telling people to stop driving, but convincing people to use modes in a balanced way and to try other options.



The transport system must be adapted to the demographic change. Older people need to be motivated use sustainable transport but also need to be enabled to use them. The group of older people is now more heterogeneous than it was thirty years ago. Mobility management measures for older people have to take the needs of the target group into account, for example in the ways of communication.

The aims of the AENEAS project are:

- Promote sustainable alternatives to the private car (encourage);
- Make sure that older people can use them (enable);
- Keep senior citizens fit and mobile;
- Improve safety of older people in transport;
- Exchange knowledge across Europe;
- Create awareness for the (future) dimension of the challenge.

Each of the five AENEAS cities has three local (soft) measures, which are actually being implemented. The AENEAS cities are Donostia-San Sebastián, Kraków, Munich, Odense and Salzburg. Examples of local measures are mobility management, awareness raising, training and mobility days. The local applications aim to achieve modal shift and to positively influence abilities of older people to live healthy and independently. More information on the local measures can be found on the AENEAS website. The Munich measures were presented during the workshop.

What can AENEAS offer to mobility professionals throughout Europe?

- Training sessions like the Odense event. There will be one further training workshop on 24-25 November 2010 in Salzburg;
- A webpage in different European languages. One of the features is the Good practice database. Everybody is invited to add further good practices to the database;
- AENEAS will be producing high level printed deliverables like the Study Tour Catalogue, that will be distributed among the AENEAS network members;
- AENEAS is building a network of professionals who want to share experiences on the topic of mobility for older people.

6.1.4 The interplay between cycling and health, the case of older people, Lars Østergaard, University of Southern Denmark

Health impacts are just one of the impacts of cycling, besides impacts on environment, energy use, accessibility and liveability.

Cycling changes the Cardio Vascular and Diabetes (CVD) risk factors, because of:

- Reduced systolic and diastolic blood pressure;
- Improved insulin sensitivity: making the muscles more able to subtract glucose from the blood (on the longer term reducing the risk on diabetes);
- Lipid transporting enzymes increase in the muscles, leading to a lower degree of atherosclerosis (thickening of the artery walls).

Most of the quantitative data in this presentation is based on three large cohort studies done by the Copenhagen Centre of Prospective Population Studies¹².

Cohort Studies Copenhagen Centre of Prospective Population Studies (CCPPS)

¹² See for example: Lars Bo Andersen, et al. *A Comparison of Mortality Rates in Three Prospective Studies from Copenhagen with Mortality Rates in the Central Part of the City, and the Entire Country*. European Journal of Epidemiology, Vol. 14, No. 6 (Sep., 1998), pp. 579-585

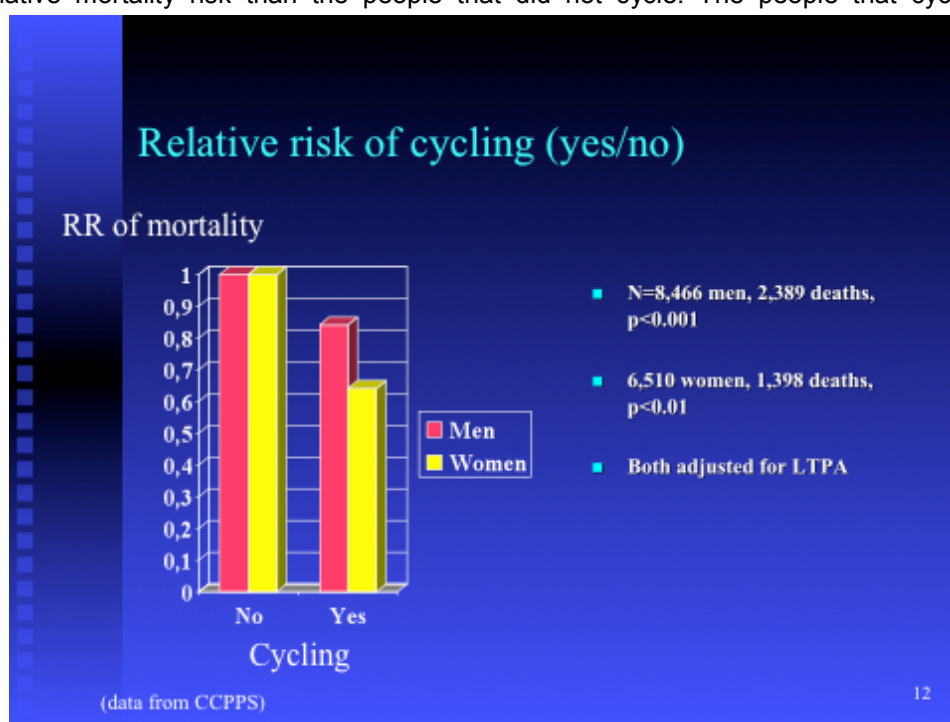
The Copenhagen City Heart Study: 8.489 women and 7.188 men participated. Investigations in 1978, 1981 and 1992 Ages between 20-93 years.

The Glostrup Population Studies: 4.972 women and 5.026 men tested between 1964 and 1993 - birth cohorts. Most have been tested 2-4 times at 5- or 10-years intervals.

The Copenhagen male Study: 5.244 males: were tested in 1970 and retested in 1971, 1976, and 1985. 3.355 were examined in 1985.

In total 30,896 persons participated of whom 8.654 died. Repeated measurements of Leisure Time Physical Activity (LTPA) are available for 9.008 men and 8.491 women.

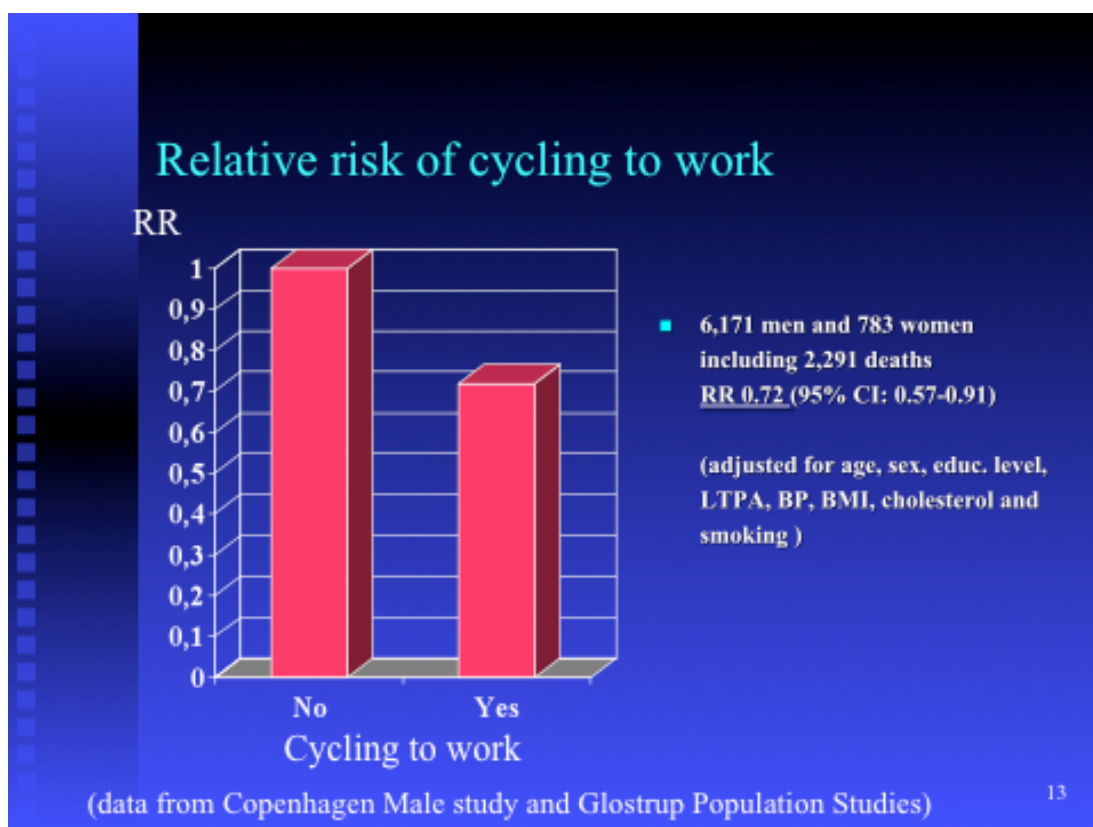
In a specific study on Mortality associated with Physical activity during leisure time, Lars Bo Andersen¹³ et al. investigated the impact of cycling on mortality rates. Cycling in hours per week was assessed among 6.510 women and 8.466 men in the age ranges of 20-93 yr. During 162.016 person-years, 3.787 died. The chart shows that the people that cycled had a lower relative mortality risk than the people that did not cycle. The people that cycled,



bicycled on average 3 to 4 hours per week. The differences between men and women in the chart were not significant statistically. The strength of this study was that it adjusted for leisure time sport activities.

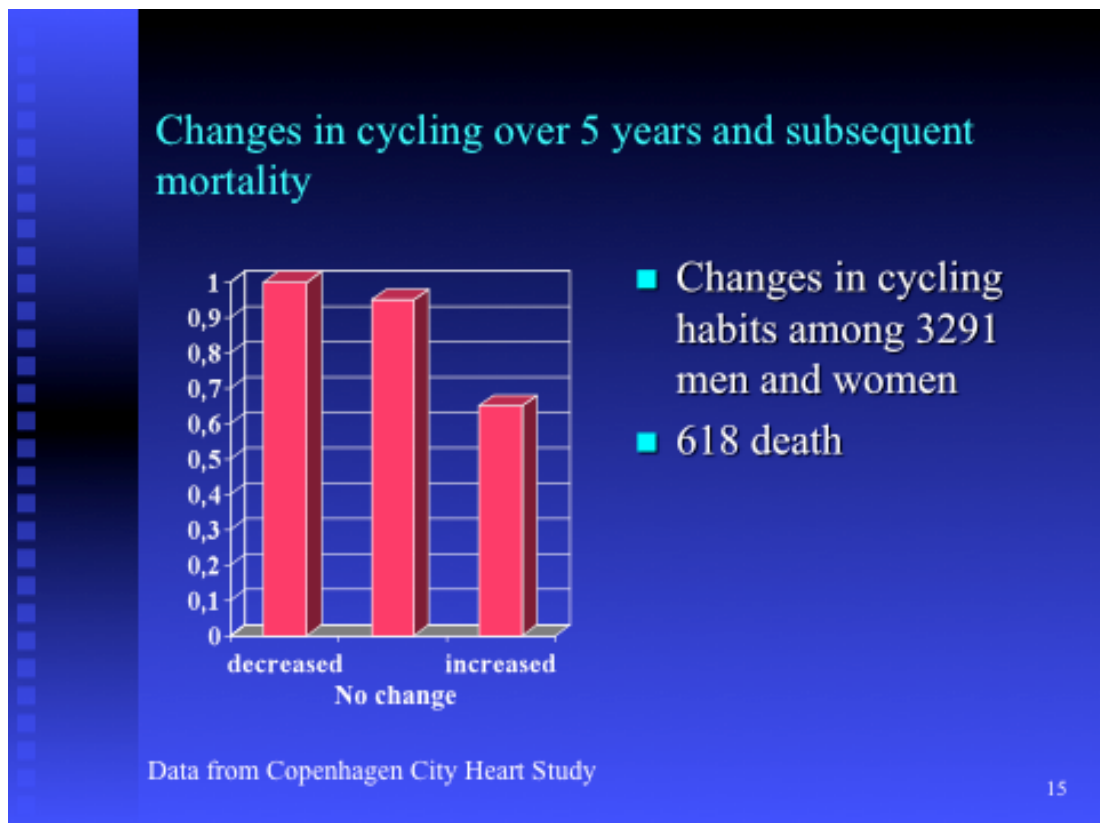
In addition, cycling as transportation to work was assessed among 6.171 men and 783 women with 2.291 deaths during a 145.555 person-years follow-up.

¹³ Lars Bo Andersen; Peter Schnohr; Marianne Schroll; Hans Ole Hein, *All-Cause Mortality Associated With Physical Activity During Leisure Time, Work, Sports, and Cycling to Work*, Arch Intern Med, Jun 2000; 160: 1621 - 1628.



For this group the relative risk for all cause mortality is 30% lower for commuter cyclists, even after correcting for factors like blood pressure, smoking and LTPA.

In a next step of the investigation, the 5-year changes in cycling habits and subsequent mortality were analysed for 3291 men and women including 618 deaths. The chart below compares people with no changes in their cycling habits to people that had decreased cycling and people that had increased cycling.



55% decreased or kept the same cycling habits. This group experienced 398 deaths. If mortality among these had been 0.65, like among the group of people that increased cycling, then 139 deaths had been prevented. This equals to 22% of all deaths. The conclusion is that 22% of all deaths could have been prevented if all people had cycled more.

This figure can be put in perspective by comparing it to deaths caused by traffic accidents. During a relatively bad year in traffic safety in Denmark, 2008, the number of people killed in traffic was 394 people killed in traffic in DK of which 57 cyclists. In that same year 12.000 deaths could have been prevented if everybody had cycled. Another comparison: If obesity would be eliminated in Denmark it would prevent "only" 4.000 deaths.

According to the Danish National Statistics cycling has decreased from 45-30% between 1980-2000. Consequently 15% of the population have a 1,39 times increased mortality rate, increasing the number of deaths with 4.8%. Since 60.000 people die every year, the decrease in cycling accounts for 2880 deaths per year.

The conclusion that health benefits of the physical activity related to cycling outweighs the risk of traffic accidents is also found by Pucher et al. (2010)¹⁴ in a review of existing research from different parts of the world: *"...health benefits of bicycling far exceed the health risks from traffic injuries, contradicting the widespread misperception that bicycling is a dangerous activity. Moreover, as bicycling levels increase, injury rates fall, making bicycling safer and providing even larger net health benefits"*.

A recent study from the University of Southern Denmark (still to be published) included 50 men and women who were not cycling to work. The group was randomized into a cycling and a control group. The cycling group cycled on average over 5 kilometres to work. The research was controlled for known and unknown confounding factors. The study shows that

¹⁴ John Pucher, Jennifer Dill and Susan Handy (2010), Infrastructure, programs and policies to increase bicycling: An International Review. Preventive Medicine 50 (2010) S106-S125.

the cyclists increased fitness by 9%. A similar percentage was also found in studies among Danish children and adolescents that are cycling to school¹⁵.

A 9% increase in fitness has a large impact on reduced risk for all caused mortality¹⁶ and also reduces 3 to 4 times the risk on Metabolic Syndrome. Metabolic syndrome is an enhanced state of developing cardio vascular disease and diabetes. A person that has 3 out of 5 risk factors is considered to have the Metabolic Syndrome. A person with Metabolic Syndrome has a 2 times higher risk on Cardio Vascular events and 5 times higher risk on diabetes compared to a healthy person.

With the data from the Copenhagen cohort study it is possible to carry out an economic valuation of walking and cycling using the Health Economic Assessment Tool (HEAT) of the World Health Organisation (WHO).
http://www.euro.who.int/data/assets/pdf_file/0011/87482/E90948.pdf .

Factors taken into account in the economic valuation are:

- Economic burden on the health care system (known expenses from the national statistics of the different diseases);
- Value of lost production;
- Quality and quantity of life years (QALY).

The outcome of the economic analysis is that in Denmark cycling is economically beneficial.

In the Danish studies, it was not possible to differentiate between age groups, meaning that among the elderly the health benefit is the same. A study of Huy et al. (2008) does show positive impacts on 50-70 year olds. However, it should be noted that this study was based on self-reported behaviour and self reported health so the evidence is less strong compared to the Copenhagen cohort study. The study involved 982 randomly selected men and 1.020 women in the age range 50–70. Relevant conclusions were¹⁷:

- Self-assessed health correlates positively with bicycle use in everyday life;
- Those who regularly cycle for transport are less likely to have medical risk factors.

6.1.5 Needs and attitudes of older people regarding cycling, Pernille Ehlers, Council of Safe traffic

Danish statistic on **traffic accidents** show that elderly cyclists:

- Have a higher risk of injury than younger cyclists;
- Have a higher share of head injuries;
- Are over represented among killed cyclists;
- Mostly have single accidents (meaning that no other person is involved in the accident) and in one fifth of these accidents the person involved has a head injury.

¹⁵ Cooper, A.R., Wedderkopp, N., Wang, H., Andersen, L.B., Froberg, K., Page, S.P. Active Travel to School and Cardiovascular Fitness in Danish Children and Adolescents. *Med Sci Sports Exerc* 2006; 38(10): 1724 -1731.

¹⁶ Blair et al. 1989, Physical Fitness and All-Cause Mortality, *JAMA*, 262: 2395-2401

¹⁷ Huy C, Becker S, Gomolinsky U, Klein T, Thiel A. Health, medical risk factors, and bicycle use in everyday life in the over-50 population. *J Aging Phys Act*. 2008;16(4):454-64.

D3.2.4 Cycling and Health in an Ageing Society

In relation to the last point it is interesting to see that only 16% of the older cyclists in Denmark wear a bicycle helmet.

The figures do not necessarily mean that older people should refrain from cycling all together. On the level of the society as a whole the previous presentation showed that cycling of older people is beneficial from an economic and health perspective. Also a city government can increase safety among cyclists by providing a safe cycling infrastructure. Furthermore, on an individual level it is possible to increase the traffic safety of an older cyclist. The Danish Traffic Accident Investigation Board recommends the use of bicycle helmets and the use of adapted bicycles with low frames that make it easier to “stop-and-go” and thereby improve orientation at traffic junctions.



To better understand the attitudes of elderly cyclists and to get inputs for future communication strategies, Sikkertrafik organised **focus groups** interview sessions in four Danish cities. The participants in the groups were between 65 and 75 years old, included men and women and were riding a bicycle at a minimum once a week. The groups consisted of 9 to 11 persons and included both helmet users and non-users.

The target group is heterogeneous with different interests, levels of activity and mental/physical health. The participants certainly did not want to be looked at or talked to as being a special “old” or “senior” group. They want to live “here and now” and do not want to think about future challenges, such as illness or loss of mobility.

The participants are riding a bicycle for shopping, transportation, trips, exercise, teach and cycle with grandchildren and for holidays. Trips are usually 2 to 5 kilometres long, although some participants made trips of up to 40-70 kilometres.

Reasons for cycling and barriers against cycling according to participants in focus groups	
Motivation for riding a bike	Barriers against cycling
FREEDOM <ul style="list-style-type: none"> Fresh air Quick and easy No parking of car Faster than walking Cheap See and smell surroundings Being "cool" Good way of being social Less hard on knees 	NOT ALWAYS COMFORTABLE <ul style="list-style-type: none"> Transport of large items Too long distances Snow/rain/wind Too warm Risk of falling in winter/ice Too much traffic Darkness

The participants could not imagine a life without being able to ride a bicycle. They have a high motivation to stay mobile because of the joy and freedom of cycling. At the same time they "deny" to face the fact that their body is getting more fragile and that they might get less mobile one day. The motivation to make changes is there, but not until they think it is relevant: and that's when they get OLD!

According to themselves, the safety of cyclists can be improved by:

- Good bicycle lanes;
- Respect from others in traffic;
- Good bicycle routes and interesting places to see.

Upon the suggestion of the moderator of the usefulness of an adapted bicycle the general answers was that that was something for when they would be old.

Reasons for (not) wearing a bicycle helmet	
Bicycle helmet drivers	Bicycle helmet barriers
<ul style="list-style-type: none"> Husband/wife/grandchild convinced me Has been involved in accident with head injury or "near miss" Friend or family involved in accident with head injury Sense of safety Good role model Age not a motivation! 	<ul style="list-style-type: none"> Never considered it It's only for children My hair is ruined I look stupid Too warm I have never fallen Unpractical No nice models for me

During the focus groups, the moderator made people try on bicycle helmets. Once they had tried the helmet, many of them changed their mind about. It was helpful to do this in a group with helmet users and non-users, since the users helped the others.



How to communicate safety messages or the motivation to continue cycling? The experience with the focus groups teaches us that it needs to be a combination. The primary focus is on the Joy of cycling and on Freedom. For example:

Get unique experiences: take your grand children out in nature!

The secondary focus can then be more about safe cycling, for example:

Your own safety is important, so that you can keep cycling

Keep your skills and mobility – don't stop cycling

Be a good role model for future cyclists

Use a bicycle helmet and change your bike – rather too soon than too late

It is important to understand to whom and what the older cyclists are listening or reacting:

- Grand children – they want to be good role models;
- Husband/wife – moderate pressure can work;
- Discounts – special "senior offers";
- The Danish Age Society - good source of information;
- Not to traditional information campaigns!

Communication with older cyclists must take the heterogeneity of the target group into consideration and meet them where they are. Furthermore the communication must focus on the "here and now benefits" instead of possible future consequences. The safety message

should be secondary. Local initiatives are more effective than large media campaigns. In a small local project you can benefit from group dynamics.

During the question and answer session, the topic of bicycle helmets was discussed. In Denmark there has been a national campaign for people designing a helmet. 17.000 people participated. The five winning helmets were actually made. See: www.minhjelm.dk. Campaigns like this help to make cycling helmets more known and fashionable. One workshop participant expressed his concern that it can be dangerous to only focus on wearing a (fashionable) helmet and not on using a safe helmet.

Fashionable workshop participants during the site visit (Picture by: Bernd Decker):



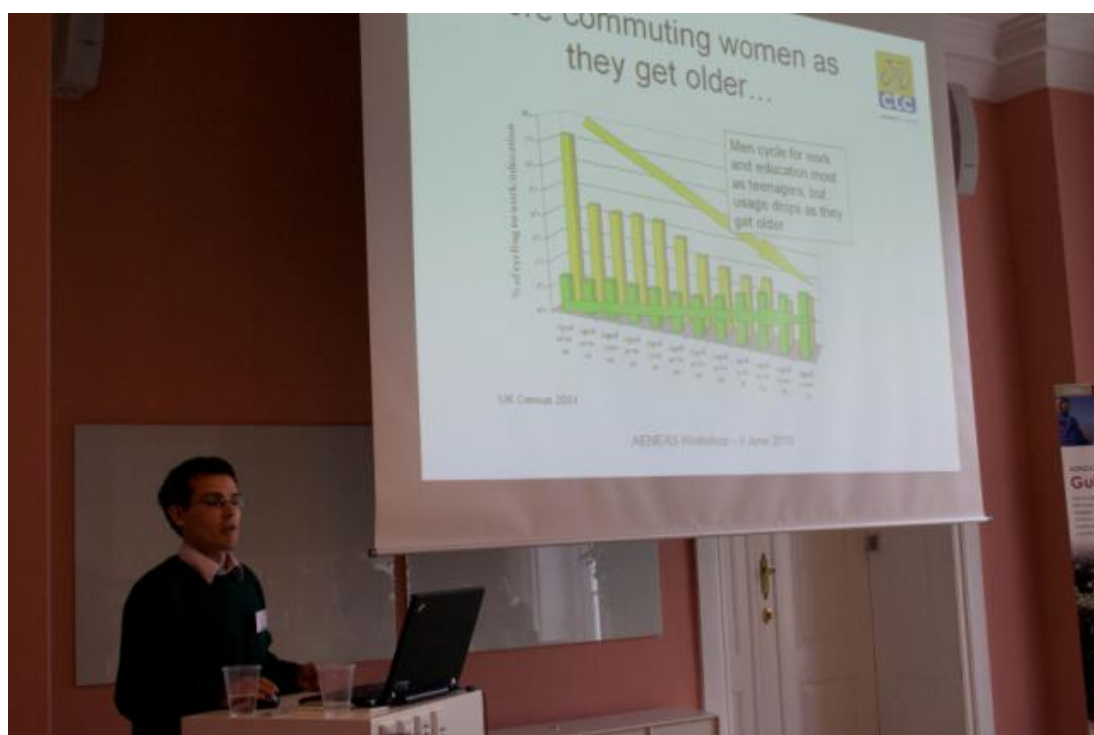
6.2 Practical experiences cycling training and motivating older people to cycle

Experiences – cycle training and motivating older people to cycle	
Activating older people to cycle in the UK	Chris Peck, CTC
Motivate & keep senior citizens cycling: Approaches from Odense and Munich	Dorthe Råby, City of Odense and Andreas Schuster, Green City
Mobility in Odense with focus on older people	Connie Juel Clausen, City of Odense
Training for safe cycling in the Netherlands	Mario Kramer, Fietzersbond

6.2.1 Activating older people to cycle in the UK, Chris Peck, CTC

CTC is part of the European Life Cycle project that is identifying methods of sustaining life-long cycling. Lifecycle has a focus on 'life events' or upheavals, which make changes in behaviour possible. A person of 50+ has an expected life-event in the point of retirement. In addition there are several upheavals that come unexpected:

- Results of a health screening;
- Caring for a family member;
- Loss of driving licences;
- Disease or disability.



The Lifecycle project considers all stages of a human life. Within Lifecycle, the CTC projects focussed primarily on health/well being for older people.

Cycling in Britain is almost the lowest of the EU15. The UK also has the worst public health in Europe. There is a lost generation of cyclists, without any basic skill trainings. A study of Cycling England showed that there is an economic benefit of getting more people cycling because of the value of preventable deaths. The benefit of a cyclists of 16-44 years is 22 GBP and the benefit for an additional cyclists between 45 and 64 years old is more than ten times higher, namely 235 GBP. Very few of the older people have access to a bicycle. Over 60 it is only one in five that owns a bike.

The CTC **Cycle Champions Programme** is an intensive 4 years programme in 13 English towns, specifically in areas with high deprivation. The aim is to involve the harder to reach target groups in the local projects. The projects are 60% funded by the National Lottery and 40% is paid by the cities. In most cases it is CTC who provide the bicycles. The bikes are kept in a shipping container on site during the course time. In the last five years CTC had a special programme to train the instructors. A lot of them are CTC members, 50+ themselves and keen to share their knowledge and experience.

In *Swindon* an eight-week course for participants of 50+ is being organised. A similar programme was already running before. Some of the participants had never learned to ride a bike. It is usually 2 hours every week during a 6-8 weeks period. The course starts with basic skills and then builds to longer guided rides later in the programme. Older men were recruited through a local football club. The course is fully practical there is only a short theoretic part.

In *Manchester* a 6-week course with complete beginners is run in conjunction with a local health promotion scheme (Active Lifestyles Team). People that participate in the course receive a certificate. The man that runs this project says that most of the participants want to use tricycles. Part of the participants is referred to the programme by their doctor.

In *Colchester*, CTC is working with local health programme for cardiac rehabilitation. People are referred to the cycling scheme by their doctor.

The key issues related to health promotion in the Cycle Champions Programme are:

- Start with the basics, handling skills and confidence are very low after decades without cycling;
- Training goals give sense of progression and confidence. Certificates are incentives:
- Partnerships with health authorities, Age concern (national charity), University of the Third Age (U3A).

Another large CTC project is the **Workplace Cycle Challenge**. The challenge aims to foster competition between organisations within a town. Company teams can win prizes for getting more people cycling. Usually around 20-25% are new cyclists or who haven't cycled in a year. They are convinced by their colleagues to participate and the more experienced colleagues also accompany them during the commute. The method turns out to attract a considerable share of older car drivers. In 2010 there are bicycle challenges ongoing in 13 towns in the UK. Results from previous years show that 84% say that they will cycle more. A third of non-cyclists go on to cycle once a week or more. The Leicester cycle challenge was held during two weeks in May 2010. In Leicester, 38% of the 1.486 participants were over 45 years old.

The **Bike and Leisure project** is a co-operation with leisure areas. The project consists of providing fleets of bikes in these leisure areas where visitors can try cycling for free.

6.2.2 Motivate & keep senior citizens cycling: Approaches from Odense and Munich, Dorthe Råby, City of Odense and Andreas Schuster, Green City

Guided Cycling Trips in the city of Odense



The aim of the project is to encourage and promote cycling among older citizens. The reasons for starting the project were threefold. First, there is a decrease in the number of cyclists among older citizens, especially for the 70+ group. Secondly many of the car trips are less than 5 kilometres and could be done with a bicycle. Last but not least, the health benefits of cycling for older people.

The City of Odense has chosen as a target group people of 60+ who were already cycling and wants to encourage them to cycle more.

To recruit volunteer cycle captains, adverts were placed in the local newspaper, the city's homepage and in a magazine for older people. 8 citizens were recruited as cycle captains. In each trip, two of them are participating. The cycle captains are not being paid for their services. They did receive a cycling helmet. Before

starting the programme the cycle captains received training on the following topics:

- First aid course;
- How to cycle with larger groups;
- Information about cycling policy in Odense.

The cycling captains all have to wear a helmet. More than half of the participants of the trips are using a helmet. These 8 cycle captains are really the champions of the project and central to its success.



The concept of the guided tours is a focus on the social aspects. There is a maximum of 15 participants, because the people need to be able to talk to each other and get to know each other. There are different breaks including a lunch break. The marketing message to find participants is:

Come and join us: it is fun to do and you will also learn about cycling policy in Odense.

The offer of trips is varied to be able to attract different types of participants. All the trips have different lengths, destinations, starting points and speeds (slow or fast group). The shortest trip was 7 kilometres and the longest 36 km.

During 2009, 24 trips were organised although only 10 trips had been planned originally. WE had about 250 participants during the first year.

The target group was reached with adverts in the local newspaper and in a magazine targeted at older people. There is also a homepage for the programme where you find the information for all trips. You can register online for the trips. On the website there are also pictures of the cycling captains. Since we are working with older citizens we also have a phone service. Posters and brochures distributed to libraries and sport clubs and the project was promoted during the local Flower festival.

Of the participants 60% were women and 40% men. Most of the people were cycling on a regular basis. 4% were non-frequent cyclists. About one third of the participants stated that they would cycle more frequently in the future.

The main lessons for from the project are:

- Focus on experiences and FUN: rather than on transport;
- Social aspects are important;
- Promotion through local newspapers and “mouth-to ear” among older people.

Older People Cycling Scheme in Munich

Green City started in 2006 with and cycling scheme for older people with the aims to:

- Enable older people to travel safely and energy-efficient;
- Enable participant with more information about special bikes;
- Show that there is a bike for every person.

In 2009, Green City organised events in an open space for a large audience showing special bikes.

In 2010, a course for smaller groups was started with a theoretical and practical part. These sessions are organised in senior citizens service centres in different districts of Munich.

The theoretical part of the programme consists of:

- Traffic safety session with a local policeman;
- Age conditioned change exercises with a physiotherapist;
- Information on adequate clothing and transportation tools, considering small changes to the bicycle itself;
- The Gunda Krauss project: Showing that it is possible for an older citizen to cross Germany on a tricycle.

During the practical part of the programme the participant people can touch and try the different types of (special) bicycles.



The marketing for the courses is done through local and neighbourhood newspapers as well as with announcements at the senior citizens service centre.

D3.2.4 Cycling and Health in an Ageing Society



The main lessons learned:

- Share with experts like police and medical service, both with a certain authority among the target group, to better reach the older people;
- The most important barrier for special bikes is the price/the risk of theft but also a proper infrastructure is needed. The cycling lanes & paths have to be wide enough.

The German recommendation is 1,50 – 1,85m width (depending on type of infrastructure), but most of the existing cycling network does not reach this standard;

- Prejudices against these kinds of cycles are declining in the last 5 years. It is more accepted and in Munich you can see more on the streets.

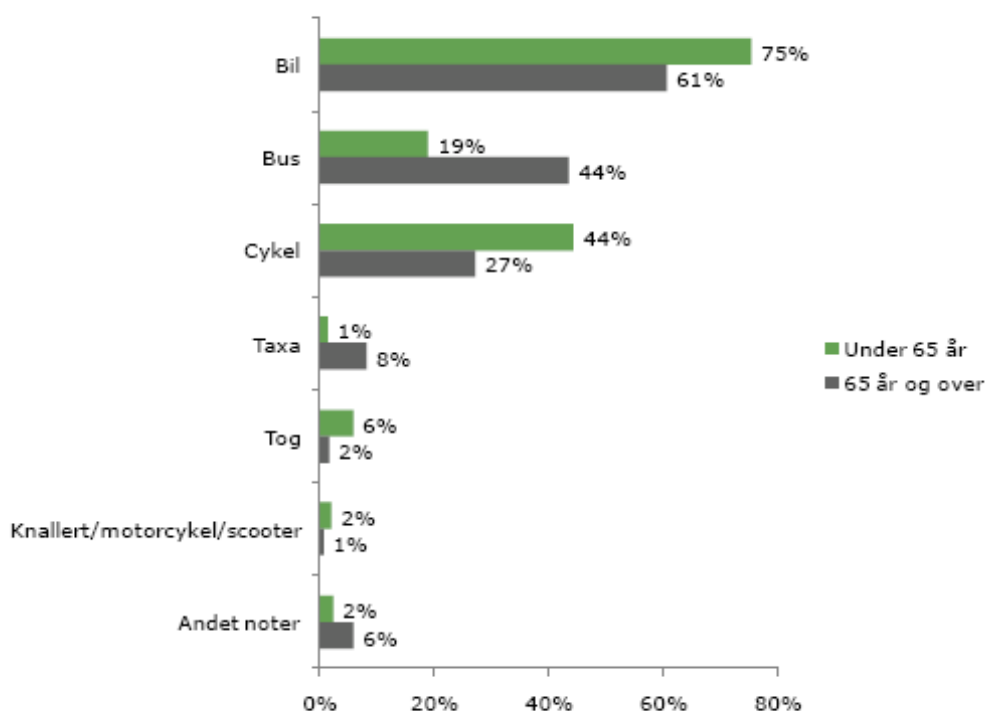
6.2.3 Mobility in Odense with focus on older people, Connie Juel Clausen, City of Odense

Odense is the 3rd largest city in Denmark with 187.000 inhabitants and 187.000 bicycles. Among the University and different educational institutions there are 30.000 students. Odense is known as the cyclist city of Denmark. There are 510 kilometres of cycle paths there are no mountains and the climate can be characterised as cold, wet and windy.

Since 1995 there is a slowly increasing trend in trips with two-wheelers (bicycles and mopeds) while trips by cars and public transport are slowly decreasing. Today every fourth trip in the municipality is done by bike.

A recent survey compares the common modes of transport among age groups in Odense. The light green represents the answers of the people under 65, while the darker green is for people of 65 and older. For both groups the private car (= Bil) is the most important transport mode. For the younger people the second mode is the bicycle. For the older people the second mode is the bus.

1. Hvilke transportmidler benytter du helt generelt?



At the same time the access to a car is decreasing with age. Of the group of 18 to 64 in Odense, 88% has access to a car. For the people of 65 and older it is 65%.

In the summer of 2009, the Odense City Council approved a new traffic and mobility plan. The objectives for public transport are:

- Competitive travel times;
- Select important destinations;

D3.2.4 Cycling and Health in an Ageing Society

- High frequencies;
- High comfort (buy SMS ticket, free onboard Wi-Fi access);
- Introduction of light rail either on tracks or rubber wheels.

The use of the city centre has decreased with 22% compared to 20 years ago. A peripheral shopping mall accounts for 50% of shopping in Odense. Now only 2% of the people visiting the city centre are over 65. The city wants to make walking in the centre more attractive by making changes in the layout of the pedestrian routes.

Opinions of seniors about cycling in Odense:

- Most seniors are happy about the conditions in Odense. Only few have comments on the level of maintenance;
- The most important problem is caused the younger bikers who are overtaking them at high speeds on the cycling lanes;
- Old pedestrians do not know how to cross the cycle-shunts;
- Complaints about parked bikes in the pedestrian area.

Odense has a long tradition of cycling policies with the first cycling lane being built in 1895. Nowadays there is a network of 510 kilometres of paths, which equals 90% the network the city would like to have. In 2010 Odense is present at the Shanghai Expo with the Spinning Wheels exhibition. Some elements of the cycling policy are:

- Attractive design, for example of a bicycle parking;
- Special solutions, like anchoring bicycles to the ground to prevent theft;
- Free flowing of bicycle traffic (tunnels, bicycle shunts for turning right, right for cyclists to pass a red light at certain crossings);
- Good maintenance of cycling lanes also during winter time;
- Additional services like public air pumps, automatic cyclists counters and speed measurements for cyclists.

In 2010 a new programme City of Cyclists has been started. The vision is: "Odense must be the city where cyclists feel at best - because Odense makes it easier, safer and more comfortable to cycle". The programme contains 47 projects. One of them is the AENEAS project. Another project is about electric bikes. We have bought 100 electric bikes and lend them out to citizens. 50% of the participants are above the age of 50.

Other projects are:

- Free flowing (normally between one third and one forth of a trip is taken up by waiting);
- Campaigns and information;
- City bike system: in the autumn of 2010;
- Parking and service in the city centre and close to the railway station.



6.2.4 Training for safe cycling in the Netherlands, Mario Kramer, Fietzersbond

The Fietzersbond organises Senior Cyclists Information days for several reasons. Firstly, because cycling can improve mobility of older people. Furthermore, cycling is an energy efficient and healthy way of travelling. However, cycling can be dangerous too.

Older cyclists have problems with loss of physical condition, resilience and anticipation. They also have a higher risk on a fatal accident.

In the Netherlands women stop cycling on average at the age of 75 while men stop at the age of 80. This could be explained by the increased locomotor disability among women.

Research among 1000 older cyclists in the Netherlands¹⁸, showed the main reasons for stopping with cycling. 45% of the respondents that stopped cycling had done this because of medical/health reasons. About one fifth of the people that stopped mentioned the following reasons: too heavy traffic, insecure on the bike, distances too large.

In some cases it is the children who have to say: "mom, dad, it is no longer safe for you to cycle. We take your bicycle away".

(dis)advantages of cycling according to older cyclists in the Netherlands	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Healthy • Relaxing • Independence • Environmentally friendly • Door-to-door transport • Easier to park than a car • Relatively cheap 	<ul style="list-style-type: none"> • Chilly, cold and wet weather • Theft of the bicycle • Hard to carry luggage • Cycling can be dangerous Intersections with heavy traffic (plan different routes to avoid this) • A loss of energy

Source: van Loon, 2006

The cycling information days are being organised since 12 years in the Netherlands. In total there are 75 skilled trainers. It is estimated that there will be 100 cycling information days organised in 2010. The information days follow common guidelines and a common programme. The guidelines also include instructions about the preparation of the information day. Before the info day, the trainer needs to invite local contributors, like the police a local mechanic etc.

In most cases a Municipality or a Provincial government funds the info day. For the promotion of the info day, the Fietzersbond has found out that traditional advertising, posters, brochures, and an article in the local paper are not enough. It is more effective when a selection of older citizens is invited directly with a personal letter from the Mayor. In the communication to the target group the course is referred to as a cycling information day because people say that they can already cycle.

¹⁸ Ingrid van Loon (Fietzersbond), 2006, Fietsen zolang het kan.



There is a fixed programme that takes from 9.00 am until 4.00 pm. The elements of the programme are:

- Welcome, by a local politician and the trainer. Short introduction round of the participants;
- Theory of cycling and traffic safety. Can include a presentation of electric bicycles;
- Check up, of ears and eyes of the cyclists and of the bicycle. Often the cyclists are too high on the bicycle. There is a risk for falling. On the other hand it is better for the knees to have a higher saddle;
- Discussion unsafe situations in co-operation with local police;
- Cycling gymnastics;
- Lunch;
- Practising cycle skills, in a controlled area;
- Bicycle tour through the town;
- Evaluation forms filled in by participants. The participants receive a certificate from the trainer or the local politician.



In general, the participants are satisfied with the info day, valuing the day with an average score of 8. Participants feel more assured about their bicycle abilities after the course.

6.3 Role play by workshop participants

For this session 10 of the workshop participant received a short instruction for a role to play during a stakeholders meeting in a typical European city. The meeting was being organised on the request of the Grey Leopards Group who requested to expand the cycling network and services for older people. More specifically, they requested for a cycling lane from the biggest old peoples home towards the cemetery.

The following roles were played:

1. Representative of the Grey Leopards Group
2. Representative of Unrestricted Mobility for Free Citizens
3. Mobility Councillor of the City
4. Representative of the city shop owners association
5. President of cycling NGO
6. Representative of health insurance
7. Policy Officer
8. Representative of Automobile Club
9. Representative of Public transport operator
10. Local journalist



After the introduction by the representative of the Grey Leopards group a heated discussion took place. Under the pressure of the auto-lobby, no specific promise was made by the politician for new cycling infrastructure.

In the evaluation after the discussion, many of the audience commented that they recognized the typical arguments from their own local stakeholder meetings. Being a traffic planner can be very hard since most of the people in the town feel that they know everything about the topic. The politician commented that entering in the discussion felt as coming into a war zone. At the same time, there was no one who really tried to pull things together.

6.4 Cycling site visit

Rapporteurs: Gabor Heves and Andrés Martínez

The site visit started from the location of the workshop and the participants were divided into two groups. The groups visited a rehabilitation centre and saw different types of cycling infrastructure solutions including cycle shunts and cycle counters. Local Odense staff explained how older citizens are motivated to cycle more. The groups passed the town Hall to see an exhibition about the Odense pavilion at the Expo Shanghai 2010. The visit continued along the river through the Fruens Bøge park. In Engen the workshop participants were joined for lunch by group of 15 older citizens and two cycle captains. This group was having one of the AENEAS guided cycle trips on the same day.



6.4.1 Rehabilitation training centre

The site was originally a factory area. Odense was a big industrial centre until the 1960s. Then it was gradually converted into other purposes. Now there is – among others – a kindergarten, residential houses, and a training centre to rehabilitate older people.

In the training centre there are all kinds of rehabilitation activities, e.g. injury, after accidents, stroke, broken leg. The rehabilitation takes into account the physical, social, psychological aspects, to assure lasting effects. People come here for 1-2 months, half a year or a whole year – depending on the needs. Patients are usually delegated by hospitals, based on a recovery plan. The service is paid by the healthcare system. There are altogether 130 therapists in Odense. Besides training in the training centre, there is also rehabilitation/training in nature, traffic, or peoples' homes.

In Odense every older person is visited twice a year after the age of 75 (or after 65 if the person is a widow or has a foreign background). They check if there are any special needs, and the general health condition, with the main aim being prevention. If needed, the visited individual can come for preventive rehabilitation.

The training centre is well equipped with various rehabilitation tools. We tried out and discussed the use of room bikes. They are used to improve the conditions of people so that they can get back to using real bikes. These bikes have low entrance frames. On real bicycles, the too high frames pose a large risk when one quickly wants to get off.

As part of rehabilitation patients try out the cycle, experiment with getting on and off, adjust the saddle etc. By using it, they improve balance, strength, endurance and cognitive capabilities. The most important example for the latter one is the capability to watch/see to the side. (E.g. after stroke this is often not possible any more.)



After the rehabilitation the individuals bike again for social purposes and use them safely. Safety is first: if it is not safe after the rehabilitation (e.g. after a stroke) they try to find other purposes for the patient. This can be either a modified bike (e.g. a two-seater) or something completely new (some other leisure activity instead of biking).

6.4.2 Cycling infrastructure in Odense

We began the tour on the **cycle ring-road** that goes around the pedestrian central zone. This route is marked with knobs built into the asphalt surface.

An important priority in infrastructure development is to assure the relatively **high speed of biking**. For example, reduce the waiting time at red traffic lights. Here, cycle shunts (shortcuts) were built, which allow turning right directly with no waiting at all. However, an issue is that older people and blind people do not feel comfortable crossing it. There is an East-West cycling path – this is the only route in this direction. Due to its importance, efforts were made to allow fast cycling here. Obstacles were eliminated.

There are 510km cycle paths in the city, in addition more and more **30km/h zones** are introduced in residential areas – this makes cycling even more competitive. Soon, all residential areas will be designated as 30km/h zones in Odense. Soon, also a major road through the centre will have a speed limit of 40km/h.

Further **preferential measures for cycling**: they can enter into one-way streets from both directions. At intersections the entire road surface is elevated, which slows cars down and makes crossing by bike safe and easy. At streetlights, bikes stop ahead of cars. So car drivers can see them when they start.

The city wants to create **high-quality urban spaces** and eliminate cars as much as possible. All parking cars will soon be diverted into underground garages, which are being built at the edge of the pedestrian zone. We looked at one street, which is shared by the public transport bus, cyclists and pedestrians. This summer – primarily for political reasons – the bus will be moved to a parallel street. The street surface near the Town Hall is of very high quality (granite), there is attractive/designed lighting and underground parking beneath.

6.4.3 Services for bikers

Cycle barometer or cycle counter was invented in Odense and show how many cyclists have passed a certain point. The purpose is primarily psychological, to show that “you are part of the community”.



Theft-safe bike racks were installed – however people did not use them. These bike racks were also invented in Odense.

There are **high quality and uniform signs** for cyclists. They are very useful, especially for those who are not from Odense.

Public bike tire pumps are also installed and are very popular. (It was also used when we were there.)



We visited a square, which was previously car-parking area and was turned into a **bicycle parking**. Being a sensitive issue to remove these spaces, it was important to make it in a high-quality way. It is a bike rack for hundreds of bikes, with roof, nice design, lighting and innovative (multi-functional) racks.

We passed a street, which is a **shortcut for cyclists** but car drivers cannot enter. This also makes biking more competitive. (Very often one can reach his destination in Odense faster with bicycle than by car!)

There was a public survey about traffic planning. Shop owners like bikers very much. People in general (including older people) like bicycle drivers and want to reduce car traffic. What they want more is **more bike racks**. Once the bus is moved to the other street, lots of new bike racks will be installed. (People don't mind the "mess" with bicycles, if there is less car traffic.)

We visited a **bicycle tunnel**, which was built as part of the "**safe to school project**". The tunnel is located under a four-lane street. It has a special design to make sure that children use it: it has tilted walls to make it look wider; it is well lit and has natural roof lighting. 82% of children in Odense go to school on foot or on bike.

6.5 Working group session on transfer of experience

6.5.1 Provision of adequate infrastructure for improving the safety of cycling

Cities with a high share of cycling in the modal split usually invested largely in adequate cycling infrastructure to make it attractive and to increase the safety for cyclists. For example, Odense started with such considerable investments more than 25 years ago, despite strong political and public opposition. Investments in infrastructure helped also cities with low cycling culture, for example Lyon or Barcelona, to raise the share of cycling as mobility means. Such investments facilitate the use of bicycles particularly for older people.

In this group, there were representatives from Krakow, Vienna, Donostia-San Sebastian and Malmö. The key objective of the working group was to discuss several questions concerning the provision of adequate infrastructure for improving the safety of cycling of older people. As a target city for improvements, the participants selected the City of Krakow.



The key objectives for the cycling infrastructure in the city of Krakow are:

- To complete the network – Krakow has an 80km long cycling network, but it is not a completed system enabling to travel across different districts in the city. It was discussed how important it is to assure safe and convenient cycling network for all required sources and destinations;
- To improve safety on the existing network – in many cases there are old and unsafe solutions provided, which could be improved with relatively low-cost investments;
- Key objective was to encourage older people to cycle – as in general 2-4% of modal share in Krakow is for cycling. The cyclists are mainly younger people;

- To provide bike & ride facilities – this has been discussed in correlation to the relatively high (50-60%) modal share for public transport – it is definitely needed to improve parking possibilities for cyclists.

The target group is formed by all citizens, since cycling is currently not popular among the whole society. Specifically older people and disabled people form a big potential for cycling. The city shall consider facilities and infrastructure also for disabled people, who can however still cycle (tri-cycles, electric bicycles, etc.).

The main steps to be taken are:

- Using main roads – as a potential to share public space for all modes (cars, PT, cyclers, pedestrians);
- Existence of master plan and detailed planning for infrastructure;
- Using opportunities – like reconstruction and/or construction of new roads, PT corridors, bridges, etc.;
- Improving cycle network within EU project – in many cases it means financing for 4-5 years and moreover is treated more seriously than some local projects;
- Showing good practices – it is very important to show how a cycling network and culture can work in other cities (like Odense) to politicians and decision makers;
- Integration with public transport – It could be one of the first steps to build a network of connections to main hubs and stations where people could continue by PT (also with relation to rules of bike transportation inside PT vehicles).

The main stakeholders are, firstly the Politicians / city council who are responsible for the city budget. It would be very helpful to have at least one councillor who is privately cycling to work for support and to convince other councillors. Other important stakeholders are cycling NGOs and the local media. Also external experts should be involved. These experts should not only be dealing with cycling infrastructure, but also with other topics like health and economy, to underline the benefits of cycling for other areas of well-being in a big city. Famous persons and local celebrities can contribute to a positive image of cycling.

The main source of funding for cycling infrastructure is the budget of the city itself. Other financing sources can be public private partnerships, for example for the instalment of a public bicycle system, and the EU programs. By stressing the environmental and health benefits of cycling, funds from outside the transport sector could be used. This could even include private funds, for example Insurance companies that support marketing activities connected to the health of citizens.

Main barriers/drivers for providing safe infrastructure for cycling

Barriers	Drivers
<ul style="list-style-type: none"> • Lack of education / cycling culture • Insufficient budget • No dedicated funds available • Problem of sharing city space among different users • Growing car ownership rate in New Member States • Mentality concerning use of cars, PT, bicycles 	<ul style="list-style-type: none"> • Public opinion – very often supporting cycling infrastructure • Driver's education • Examples to follow – there are very successful measures implemented across Europe • Laws and regulations – for example taxation concerning purchase of new cars

6.5.2 Training and campaigns to raise the awareness for safe cycling in cities

Cities are increasingly offering cycling training courses for different age groups. The courses raise the confidence for using bicycles in the dense urban traffic. Large campaigns for promoting cycling have the potential to influence the image of cycling as a serious means of transport. People who shift from working life to retirement life are particularly perceptive for changing their habits and offering additional mobility options has the potential to pitch them to use the bicycle rather than a car.

This group considered how to transfer the provision of training and campaigns to raise awareness for safe cycling to other cities? For each of the points there was a personal brainstorming, after which a joint decision was taken.

The main target group of the trainings should be the younger old who are active and know how to cycle. Secondary target groups can be: the older old who have special needs and older people that are not used to bicycles.

The key objective of the trainings should be to increase (daily) cycling and decrease bad image of cycling. Secondary objectives are related to safety and quality of life.

During the brainstorm several interesting ideas for the implementation of the trainings were generated:

- Public promotion (courses in public space and well visited areas);
- Use role models;
- Promote information material;
- Provide food and drink;
- Use registered people but also let it open for free entries;
- Invite press
 - Attractive public cycling event, as an kick off
- Organise a course at an old men or women sports club;
- Develop a “Cycling to work” project for retired persons;
 - Kick of event as above
 - Counting kilometres and win something
 - Points for getting friends also to cycle with you
 - Price: Trip for the winning team

Sports clubs and the third age university were considered key stakeholders for the organisation of the schemes. Funding could come from the Municipality and from Insurance companies.



6.5.3 Responding to societal change in advanced cycling locations

The members of the group decided to take the example of the city of Aalborg (Denmark) and examine how an advanced cycling city like Aalborg should react on the future challenge of an ageing society and ageing cyclists.

Aalborg is the 4th largest city in Denmark with around 120.000 inhabitants and a 40km distance between the eastern and western part of the city. The fjord splits the city in half. The city has a relatively developed cycling infrastructure with 308 km of bicycle while currently 18% of the trips are done by bicycle. The municipality would like to increase the number of bike users in general. The group identified that although Aalborg has a relatively good infrastructure, it does not have a wide array of additional services like in Odense. A recent survey in Aalborg showed that the main disincentives for using a bike were the bad weather and the fact that it is generally perceived more convenient to travel by car. For the moment there is no specific program targeting older people and cycling. Until now, no age related queries had been performed with the survey data.

The group started by reflecting on older peoples' needs and expectations. First, **safety** is particularly important for older bike users. They need to feel confident that they are safe when they use their bikes. In this perspective, bike paths, especially if allowing for 2 lanes (one fast, one slow) may encourage them to use the bicycle more often. Likewise, there should be signs and/or a clear distinction between the pedestrian and the cycle tracks. Moreover, good lightning during night is essential. In addition, the group identified a gender gap, as female users are more likely to feel unsafe in a bike track, which is not near the street and lacks good lightning.

Besides, older people are discouraged to use their bike in the city due to fears that it might get stolen. A special 'code' provided by the municipality might be a way to deal with **theft**. Moreover, good parking spaces can be an additional armament against stealing, plus it encourages users to take their bike as they are confident that they will find a good and convenient parking space. Special parking spaces for electric bikes should also be made.



An additional measure to enhance the **comfort** of cycling would be to allow taking bikes on bus, enabling users to combine a trip on bus with a trip by bike. Services like air pumps, cycle maps (with easy-to-find info both on everyday and leisure activities), seating areas, restrooms and taps in public spaces are equally important. Facilitating bike trips through a number of services as well as good infrastructure would result in making cycling more attractive in general.

The group raised concerns that cycling has a very sportive, masculine image that discourages older people and especially women to use bikes. Creating a **new image for cycling** that goes beyond the young and fit bikers is essential in order to persuade older people to use their bikes more often. Moreover, older users should be given an alternative to fast biking. As a part of a long-term strategy, the local community could invest on educating young people about how to use bikes and how to respect the other users. The media should be asked to play an important role in this direction, promoting the image of the older cyclist as well as advertising relevant events. In both Salzburg and Odense, the fact that the mayor cycles a lot has contributed a lot to creating a positive image of biking. Likewise, a politician or popular person in Aalborg (preferably older person) could undertake this role. Moreover, the local community could benefit from the establishment of an Advisory Board or an Ombudsman for cycling issues. This person/group would be the reference point for all cyclists in the municipality and could meet annually with the bike users to discuss problems and ways to go forward. In an ideal situation, this board would have an earmarked budget for cycling.

The policy of the city of Aalborg is to increase the everyday focus of bicycles especially for commuter trips. For the moment, older people are not considered as a separate **target group**. The working group did how the older could become a target group in the future. It was acknowledged that it is very difficult to reach older people that never cycled before. Like it has been done in Odense, it makes sense to focus on the older people that already use a bike and have them use the bike more. It is much harder to reach the non-cyclists at a higher age. Even so, the following suggestions were made for this hard to reach target group:

- Develop projects for 50+ people that are still working and stimulate them to cycle to work. The example of the cycling challenge in British cities shows that this way also non-cyclists can be convinced to try out cycling to work;
- Doctors could advise non-cyclist to follow a cycling training course;
- Because of convincing power grandchildren can have on their grandparents, specific projects with school classes could be developed. The young kids invite a grandparent to join them in a cycling excursion and/or a cycling training.

The groups considered that the health benefits of cycling are well known in the advanced cycling cities and **communication and marketing** does not need to address it any further. It is probably more effective to link marketing messages to fun, recreation and new experiences. In relation to this, the group agreed that older people like direct contact and they would appreciate having their voices heard. Therefore, the idea of creating a 'face' or a 'board' for cycling, could be a further incentive for the use of bikes, as older people would know who the responsible people are and would not hesitate to take contact with them. Moreover, the municipality could organize a spring event for cycling where programs for older people should be planned. In the context of a series of events for the mobility day, special attention could be given to cycling for older people. Besides, a good communication campaign could take place in areas that older people attend frequently like the weekly market where an info stand could be created.

To conclude: When designing a strategy for keeping people in cycling, good infrastructure is essential. At a second stage, communication campaigns and further soft and hard measures are needed to facilitate everyday bike use and increase the number of cyclists. However, it must be taken into consideration that as the number of cyclists increases, the potential conflicts between the different user groups increase as well.

7 Evaluation by participants

During the closing plenary session, 19 participants completed the workshop questionnaire.

1.1. How satisfied were you:	Level of satisfaction: From 1 (low) to 5 (high)
a) With the registration process and pre-event information?	Average: 4.9
b) With the organisation of the sessions	Average: 4.9
c) With the training reader?	Average: 4.6
d) With the networking opportunities outside the meetings	Average: 4.8
1.2 Which parts of the event were most useful for you? 10 times mentioned: Site visit on bicycles. <ul style="list-style-type: none"> One respondent especially appreciated the contact with elder cyclists during the visit 9 times mentioned: The presentations of the first training day. Especially: <ul style="list-style-type: none"> Odense cycling captains (2 times mentioned) Munich training, Health research in Denmark, Road Safety in Denmark, UK cycling projects. 6 participants reported a combination of two or more elements of the training. 2 participants mentioned the discussions and knowledge exchange sessions of day 2. 1 participant mentioned the role-play.	
1.3 Which parts of the event were of little or no use to you? 9 times: None 4 times: Role-play <ul style="list-style-type: none"> Maybe more structure of the discussion could help A bit too long and boring, Speakers not engaged 2 times: Presentations of day 1 <ul style="list-style-type: none"> Training for safe cycling in the Netherlands Mobility in Odense 2 times: the workshop in small groups 2 times the cycling trip <ul style="list-style-type: none"> Nice but too wet; Nice but not much additional information 	

1.4 What changes or improvements should be made? (or any other comments)

13 times: None

- Thank you! Nice atmosphere, good light food, interested audience, room for questions.
- Very well done workshop, keep the format!

2 times: On first day less time for presentations and more for exchange.

4 times: Other remarks;

- Role play should involve also audience
- Too small group for group work (3)
- The organiser should consider developing countries in the future
- Less rain.

1.5 Which future AENEAS Events are you interested in?

Date	Place	Topic	Interested?
October 2010	Salzburg (Austria)	Older Passengers: It's all about communication. How to address them? How to keep them?	14 out of 19
Spring 2011	To be confirmed	Final conclusions from the AENEAS project	11 out of 19

1.6 What would you like to learn during these events (topics, methods...)?

4 times: methods of communication with older people

3 times: Good practices/successful campaigns

2 times: others:

- How to involve politicians, how to work with the media.
- Older peoples' involvement in mobility projects and urban planning.

8 Main conclusions from the workshop

Cycling policies targeted at older people are being developed because of health and traffic safety reasons. At most traffic departments, the growing importance of older people for general traffic planning is not yet on the agenda.

There is evidence from several studies from different countries, that cycling is beneficial for health of older people. Cost benefit analysis show that cycling is also beneficial in economic terms even if the increased risk of accidents is taken into account.

Older cyclists have higher risk of accidents but should not stop cycling since the health benefits largely outweigh the safety risk. Older cyclists can improve their personal safety by wearing helmets, making small adjustments to their bicycles or using adapted bicycles. For both helmets and adapted bicycles there is a wide range of fashionable products on the market. Even so, still many older people do think that helmets and adapted bicycles are for others, for example those older than them.

Projects for promotion of cycling among older people need to take the safety aspects into account, but should not make safety the only topic of the project.

Communication to older people about cycling should be about Freedom, fun and getting new experiences. Never address the older people as older people and remember that it is a very heterogeneous group. Examples from the workshop:

- Cycling tours in Odense with focus on social interaction and visiting the city;
- The safety training in the Netherlands is marketed as “Cycling Information Day”.

Cycling projects for older people should promote the target group to cycle more and to cycle safely. A conclusion from the previous AENEAS workshop was that people need to experiment and to receive validation before they can change their behaviour.

The first challenge for mobility management is to convince people experiment with new behaviour. During the workshop, several interesting examples were presented:

- Peer consulting: During the focus groups of Sikkertrafik in Denmark, the older cyclists that were already wearing helmets helped their peers to try-out helmets as well. Also the cycling captains in Odense all wear a helmet;
- Pressure of the group: The cycling challenges in the UK manage to make cyclists to convince their non-cycling colleagues to commute to work;
- The convincing power of grandchildren: Grandparents want to be good role models for their grandchildren. More joined projects with small children and grand children could be developed;
- The Doctor: In the UK medical services refer patients to cycling training programmes;
- The police officer: In different presented projects, the authority of the police officer is used to stress traffic safety issues;
- Direct marketing: For the bicycle information days in the Netherlands, participants are invited with a personal letter from the Mayor or alderman;
- In Munich the training session are organised in the district senior citizens service centres where the older people already go regularly.

Several of the training and information days provide certificates to the participants. This is an official validation of the (changed) behaviour of safe cycling.

9 Participants list

Name	Organisation	e-mail
Adam Msenga	CAMPAIGN FOR TRAVELLERS SAFETY (CTS)	msengaa@hotmail.com
Andreas Schuster	Green City e.V.	andreas.schuster@greencity.de
Andrés Martínez	Donostia-San Sebastián Municipality	Andres_Martinez@donostia.org
Angelika Gasteiner	Salzburg AG	Angelika.Gasteiner@salzburg-ag.at
Anne Marie Laustrup Nielsen	City of Aalborg	aml-teknik@aalborg.dk
Bernd Decker	Rupprecht Consult	b.decker@rupprecht-consult.eu
Chris Peck	CTC	chris.peck@ctc.org.uk
Christine Chaloupka-Risser	FACTUM OHG	christine.chaloupka@factum.at
Connie Juel Clausen	City of Odense	cjc@odense.dk
Dariusz Niewitala	Municipality of Kraków	dariusz.niewitala@um.krakow.pl
Don Ingham	FKS Odense Ældreidræt	don@dsa-net.dk
Dorthe Råby	City of Odense	dgyr@odense.dk
Frits Bredal	Danish Cycling Federation	frits.bredal@gmail.com
Gábor Heves	REC	GHeves@rec.org
Johannes Link	Green City e.V.	Johannes.link@greencity.de
Kristian Laurbjerg	City of Odense	kla@odense.dk
Lars Bonne Christensen	City of Odense	labc@odense.dk
Lars Østergaard	Institute of Sports Science and Clinical Biomechanics	lostergaard@health.sdu.dk
Leif Jönsson	Malmö stad, Gatukontoret, Trafikavdelningen	leif.jonsson@malmo.se
Liesbeth Boerwinkel	ANBO	l.boerwinkel@anbo.nl
Maarten van Bemmelen	Donostia-San Sebastián Municipality	mvbemmelen@telefonica.net
Mario Kramer	Fietsersbond / City of Almere	mgkramer@xs4all.nl
Matthias Fiedler	Rupprecht Consult	m.fiedler@rupprecht-consult.eu

Michael Dewes	Lokale Nahverkehrsgesellschaft Frankfurt	M.Dewes@traffiq.de
Nancy Hansen	Senior Citizens Council	nancy.hansen@tdcadsl.dk
Nanna Henriques	City of Odense	nhe@odense.dk
Nena Georgantzi	AGE Platform Europe	nenageorgantzi@age-platform.eu
Pernille Ehlers	Safe Traffic	pe@sikkertrafik.dk
Ragnar Domstad	Independent Senior Consultant	ragnar.domstad@gmail.com
Sabine Avril	EMTA	sabine.avril@emta.com
Sigrid Achleitner	FGM-AMOR	achleitner@fgm.at
Soren Gauger	The Fullness-of-Life Academy Association	biuro@apz.org.pl
Steen Møller	City of Odense	
Thomas Stahl	Lokale Nahverkehrsorganisation Offenbach GmbH	thomas.stahl@nio-of.de
Thomas Thume Nielsen	COWI A/S	thot@cowi.dk
Tomasz Zwoliński	Municipality of Kraków	Tomasz.Zwolinski@um.krakow.pl

