



## Ageing Society on Bicycles

### Specific Mobility Requirements of Older People

The third age of life, following professional life, is frequently associated with more cycling. Long distances to work are no longer required, and the focus shifts back to activities closer to home. Good health and social get-togethers become more and more important in everyday life. All this militates in favour of more cycling. The ultimate proof of this trend is demonstrated by the boom in cycling tourism among older cyclists with purchasing power.

According to concurring projections, the proportion of older people will significantly increase in several European countries in the coming decades. Currently, about 19 % of all Germans are at least 65 years of age. This number is set to rise to more than 25 % by 2020. This means that, in total, nearly 22 million older people will be living in Germany. Individual regions, such as Eastern Germany, the Lower Rhine region or Southern Germany, will even have to brace themselves for a massive increase in the number of people aged 80 years and over.

Already today we can see that the elderly do not form a homogeneous group: They vary significantly with regard to health condition, disposable income and/or assets and styles of mobility. However, what they do have in common is a life expectancy that is significantly higher than that of earlier birth cohorts and the fact that, after

retirement, they can decide more freely about how they plan their time. When assessing the aggregated data derived from the survey 'Mobility in Germany (MiD)', it is important to take into account these commonalities, but also the differences.

The average traffic volume significantly drops from the age of 60 onwards, though the intervals between the generations become shorter due to a rise in the annual traffic performance of the elderly. The mobility rate, namely the proportion of people from the same age group who had left the house on the survey day, is increasing. The same holds true for the number of trips

### Contents

Specific Mobility Requirements of Older People 1

Effects of cycling in old age 2

Road safety aspects 2

Promoting cycling through infrastructural measures 3

Promoting cycling through communication 3

Conclusion 4



Elderly bicycle tourists as a regional economic factor on the island of Usedom.

conducted, which is already well above the German average among the 60- to 65-year-olds. It is only after the age of 70 that there is a sharp fall in the trips conducted per day. The fact that a generation moved and marked by the automobile is gradually retiring is also reflected by the means of transport chosen by the 65-year-olds and over, in contrast to the younger generation in the cities. Between 2002 and 2008, the choice for local public transport as a means of transport among the elderly saw a decline of two percentage points; the car, on the other hand, enjoyed an increase, reaching a total of 27 % of all trips conducted. More than 70 % of the 65-year-olds and over have a driving licence today. The decision to get rid of one's private car is generally not taken until the age of 80 and over due to old age. In contrast, approximately three quarters of all elderly people between the ages of 60 and 74 own a bicycle. The cycling share in this age group is 11 %, which is above the German average. However, from the age of 75 only less than half of the elderly have a bicycle, and the cycling share of all trips conducted drops to 7 %.

## Effects of cycling in old age

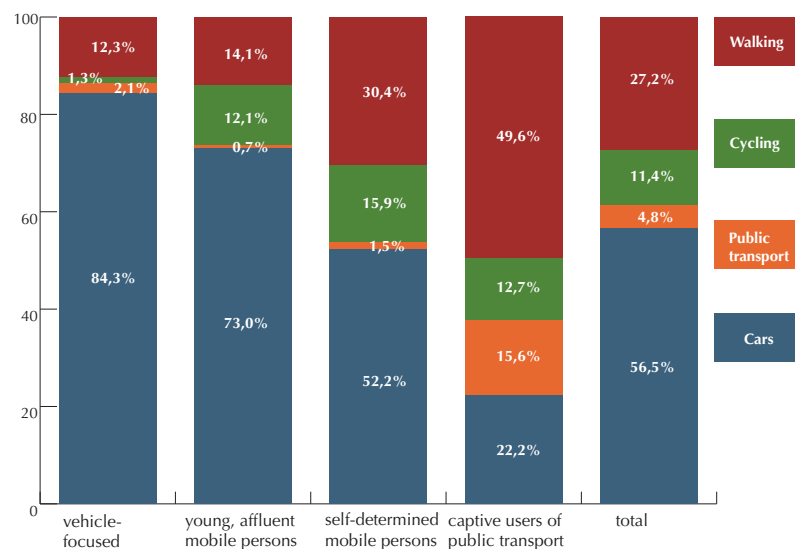
Cycling in old age offers a wide range of benefits, the most important of which is the positive impact it has on the health of the cyclists. Regular cycling can have the following effects:

- helps train the sense of balance and thus reduces the risk of falls and bone fractures
- keeps the muscles healthy and strengthens the bones and/or physical condition
- helps reduce the joint swelling and pain associated with arthritis

- reduces the risk of developing heart disease, high blood pressure, cancer or diabetes
- improves sleep and general well-being; reduces depressive symptoms

Some medical studies show that an hour of cycling per week can prolong the life expectancy of a 50-year-old by up to five years. Another benefit is that cyclists remain physical fit considerably longer than people with less physical exercise in their lives.

Especially people in old age find it easier to cycle than to walk, in particular when carrying a heavy shopping bag. Moreover, for many people cycling is much easier than driving a car through fast and hectic traffic. Finally, the affordability, availability and reliability of cycling as a means of transport continue to gain significance, in particular in rural and urban areas.



Choice of transport for shopping trips for the elderly grouped according to styles of mobility. (Source: Hausteil/Stiewe, ILS 2010)

## Road safety aspects

According to the MiD survey, cycling in old age is associated with accident risks. In terms of the risk of accident, the bicycle is most frequently described as being somewhat unsafe or very unsafe as a means of transport. About a quarter of the cyclists in old age feel very or somewhat unsafe when using this means of transport.

### Further Reading

European project on energy efficient mobility in an ageing society:  
[www.aeneas-project.eu/](http://www.aeneas-project.eu/)

Mobility and the elderly in the city of Munich:  
[www.aeneas-project.eu/?page=munich](http://www.aeneas-project.eu/?page=munich)

Project website LifeCycle: Tips for lifelong cycling:  
[www.lifecycle.cc](http://www.lifecycle.cc)

Project website of FUSS e.V. [German]:  
[www.senioren-sicher-mobil.de](http://www.senioren-sicher-mobil.de)

They subjectively perceive dangerous situations to be, above all, those with complex situations such as:

- lack of cycle paths or cycle lanes on main roads, in particular when turning left into another road
- one-way streets (cyclists allowed to go in opposite direction to rest of traffic) as well as junctions with other roads and entrances
- roundabouts and bus lanes which are accessible to cyclists

Older cyclists consider slippery roads, uneven or damaged paths and poor visibility to be further obstacles when riding a bike. All the factors mentioned pose a higher challenge if the cyclists have little cycling experience. On the other hand, cyclists feel less unsafe the more they use their bicycle. One of the main problems is the fact that the severity of an accident increases significantly the older the elderly person is. Twenty-two per cent of all seriously injured persons, as well as 48% of all cycling fatalities, are 65 years of age or older. This is mainly also attributable to the fact that the ability of the body to regenerate diminishes, and even small fractures require a long time to heal. Another problem is that older people believe that, by using sidewalks or separated cycle paths, they are safer. However, if the visibility is poor at crossings, entrances and junctions, cyclists are exposed to a high risk on these allegedly safe paths/facilities.

### Promoting cycling through infrastructural measures

An infrastructure that is aligned to the requirements and needs of the user is an essential contribution to the safety and attractiveness of cycling. Crossings and junctions constitute traffic black spots for older cyclists. One way to solve this is to divide complex situations, such as turning left, into several individual steps. This requires not only the necessary advanced stop lines, or 'bike boxes', but also light signalling devices if applicable. When roads end in cycling facilities, the necessary visibility between motorized traffic and bicycle traffic must be established. This can be helped by removing vegetation and car parking spaces if necessary. Speed limits imposed on cars help older cyclists gain valuable time to compensate for delayed cognitive capacity and reactions and correct their errors. It makes absolute sense to offer attractive alternative routes to physically fit cy-

clists and slower cyclists alike, given that the number of people cycling is rising, and the requirements and needs of users are becoming more diverse. Sufficiently sized bike lanes on main roads, one-ways which are clearly open for oncoming traffic, combined cycle and pavement paths and traffic-calmed zones should not be considered as mutually exclusive options, but rather as useful components of a dense and interconnected network for bicycle traffic.

Finally, barrier-free access to a platform, for example, does not only apply to people with disabilities or persons with prams. For example, a long flight of stairs leading to the platform can constitute the biggest obstacle for older cyclists on a cycling tour with luggage. Even merely carrying the bicycle up the stairs from the cellar is a huge obstacle for cyclists. Alternative structural solutions are also needed in this area.

### Promoting cycling through communication

As with infrastructural measures, it is also important to take into account the heterogeneity of the target group and their various lifestyles, circumstances and personal values for the promotion of cycling through communication. Approaches that only focus on age have proved to be of little value because the target group does not predominantly define itself by the phase in life its members are in. Consequently, advertising and communication should make distinctions regarding lifestyle characteristics, or the like, within the elderly population. Elderly people also show some stark differences with regard to their affinity for bicycles and their styles of mobility. It is above all the inexperienced and unsafe cyclists who need offers specifically tailored to their requirements to encourage them to cycle.

The research project LifeCycle recommends marketing that is targeted at personal life-changing situations, in which behavioural changes – such as the switch from driving to cycling – are easier to make. Such situations include retirement, change of residence, loss of driving licence or even the bicycle exam of a grandchild. In the context of the European project AENEAS, various approaches were successful in reaching the target groups via so-called 'peers' or 'buddies'. This means that individuals were introduced to the issue of cycling through relatives, friends and acquaintances, as well as in associations. Local Agenda 21 groups or similar forms of

Haustein, S. (2008): Dimensions in elderly mobility behaviour as a basis for target group specific mobility services  
[www.epomm.eu/ecomm2008/Sonja%20Haustein.ppt](http://www.epomm.eu/ecomm2008/Sonja%20Haustein.ppt)

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Figure by Difu

civil society organizations can also be involved in such initiatives.

In Swindon, United Kingdom, visitors of day-care centres, as well as members of football associations and churches were encouraged by 'peers' to ride a bike. Another UK-based initiative looked at the possibility of of-



*Electric-powered or electric-assist vehicles may prolong independent mobility.*

fering cycling training 'on prescription' from doctors as part of a special bicycle health plan.

In Odense, Denmark, older and experienced cyclists offered more than 20 guided cycling tours and advertised

for them in newspapers, homepages and associations. These trips were combined with meetings with representatives from the city council, who provided information about cycling in Odense. Other initiatives include Internet seminars, where participants are taught how to use a cycle route planner, as well as senior citizens' test-ride day for electric bikes (e.g. in Graz, Austria).

In Munich the information afternoons for cyclists organized by the environmental organisation Green City in conjunction with the police at the senior-citizen service centres offer participants the possibility to refresh their knowledge on traffic rules and the rights and duties of cyclists. During one of these courses, an occupational therapist helped participants improve their agility and introduced small exercises on how to maintain agility. The highlight of the afternoon was the practical test course with various bicycle types, ranging from bicycles with low frames and pedal-powered vehicles with three or more wheels to battery-powered bicycles. Moreover, this project offered city walks conducted on the basis of a senior-citizen city map specifically designed by the city of Munich for this purpose. After a test walk, the participants were invited to share their feedback regarding the city map with the organisers and the city of Munich so that the suggestions could be used to further improve the map.

## Conclusion

Independent mobility in old age has a high value in terms of maintaining private contacts and networks, maintaining physical fitness and running day-to-day errands. Traffic planning must respond to the specific safety requirements of older people, in particular by creating clearly laid out traffic situations. A barrier-free environment would also benefit elderly people on bikes. Many projects show how older people can be encouraged to cycle more, and in doing so they wish to be treated not as elderly people, but as 'normal adults'.



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