

# 7 TESTING AND DEVELOPMENT

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## 7.1 Introduction

The aim of the criteria for dwellings, surroundings and facilities (services) is to raise awareness and to help the elderly and other parties involved to plan the possible changes in the dwelling. The main users of the criteria will be the elderly themselves and their family when they discuss possible improvements with planners, product and service providers and the representatives of the apartment house companies, co-operation housing associations and the local community. Planners, building companies, product designers and service providers will also benefit from the criteria because through the criteria they will get better understanding of the living of the elderly.

The purpose of the testing phase is to test the criteria in concrete situations, cases, covering dwellings, surroundings and service facilities, and representing different countries. The selection of cases was carried out in a systematic manner, considering a number of important parameters. The selection parameters and the resulting list of cases is described in the next section of this chapter.

The criteria were tested for their functioning as planning tools in the planning process, as well as for their power in ensuring function fulfilment according to the wishes and needs of the elderly. The criteria were adjusted and improved based on the experience gathered in the case work. This approach is more fully reported in Deliverable 8 of the project.

The cases are quite different from each other, and therefore the methodologies used are chosen for each case and described in each case report. The full case reports are available as annexes of Deliverable 8.

In this chapter, a summary of each case is presented. Finally, some general conclusions and recommendations, concerning future use of the criteria, are made based on the results of the cases.

## 7.2 Selection of cases

The selection of cases represents the variety of existing housing stock, issues in surroundings, and service approaches, as well as different scopes and ways of using the criteria. The underlying idea is to find adaptable solutions for a variety of existing situations. In choosing the cases certain parameters have been taken into consideration. The parameters of the cases are clarified below.

**Promoter.** The promoter parameter is needed to identify the cases and to formulate necessary contacts for the study. It is also relevant to know in whose interest it is to develop the suggestions put forward in the cases and how large the number of the beneficiaries would be.

**Involvement.** In the parameter of involvement, one outlines the type and the plan of the cases. It is relevant to know in what phase/phases of the construction or renovation project the criteria would be used. The aim of the cases is to study

criteria in different situations. The construction projects are often prolonged and for that reason it would be difficult to be involved in the entire process. The involvement can be planning, implementation and evaluation of a completed project.

**Use of the criteria.** It is relevant to know how the criteria would be used. The criteria will be tested for their functioning as planning and evaluation tools in the planning process, as well as for their power in ensuring function fulfilment according to the wishes and the needs of the elderly.

**Scope.** This parameter is relevant to ensure the adequate focus of the project's field. The focus can be the dwelling, surroundings and facilities.

**The size range of operations.** The project aims at less costly changes. It is relevant to know the size range of operations to estimate the costs. The size range of operations will also influence on the timetable of the case. It can be for example a repairing work or an entire reconditioning.

**Location.** The main division of the location is rural or urban area. In addition to that the basis of division like a city centre, a town centre, a densely built-up area, a suburb and a sparsely populated area are defined. The problems of the elderly are different in rural or urban areas concerning for example long distances, available services, and fear of violence, a crowded environment and lack of lifts in apartment buildings.

**The type and interest.** The main types of housing are in private or commune housing. There are a large variety of different types of dwellings from single-family dwellings to large-scale apartments. The interests in dwellings include rooms, appliances and furniture. The interest in surroundings is for example parking areas, recreational areas and public transport. The interest in services goes from meals-on-wheels to laundry and home nursing. The focus of the project is in different areas. The parameters are relevant to ensure the adequate aspects in the field of the project.

**Ownership and producer of the services.** It is relevant to know whose interest it is to develop the solutions, how widely the solutions can be applied and how big is the number of the beneficiary in the case. In rented dwellings it is not necessarily possible to make the same kind of repairs than owner-occupied dwellings.

Each case is summarised individually, and the conclusions that were made towards criteria development are presented in this chapter. The list of chosen cases is as follows:

**Table 13. The ELDERATHOME cases for testing the criteria**

case number	case name	country	scope
1	Introduction of a social caretaker in a housing estate Engholmen Nord in Copenhagen	Denmark	services
2	Installation of minielevators in existing multifamily buildings	Denmark	dwelling
3	Participatory planning of dwelling modifications in a block of flats	Finland	dwelling
4	Functional planning of collective areas	Finland	dwelling
5	Service bus line	Finland	surroundings
6	Mobile community center	The Netherlands	services
7	Opplussen	The Netherlands	dwelling
8	Barcelona Accessibility Plan	Spain	surroundings
9	Homedoor	Spain	all

### **7.3 Introduction of a social caretaker in the housing estate Engholmen Nord in Copenhagen (case 1, Denmark)**

In the 1930's, 1940's and 1950s many Danish municipalities built housing estates for low-income pensioners. In Copenhagen 13 estates with a total of 5.000 flats were built. The flats were very small with one or two rooms, a kitchen and a toilet. They had central heating, but no bath. Only in some estates some of the blocks had elevators. So the flats were not meant for frail elderly. They were meant for low-income pensioners. A thorough modernisation became necessary.

The municipality sold the housing estates to non-profit housing companies which were responsible for the modernisation of the flats in the 1990's.

In one of the 13 housing estates - Engholmen Nord - a pilot project was made about 10 years after the modernisation process: A social care taker was employed by the non-profit housing association. An evaluation of this special service is what this case is about.



**Figure 3. Engholmen Nord housing estate in Copenhagen**



**Figure 4. A social caretaker was employed for Engholmen Nord.**

After the modernisation process there were 87 2-room flats and 40 1-room flats, total 127 flats. So most of the previous 1-room flats had been merged to 2-rooms flats.

There is a common garden. In the cellar there is a relatively large common room for social activities, a common laundry and an office for the social caretaker.

About 40 pct. of the elderly receive regular home help from municipal home-helpers who also serve other elderly persons in the neighbourhood.

About 10 years after the non-profit housing association (AKB) took over and modernised the buildings, AKB considered at several occasions how to supplement the services delivered by the municipality with other forms of services. There were already two ordinary caretakers employed by AKB and taking care of maintenance and other common practical tasks. The idea was that the employment of a so-called social caretaker could make every-day life easier, and could raise the general feeling of safety and security among the residents. More specifically the caretaker could:

- Help in improving contacts between the individual residents and the municipality and other authorities when this was needed
- Provide odd services like keeping an extra key, fill in forms, reading official letters etc. to the individual residents when needed
- Give practical help like moving of furniture in the homes of the residents when needed

Another important task was to stimulate the local democracy. In all Danish non-profit housing estates there is a board of residents. This was therefore also the case in Engholmen Nord. In such housing estate where most of the residents are 65+ years it can, however, sometimes be somehow difficult for the board to perform many common activities.

The pilot project started in April 2002. A social caretaker - a former nursing home assistant - was employed. She had to define and develop her job herself. In

the pilot project period (2 years) AKB and the municipality of Copenhagen financed the project. If the project developed successfully it should be a permanent extra service financed by the residents themselves via higher rents. A prerequisite for this to happen was that it was approved by a referendum among the residents. The referendum was held in September 2003. A great majority voted for a continuation of this service and it therefore became permanent.

The activities of the social caretaker have a wide scope. During the first 4 months of this service the contacts with residents, altogether 462 contacts, were related to the following:

- Providing services
- Help in improving contacts with the authorities
- General personal contacts
- Practical help in the home or for groups of residents
- Fieldwork/contacts to other service providers

As the project has continued, the patterns of contacts and activities are roughly the same.

This particular service started as pilot project and ended as a permanent service financed by the residents themselves via increased rents. So there was a need for this particular service especially with some areas like contacts to the authorities, personal help and odd jobs for the single residents and common social activities. As one of the interviewed persons phrased it, some of this might have been done by home-helpers from the municipality, but then the housing estate would have been more institutional-like.

Due to the experiences the municipality of Copenhagen will negotiate with the non-profit housing associations from the other 12 similarly modernised housing estates where all the residents are elderly people in order to establish similar arrangements there. Thereby the elderly in the other housing estates will have a social caretaker employed by the housing associations as a supplement to the normal municipal home-helpers, who serve the elderly in need of help to practical and personal matters in these special housing estates.

#### **7.4 Installation of mini-elevators in existing multifamily buildings (case 2, Denmark)**

In 2000, 29 pct. of the Danish households where the oldest person was 70+ years lived in detached or semidetached housing with only one floor and with direct access without steps to their dwelling. Another 4 pct. lived in dwellings at the ground floor and with direct access in multifamily housing. And 4 pct. lived in dwellings at the other floors in multifamily housing, but with access by elevator. So totally 36 pct. of the households where the oldest person was 70+ years lived in accessible housing in the general housing stock. (Aeldreboligraadet, 2001)

Due to the Danish Building codes the general housing stock is gradually becoming more accessible. According to the Danish Building codes the first floor in all new buildings shall be accessible and elevators shall be installed in all new normal housing buildings if there are 3 floors or more.

In the oldest part of the existing multifamily housing stock the focus has been on modernisation of installations (baths, central heating), insulation and fire protection since the early 1970s. In a very few cases and often as demonstration projects elevators have been installed in such buildings in connection to urban renewal plans.



**Figure 5.** Urban renewal demonstrations project where small balconies and an elevator have been installed. The elevator was installed because new flats were made in the attic. Thereby also the other flats got access by an elevator. (<http://www.paalsson.dk/>)



**Figure 6.** Another urban renewal demonstrations project where broad recreational balconies and an elevator were built outside the facade of an existing building. In this case one elevator gave access to more staircases. (<http://www.paalsson.dk/>)

The standard (net) size of elevators for new multifamily buildings is 1,1m x 1,4m. The minimum door width is 80 cm. For office buildings and buildings where the general public has access the net size of elevators is 2,0m x 1,4m. (<http://www.dcf.dk/>). In old buildings it is not always possible to fit such elevators. In January 2002 one of the urban renewal companies (SBS Byfornyelse)

initiated a larger development project about finding alternative possibilities for providing elevators for old buildings. This case is about the status of this development project in March 2004.

The aim of the project is to develop at least 4 standard types of mini elevators that can be installed in existing multifamily housing. It is for normal multifamily housing - not especially housing for elderly persons. Families with small children living at the upper floors could also benefit from the installation of elevators. Another reason to install elevators in such buildings is that this is a prerequisite for using the attic for new flats. When flats are made in the attic elevators have to be installed according to the building codes because this is new construction. So if it could be easier and cheaper to install elevators in existing multifamily housing more residents could get better accessibility to their flats and more flats could be build in the central areas of larger cities.

The project has 3 phases:

1. To investigate the legal, technical and economic barriers for installation of small elevators in existing multifamily housing (State of the art)
2. More detailed studies about classification of existing multifamily buildings, more detailed studies of costs and the consequences for the rents, development of models for installation of various models of elevators in different ways, carrying through of 4 demonstrations projects with installation of elevators in 4 buildings.
3. Dissemination, guidelines for builders and local authorities.

The second phase including the demonstration projects is expected to end before 2005. Different models were selected for a number of renovation projects (the models are described in more detail in the complete case report, annex to Deliverable 8). By March 2004 none of the demonstration projects had been carried through. (<http://www.gi.dk>)

In all cases the majority of the residents were positive to the idea of having elevators installed. The final conclusion of this can, however, only be made when more concrete projects have been completed and the precise consequences for the future rent is known.

## **7.5 Participatory planning of dwelling modifications in a block of flats in Helsinki (case 3, Finland)**

This case is about participatory planning of dwelling modifications in a block of flats that was built in the year 1961. A group of seven active elderly occupants of Puotila housing area co-operated with the researchers of the TTS Institute in the home modification planning. The aim was finding solutions and good practices that should be suitable and easily adaptable to the elderly concentrating on functional planning inside the dwellings. The phases of the implementation were: 1) The evaluation of the existing dwellings through the criteria, 2) The modification plans for three dwellings and 3) The group discussions about the habitation of the elderly and about the suitability and acceptability of the modification plans for aged.

Some criticism had occurred towards the criteria being inexact as a planning tool. In answer to that it was emphasized that the criteria should be seen as a co-operative tool helping the discussion between the occupant or their representatives and the planners. The elderly themselves commented the criteria to be open for individual needs and serving as an awareness waking tool for discussing the changes. The home modification plans were under lively discussion. With pictures and spoken descriptions, they seemed to be quite a good way to concretize the changes.

The problems, which were found in the floor plans of the dwellings, were that the space was limited, there were narrow corridors and crossing doors making moving difficult. Bathrooms were too small for textile care in addition to their primary function. There were several complaints about the suitability of the existing spaces concerning sound isolation, narrow spaces, inability to furnish the space, too small kitchen and the bathroom, and too little space for storage, hobbies and accommodating guests. However, the interviewees presented with pleasure the solutions that they have implemented and they also brought up improvement suggestions. The members of the group were in many ways aware of issues concerning functionality and accessibility as well as of the new technology products.

The Ball Model seemed to be a relevant tool for classifying the independent living of elderly. Some things that were expressed in the discussion were that forgetfulness needs to be taken better into account, for example by signal lights indicating that the power is on in electric equipment. Accessibility in walking and moving inside the dwelling and out of the dwelling was also under discussion. Due to disabilities with moving and seeing, the importance of lighting was emphasized. The lights activated by a moving detector would be useful especially in the staircase for example. An updating of the electrical installations is needed. The interviewees put great hopes in the wireless equipment.

Organizing the housework well was considered very important. The space to occupy oneself is needed. Space is also needed for privacy, when there are more than one person in the dwelling. The maintenance was mentioned in association with the entrance areas. The difficulties appear because of the lacking handrails and the inoperative door pumps as well as the slippery yard. The women could not manage with carrying the heavy laundry to the basement, where the common laundry room was located, though they would have liked to do that. In the wintertime, it was even more difficult to walk with a burden, due to ice and snow in the yard. Additionally, the appliances in the common laundry were too big for the laundry of a single person.

Technology was seen as an aid; there was no desire for it, but not great resistance either. Products aimed at the elderly were not eagerly adopted by the interviewees. The design of the helping devices and products for disabled were perceived as unattractive.

The role of the apartment house company in informing the elderly dwellers about safety issues and home modification possibilities was emphasized. The home modification information is especially needed when a forthcoming general renovation project is carried out. Habitation during the renovation project preoccupied the interviewees and they hoped that the temporary living arrangements be taken care of by the renovation firm. Clear rules and blueprints by the apart-

ment house company are needed in case of sudden incidents like having a seizure and being at home behind the locked door.

Some of them are prepared to pay for the household services thinking that the municipalities are not going to pay the services any more. They want the services to be near, preferably in the same building and served by the apartment house company. The “service with a face” is needed, somebody who could watch over the elderly occupants if needed.

Attention was drawn to the value of the apartment and its suitability for the possible buyers. People dare not make big changes to the familiar housing model. The cost is not the most essential factor in home modifications if there are other advantages to be gained for the money. Still, information of the overall costs is badly needed. People want to compare and evaluate the cost and the value of the solutions.



**Figure 7.** A block of flats in Puotila is built in 1961 and is in need of renovations. Kitchen renovations would improve the functionality of the apartments. Many of the inhabitants are elderly people and wish to stay in their homes.

## 7.6 Functional planning of collective areas (Case 4, Finland)

This case is about the functional planning of collective rooms in an apartment building. The aim of the case was to test the suitability of the criteria as a planning and evaluation tool. In this case the focus was to evaluate the layouts of the common area and give suggestions to the use of them in one of the apartment houses in Multisilta area near Tampere.

Partly due to the poor accessibility, the common areas are not always used very efficiently. Common laundry rooms are often located in the basement behind several doors and thresholds. Laundry facilities in the cellar or in the next building are also too far away. New solutions need to be found for better accessibility of the laundry facilities and other common rooms of apartment houses. The need of services has arisen among the elderly. Different activities, like well-being services, repairing of clothes, delivery of goods, storage, keeping fit and social

interaction between the occupants, require space and premises. The spaces offered in the apartment houses should be accessible for many.

The main study method used in Case Tampere was the expert assessment. The group of the researchers of TTS institute looked through the layouts of the common areas concentrating on the functional points. There were certain problems noticed in the layouts that were taken into closer evaluation. The statement of the expert group is as follows.

There were several problems in the common areas. The corridors in the basement were very narrow and long. The lighting in the long corridors is not always implemented properly; there are not enough light switches and their visibility in the dark is poor. That makes it difficult for the elderly people to move about in the common area. The basement was difficult to access because of many doors and stairs. In the old buildings, the basement fireproof doors are often too heavy and difficult to open for elderly. Very often there are no handrails at all and the doors are supposed to get open only with the key. That requires strong arms. Also the stairs leading to the basement are not always accessible. Partly due to the issues mentioned above the common areas in the old apartment buildings are not in very active use. There were several suggestions for improving the common areas:

## **Basement**

In the dark corridors there should be constant lighting, so that the elderly don't have to be afraid that the lights would go off all of a sudden. Color-coding would help orientation in the long corridors. Using transparent walls would help recognizing different areas and help orientation in the basement.

There were four "Theme areas" or departments suggested:

**Recreation area** with sauna, exercise room and a lounge could support social interaction in the apartment building, and it is also the means of recreation and health care.

**Service area** could make it easier to attract service providers. Different activities, like well-being services, repairing of clothes etc. requires space and premises. The need for cold and dry storage space for the home delivery service is recognized. There is also a need for a guest room when the visiting friends and relatives of the elderly need accommodation and apartments are small.

**Laundry area** in the old apartments taking care of laundry in the bathroom is problematic. Very often there is not enough room in the dwelling for a washing machine or a tumble dryer. Also the ventilation system in the bathroom or in the textile care room is not effective enough to remove all the humidity from taking a shower and washing and drying the laundry. Innovative solutions are needed especially for the drying of the laundry in the apartments. One of the suggested solutions for limited spaces in the dwelling is a drying facility on every floor. That means building a laundering and a drying place for every stair landing close to the apartment. The common laundry premises should also be easy to access.

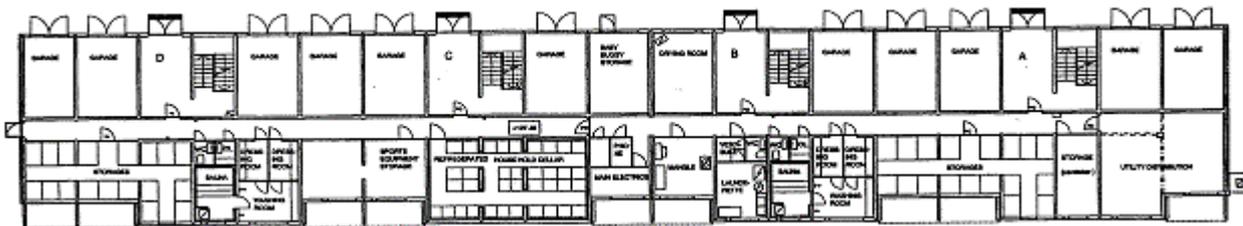
**Storage area** To get more storing space there was an idea of changing some of the garages to small, private, lockable storage rooms for bikes, walkers and hobby equipment. In the storage rooms, also the water faucet should be available because of the maintenance of the equipment.

## Elevators

In Multisilta two of the three-story apartment building are raised and additional floors are built. The elevators are built in connection with the construction of an additional floor. When the elevators are built the laundry facilities and other collective rooms and premises could be possible to construct close to the lifts, relating to a staircase or a stair landing.

Analysing the layouts gave information on the usability and fitness for use of the criteria (the Ball Model and the Activity Cards) as a planning and an evaluation tool. The ideas of the expert group were considered in terms of how they support the Activity Cards and introduce improvements to them.

It was noticed that the general requirements listed in the Activity Cards were relevant. Also the issues considering e.g. space, doors, stairs and storage brought up in the expert assessment was serving the purpose especially in the context of the activities of *Moving*, *Housework (textile care)* and *Storage*.



**Figure 8.** The basement of an apartment building could be divided between recreation, service, laundry and storage areas.

## 7.7 Service bus line (case 5, Finland)

Senior citizens' transport demand was studied in Finland in two suburban city areas and a rural location within two EU 5th Framework Programme projects. Two surveys were carried out by telephone interviews in Summer 2002. Also transport supply characteristics were surveyed, and the consequences of special transport services partly controlled by a travel dispatch centre were studied. Accessibility of the housing surroundings of the homes of the elderly, as well as the availability of information of the public transport alternatives were also taken into account.

A comparison of the implementation of transport services and their meaning to the conditions for independent living of the senior citizens was made between the target urban and rural areas in Finland and also against the results of the European research project.

The accessibility to services is important for independent living. Access to such basic services as a grocery store, a bank, a pharmacy, an office of municipal and social services or a healthcare centre or a post office are most important. However, the accessibility of even other than very basic services cannot be forgotten. Those are to do with meeting other people, recreation and taking care of oneself, health, beauty and hygiene. There are ways to ensure accessibility, either the elderly are able to reach the service or the service is brought to them. In both

cases, certain factors of the accessibility of the housing surroundings are essential.

Home is linked to services via the surroundings and the transport system. The transport system is mainly out of the scope of the Elderathome project, but the access to it is included. This access can mean various issues. In the first place, the services can be accessed by various modes: by walking, by cycling, by walker or sledge, by public transport, by private car or by special transport service offered to the elderly.

The garage combines the use of private car in housing design, as well as the design of accessible storage rooms, relevant for the use of bikes, walkers or sledges. The design of parking places and shelters for bikes and cars are parts of the design of housing surroundings. Walking is related to the housing surroundings via the condition of the yard and walkways, and their maintenance. The access to public transport systems is also dependent on the walking distances to the nearest traffic stops and the condition of the walkways. In Finland, for example, the house owner is responsible for the maintenance of the street by which the house is located. The possibility to use one's own car depends also on the walking conditions and the distance to the parking place or to the garage.

Normally, the bus stops are busy places and thus difficult to those elderly who have already some slowed reaction times and difficulties to move. The safety and sufficiency of pedestrian crossings are essential. The railway and metro stations, on the other hand, are often inaccessible because of the differences in the levels of the platform and the train floor. The design of these is normally beyond the design of housing surroundings.

Also, information on the availability of these alternative modes in each housing area, and information on the routes and the time tables of public transportation are needed. This information can be available by various means: by leaflets, by phone, and by new media; such as Internet or text television.

In some cases, the special transport services are serving the elderly according to the door to door principle. These services pick the seniors from their home door, take them to the door of the service place and back home again. In those cases the condition of the housing surroundings for the needs of this type of transportation relates the transport design to the housing design. In the case of such a special transport service for elderly, which is running according to a certain route, the access to the stop relates to housing surrounding to the transport system, like in other public transportation.

In the case of service personnel using the housing surroundings such factors as the access to the public transport system or the availability of parking places are important.

In this study, a special transport system using mini buses was studied. These buses drive to the home doors of the elderly in the case of rural neighbourhood, and follow certain routes in the city suburban housing areas. Thus, the criteria of easily accessible transport service and housing surroundings by walking and by car are in the focus. Also the criterion of the accessibility of services is indirectly in focus, because of the reason for most of the trips.

This was selected as a case because it takes into account many elements of the housing surroundings: the quality of the yard and walkways and their mainte-

nance, the use of the yard by car and when walking, the access to the bus stops and the information availability of the transport services.

The mobility of the elderly in the studied suburban areas in Helsinki was mainly local, rather than heading to the down town area of Helsinki, despite the good connections by metro and buses to the city centre. In the Leppavirta commune all the services are located in the village centre. Thus, all the trips are from the remote villages to the village in the commune centre. Also, in Helsinki suburban areas the services are gradually vanishing or concentrated into certain areas, and the elderly have to make trips to neighbouring suburban areas for services.

The households in the countryside owned a car more often than those in the city. Also, local differences in the car ownership between the two suburban areas in Helsinki were found. These differences correlate also to the possession of the driving licence. Men belonging to the elderly age groups have far more often a driving licence than women in the same age. According to these surveys, the elderly living in the city knew the timetables of the public transport better than the elderly living in the countryside. It was far easier to get a ride in the countryside than in the two Helsinki suburban areas.

In the countryside the trips seemed to be longer than those made by the elderly of the two cases in Helsinki, but no study on the kilometres was done. The trips to the summer cottages and the long visit trips to the friends and relatives give to the trip lengths in Finland a special character, in general. On the other hand, the number of trips was higher in the Helsinki suburban areas than in the rural village of Leppavirta. The Leppavirta survey revealed that the number of daily trips reduced with increasing age.

If the possibility of using the service line buses or the demand driven service bus was there it was used, but if not the respondents did not even know about the alternative. All users of the service buses were pleased with the service. The only problem of the use of the demand driven service buses will rise from the cost side. It seems to be relatively costly for the commune in Leppavirta to provide the service. The cost calculations did not show profitable business opportunities for the bus service providers, either, if they were to operate independently.

In the Netherlands, a problem with the demand driven buses was the insecure service supply. The driver took care of the service calls and was not always able to handle the situation. After a few failed pick ups the word spread among the elderly about the unreliability of the ride, and the dissatisfaction resulted to diminished usage of the service. In Finland, a separate dispatch call centre was used in all cases, and only in one case the trip had to be cancelled because of bad weather conditions. However, the client was informed of the skipped trip and no complaints were made.

The accessibility of the yard seemed, according to this study, to be fairly good. None of the people reached by the telephone interviews in the two suburban housing areas in Helsinki had skipped an intended trip because of the poor condition of the surrounding yard. Also the mini buses were able to reach the home doors of the elderly in the rural community in Central Finland.

## 7.8 Mobile community centre (case 6, The Netherlands)

In the Netherlands, housing corporations have a broad and social task: welfare for all people. It is because of this concern that the housing corporation de Woningstichting is one of the initiators of the mobile community centre. Besides the housing corporation de Woningstichting the following partners are taking part in this project: de Pauwenhof, de Nudehof, Rustenburg, Dennenrust (nursing homes), Kruiswerk West Veluwe, Stichting Welzijn Ouderen (welfare organisations), SMD voor Thuiszorg (home care organisation), and the municipality of Wageningen. These organisations are joined together in the WZW-kring.

The mobile community centre does not yet exist but is still in the planning phase. The trend is that more and more elderly live longer independently in their own house. Research shows that many elderly have difficulties knowing where to get a service or information. Some elderly do not know where to go when they are facing a problem in the field of housing and welfare. There are so many (public) organisations that aim at elderly and try to help them. This can be very confusing. There is a need for a 'one-stop-shop' information counter. One of the possible solutions for this problem is the mobile community centre. The mobile nature of the community centre can be very important for less-mobile persons who have problems going to the offices of the various organisations they have to deal with. This way the mobile community centre can be a supplement to the current sources of information and help for elderly in Wageningen, for example; newspapers, the elderly advisor and de Wielewaag (a community centre for elderly).

The mobile community centre aims to fulfil the following purposes:

- Provide information
- Advise
- Tracing need for care
- Mediate
- Offering services
- Social meeting point in neighbourhood
- Use by others (doctors, insurance company, housing corporation, and so on)
- PR-related

Staff of the various organisations that have initiated this project, joined in the WZW-Kring, will host the bus. When there are no customers to help, they will go on with their daily business by using the Internet. In this way human resources can be used optimally. So far, nothing is known yet of any comparable projects in the Netherlands.

Does a mobile community centre provide a solution for the problems of the elderly living in Wageningen? For answering this question it was decided to have two focus group discussions. In total 10 elderly persons have joined the focus groups, in which they could give their opinion on mobility and services in Wageningen and on the proposed mobile community centre.

To answer this question we first need to know which problems the elderly in Wageningen face in this context: The elderly that participated in the two focus group discussions do not seem to experience many physical problems and they

hardly seem restricted in their mobility by this. The majority can get around in Wageningen very well, by bike, by foot and sometimes by car. When visiting destinations further away the inadequate quantity and quality of public transport seems to give the elderly problems. For more information concerning elderly who experience a restricted mobility and their opinion on the mobile community centre, we recommend further research, since this group was not clearly represented in our focus groups. More problems seem to occur when it comes to finding and reaching the right source of information. Many respondents say to have some (minor) problems with that. There are a variety of information sources that can be contacted or consulted, which can be confusing. Finally, many participants tell about family, neighbours or acquaintances who, according to them, are in a more problematic situation concerning mobility, having access to information and services and having a (social) network.

When hearing about the proposed plan of the mobile community centre, the participants reacted mainly positively, though all these positive remarks mainly have to do with 'others'. The positive remarks concern both the idea of one information counter with information about many aspects of life and growing older and the mobile character of the project. According to participants of both groups the following types of information and services could be offered in the bus:

- Municipal information (schools, housing, facilities)
- Information concerning dwelling for elderly, adjustments in the dwelling and WVG<sup>2</sup>
- Medical information (lists of General Practitioners, information on weekend services)
- Same information as provided in de Wielewaag (alarm systems, meals-on-wheels, help with filling in tax forms and so on)
- Insurance company (Amicon)
- Post office
- Help with finding a private cleaner
- Bank
- Applying for and information about home care
- Applying for and information about nursing homes
- Housing corporation (only in neighbourhoods where are lots of rental dwellings)
- Information on recreation and hobbies (painting, handicrafts, sports clubs)
- Information concerning voluntary work
- Library service
- Companies relevant for elderly (e.g. handyman) may advertise in the bus
- Medical check up (e.g. blood sugar level, blood pressure etc.)
- A place to chat with people from your neighbourhood (meeting spot)

The focus group discussions showed that there is not a very urgent and 'life-saving' need for a mobile community centre, but that it will be very convenient

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<sup>2</sup> Law which deals with the adjustments in a dwelling for elderly and handicapped people and with financial compensations.

and pleasant way for elderly, and others in Wageningen, to get in touch with the many organisations and agencies that are active in Wageningen. The focus group discussions indicate that the mobile community centre is a good way to meet with the goals that the initiators of the project set themselves: Making care facilities, dwelling facilities, welfare facilities and the organisations that work in this field accessible, noted and familiar for the inhabitants of Wageningen, especially elderly.

## **7.9 Opplussen (Case 7, The Netherlands)**

The Dutch word ‘opplussen’ means something like ‘upgrading’. Opplussen is the adjustment of existing dwellings in such a way that the elderly and persons with a minor handicap can live as long as possible and without problems in their current dwelling. After opplussen the dwelling should be accessible, safe and usable ([www.opplussen.nl](http://www.opplussen.nl)).

Opplussen was initiated in 1997 by SEV (organization which is engaged in experiments in public housing and related to the Ministry of Public Housing) ([www.sev.nl](http://www.sev.nl)). The SEV set up several experiments concerning adjustments in public housing complexes and evaluated these experiments. Based on these results, they set up a list of adjustments that are needed to at least reach a certain level of comfort and accessibility for elderly. A subsidy was provided for housing corporations, in order to promote ‘opplussen’, as it was named, on a national level. This resulted in Wageningen in the opplussen of two public housing complexes. After this initial stage, housing corporations were supposed to go on all on their own. In Wageningen, the housing corporation ‘de Woningstichting’ agreed with the municipality to adjust a set number of dwellings the coming years. In return the municipality would pay 30% of the expenses of the opplussen of dwellings.

The municipality of Wageningen has a shortage of dwellings appropriate for elderly and handicapped people. All new build houses are being built according to the principle of ‘levensloop bestendig bouwen’, which makes a dwelling accessible and comfortable for everyone. Since only a limited number of houses are built yearly, this cannot bring a solution for the growing demand of dwellings that are appropriate for the elderly. Therefore, it was decided to adjust existing complexes; opplussen.

Usually half of the improvements and adjustments made during an opplussen project, are made outside the dwelling: accessibility of the entrance, no thresholds inside and around the complex, sufficient lighting, anti-slip floors in stairways and so on. Inside the house the main adjustments are anti-slip floors in the bathroom, taking away the thresholds, lowering the window handles and installing a thermostatic tap in the shower. All dwellers joining in the project get the same package of adjustments, there is no individual choice. After a dwelling has been adjusted during the opplussen activities, ‘de Woningstichting’ will only let it to tenants of 55 years and older.

The housing corporation ‘de Woningstichting’ has agreed with the municipality of Wageningen not to charge the costs of opplussen to the tenants. So the rent is not increased after opplussen. Many elderly belong to lower socio-

economic classes, thus raising the rent could be a burden for those people. But this implies that the housing corporation has to be very careful with the costs of *opplussen*. The costs per dwelling are on average 4.000 Euro, for which there are no direct returns.

The specific complex we examined is called 'the Harnjeshof'. It consists of 47 dwellings and is situated near the city center of Wageningen. The complex is not only meant for older people, but in practice many elderly live in this complex and it is quite popular among them. 'De Woningstichting' decided to dedicate only dwellings on the ground floor and first floor for *opplussen*. This was decided because the whole building would only be inhabited by elderly in the future, which was not desirable, neither for the tenants nor for the housing corporation. All dwellers on the ground and first floor cooperated and had their apartment adjusted, in total 19 dwellings. Fourteen dwellings are situated on the first floor and five dwellings are situated on the ground floor. Besides individual dwellings, the entrance and public spaces on the ground floor and first floor were renovated and upgraded.

Our central question in examining *opplussen* in the 'Harnjeshof' was: *"Does 'opplussen' contribute to the diminishing of the problems elderly living in the public housing complex 'the Harnjesweg' have?"* For answering this question it was decided to interview dwellers of the 'Harnjeshof'. Due to time and other restrictions it was possible to find only eight respondents.

To answer this question we first need to know which problems the elderly in the 'Harnjeshof' have. During the interviews the following problems appeared: In seven out of eight households at least one household member is facing problems with his or her health. These problems range from diabetes, recovering from a stroke, constriction of blood vessels in legs, diminished sight, oedema in legs, asthma, light rheumatism and decalcification. The mentioned health problems manifest clearly in the daily life of the inhabitants of the 'Harnjeshof'. Many of them only go outside the building with a walker. One respondent even uses her walker in the house and only goes out in a wheelchair. Also driving a car or bicycle is no longer an option for some of them. Many respondents or their partners use medicines and have pains regularly. Many of the households receive help with the cleaning of their dwelling, by either cleaners of home-care or private cleaners. Another problem that clearly showed is a sense of insecurity. In various ways respondents mentioned (in)security as an important issue.

In general we can say that the respondents are mildly positive or very positive about *opplussen*. To a certain extent *opplussen* contributes directly to the diminishing of the problems the elderly have. Especially when the problem has to do with mobility, taking away thresholds and raising the gallery has helped.

But the main part of the adjustments done during *opplussen* are preventive in nature, like for example the roughening of the bathroom floor or the lowering of the window grips. These measurements do not improve the daily quality of life of the elderly, but can certainly make it safer. Therefore these adjustments are appreciated a little less by the dwellers. Many adjustments aim at a future in which the dweller is less mobile and weaker. However, this kind of a person might never live in the apartment. All adjustments are dwelling-specific and not dweller-specific.

A third type of adjustments are the ones that offer the dweller comfort, like for example the thermostatic taps in the bathroom. Comfort and safety are only experienced by the user, when missing. Seen in this perspective, opplussen contributes both directly and indirectly to the diminishing of the problems elderly have.

## **7.10 Barcelona Accessibility Plan (Case 8, Spain)**

The case presents the accessibility plan of Barcelona as tool of improvement for the city, and some learning from the implementation of the plan.

Accessibility and mobility are important steps to increase autonomy of elderly people. Autonomy is enhanced when everyone can get everywhere (surroundings, city, and country) irrespective of their different capacities and the means of transport used.

This kind of plan is used like a tool to adapt in a sustainable way the thoroughfare, the municipal buildings, the transport system and the environment in general. This improvement in accessibility allows all the citizens and specially those with more problems to improve their interaction with the environment.

The Accessibility Plan uses an intervention method to guarantee the participation of municipalities and to assure development of the Plan's projects.

The objective of the Accessibility Plan is that the city of Barcelona is totally accessible by the year 2006. For this to be possible, it was essential to define clearly the desired results in each task field.

- 1. Public thoroughfare:** There are streets in Barcelona that can never be totally accessible due to their gradient. The ideal result would be that, as regards the rest of the streets, they have pavements wide enough so that two pedestrians can pass by each other, whether they are using a wheelchair or pram (narrow streets should be pedestrianised or of equal level). The security of users must also be guaranteed. The positioning of urban furniture, proper street signs (e.g. danger and road work signs), the design of different elements, the relationship between pedestrians, vehicles and cyclists, must all be given attention.
- 2. Buildings:** any person should be able to access and move around the different public buildings (those meant for the public in general and those specifically for employees) in an independent way and be able to use the services on offer.
- 3. Public Transport:** Ideally everyone should be able to use the network of public transport in an autonomous way, from boarding, use of vehicles and stops or stations, to information on timetables and routes. These means of transport should also cover the entire territory. However, those people, who because of their circumstances cannot use the public transport system, should be able to receive a "door to door" transport service.
- 4. Parks, gardens and beaches:** these public spaces are important as open public spaces meant for free time and recreation activities. They were not included in the Accessibility Plan at its initial stages. However, they were incorporated later with the aim that every citizen's se-

curity would be guaranteed and it would ensure that everyone would be able to use the installations and carry out the various activities on offer.

To achieve the final object of the Accessibility Plan we carried out a study on the different areas of intervention, with the aim of finding out the true status of accessibility and, subsequently, being able to define the priorities.

It can be stated that Barcelona, in its combination of teams and services, has approximately tripled the reality of accessibility in comparison to 1996 and is planning to invest in the next 5 years twice the resources invested in the past five years.

This evolution in accessibility in the city of Barcelona, reflected in actual data concerning the four areas of importance, is possible thanks to two factors.

- Close collaboration between politicians, technicians and citizens.
- The will to co-ordinate all the agents involved and programme the interventions.

In this way, it has been achieved that for every Euro that is spent on accessibility, four more are added on that have come from the budgets of the new contracts and acquisitions and maintenance of the city. In fact, Barcelona has been the first city in the world to apply this criteria of efficiency in accessibility, and cities like Helsinki and Stockholm have been inspired to design their own Plan of action. In addition, visits of experts in accessibility from Europe, the United States, and Japan have improved the spread of the Barcelona experience among other countries and continents.

## **7.11 Homedoor (case 9, Spain)**

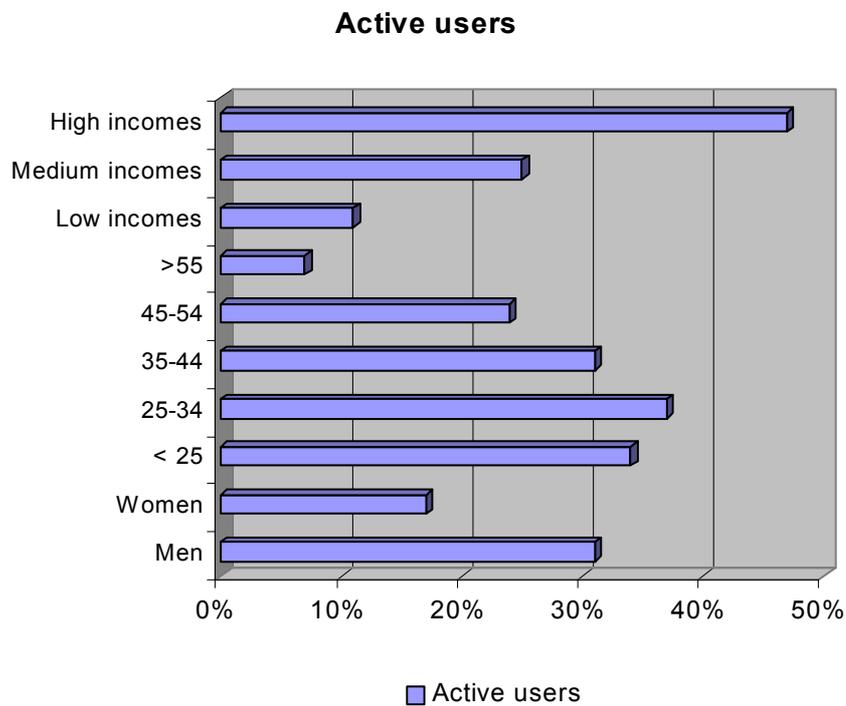
The introduction of Internet and the e-commerce is very different among the different countries of the European Union, because of the different cultures and age distribution. The project Homedoor has studied the logistics and the situation of the electronic commerce in all the European Union Countries.

The situation of classic commerce has been changing during the last years all around the world and the European countries are not an exception in that. The little grocery stores that you could find in the old city centres not so long ago are now disappearing because of big supermarkets located outside the city centre. People are changing their habits and the people who used to shop every day now prefer to go shopping just once a week, and like to find almost everything in the same place.

This means that the transport cost for the consumer is increasing because he has to take the car to go shopping. It also means that the environmental cost for society is increasing because of the energy consumption. The specialisation of the little shops of the neighbourhood is disappearing because of a globalisation that allows one to find everything in a big supermarket. For elderly people this development can be particularly problematic.

At the same time new technologies such as Internet or e-commerce are revolutionising many functions of society and its commerce as a part of it. It is now possible to make purchases in something like a virtual electronic supermarket

just by connecting to the net and choosing the goods you want. This potentially facilitates an activity that traditionally needed much more time, and could be at least a partial solution for the economic and environmental cost of the transport.



**Figure 9. Active Internet users**

But there is an important problem to be solved about logistics: the delivery system. When you buy something in the net there must be an efficient delivery system that brings the goods you ordered at home. There already exist different big supermarket chains that offer a delivery system to the consumers but you must be at home to receive the goods. This doesn't seem to be very practical if we take into account that the number of unattended homes during the day is increasing. Women are incorporating to the labour market, young couples spend much more time at work and outside home, and the elderly people are becoming very active with hobbies and other activities outside the home. A solution would be an unattended delivery system with no schedule constraints that would facilitate the job to the retailers and would decrease the economic cost of transportation.

Another important issue concerning the usability of the e-commerce solutions is the accessibility of the e-commerce web pages.

In Europe there are still has a lot of old houses built before 1970 that are quite difficult to adapt to the continuous changes of society, and in different countries different kinds of construction are apparent. This diversity makes it very challenging to develop unattended delivery systems that can be easily adopted in many different cities and rural areas.

## 7.12 Conclusions

The study of these cases and application of criteria on the cases has confirmed that the criteria may be a very good tool for planners and users. Weak points have also been found, as reported in more detail in the Summary of case studies (deliverable 8 of the project). The criteria for Dwellings have proved to be the easiest to apply as a check-list in all the relevant cases.

Some of the findings have already been used to improve the criteria into the form that is reported in this final report. Some others must be taken into account when using the criteria in different situations. The following discussion covers these considerations.

Some criteria were considered too subjective. Efforts were made to clarify the expressions that are used. However, the criteria is meant to be a framework that can process widely varying and subjective needs and wishes when taking care of the prerequisites of living at home independently. People participate in a selection of fairly general activities which can be described objectively, but the important qualities vary.

The studies highlighted some cultural differences between countries. While the general activities are the same, the applications can be very different, and the attractive solutions may not be the same.

Some criteria are too ambitious. In practice, when improving the conditions for independent living, often a partial solution is better than none. The framework can be used to find a number of possible improvements, and then to weigh their possibility and potential.

Some of the ambitious criteria may not be easily applicable in all existing buildings. They are only applicable in new constructions.

A range of evaluation methods were applied in these cases that represented improvements at the planning stage as well as projects from which there was substantial experience.

In existing buildings and surroundings the criteria are very useful as a tool to enable the planners and the users to communicate and become aware of needs and possibilities. In developing services the criteria can enhance the possibility of finding creative solutions. When planning new buildings and surroundings, the criteria can be used as a “representative” of the future user, to remind the planners of the variables that should be taken into account.

In all these cases the criteria often stop short of giving exact measurements or other detailed solutions. Once the focus of improvement is determined, the planners are referred to the relevant state-of-the-art standards and guidelines. Thus the framework is kept dynamic, allowing for solutions based on future technological improvements.