

# ADDED VALUE OF LIFE-PROOF HOUSES ACCORDING TO REAL ESTATE AGENTS

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## Abstract

*Dutch government policy is aimed at aging at home, closely aligned with what citizens prefer. However, the demand is higher than the supply of life-proof houses. This need is felt by professionals both in healthcare and housing. But, how do real estate agents value life-proof houses? How do they value life-course continuity, do they take this into account in their services? Therefore research is carried out on the online market and with real estate agents in two Dutch areas.*

*Life-course continuity appears to be recognized among the real estate agents and in most cases this is included in their service because of a high market value, focused on the age group 55+. When minimal adjustments have been made regarding life-course continuity, 10% of the respondents will allocate a financial added value of 3000€ - 15,000€. When maximum adjustments have been made, 20% choose a financial added value of 4000€ - 20,000€.*

## Keywords

life-proof house, housing adjustments, financial added value, user value, market for independent living

## Introduction

As in many other European countries, government policy in the Netherlands is aimed at ensuring that citizens with health problems continue to live independently in their own home situation for as long as possible. This policy is closely aligned with what citizens usually prefer (Aanjaagteam Langer Zelfstandig Wonen, 2016). Many nursing homes and sheltered housing will be closed for financial reasons in the coming years, which means that around 100,000 citizens will have to live in their own homes (Duivenvoorden et al., 2015). It is therefore important that the supply of life-proof houses should be in line with the demand for it in the future (Kenniscentrum Wonen-Zorg, 2009).

The growing need is felt by governments, but little need is felt by the elderly to adjust housing (IPSO Facto, 2016). Professionals in healthcare, as well in design and developers, acknowledge the importance too.

The question regarding existing housing stock is threefold:

- What is already known about life-proof houses and the possible added value?
- How much are homes worth extra or more saleable if they are life-proof, according to real estate agents?
- How do real estate agents include the theme of life-cycle continuity in their services?

The definition of life-proof housing was given in the 1990s by the Humanitas Foundation (Humanitas, w.d.). It means that homes are built and adjusted in such a way that the residents can continue living, also if their living conditions change, for example due to age, illness or disability. This definition is undescribed by the Dutch Kenniscentrum Wonen-Zorg, (Portal2care, wd.).

The number of over-75 years old is growing fast. In 2040 there are expected to be 2.6 million elderly people in this age group in the Netherlands, which is twice as much as now. This entails consequences in many areas, in particular for care and the housing market (the Netherlands Environmental Assessment Agency, 2016). As the number of retired elderly people will grow, there is a greater pressure on the care related labor force to facilitate this group. This pressure can be seen both financially and in numbers of working force (PBL, 2016).

Because the elderly have more physical limitations on average, the need for informal care in the neighborhood is increasing (PBL, 2016). When there are more elderly people, there should also be more facilities that are tailored to the needs of this target group.

#### *Unnecessary care and social costs*

The majority of private home owners usually think about making home adjustments when they are confronted with a life-changing circumstance (Aanjaagteam Langer Zelfstandig Wonen, 2016). You can think of a family member that unexpectedly has to deal with a disability, or the private home owner themselves. If your home cannot be adjusted soon enough or your home will not be sold, this can lead to many restrictions in daily living. An example of such an undesirable situation is the breaking of a hip by a fall of the stairs or by slipping in the shower. Such fall incidents cost the Dutch community 60 million euros annually in medical costs (Van Triest, 2015). Also, due to the lack of (timely) home adjustments, often a need for informal care or even professional help. This could have been prevented if adjustments were made in time. Based on this, you could say that it would be better for private home owners to prevent their homes from becoming unadjusted. However, you cannot impose this duty only on the private homeowners. The idea is to make adjustments to your home more attractive. This could possibly be achieved by generating a capital gain that is achieved during the final sale of the property.

#### *Consequences of aging related to the housing market*

The changes in aging ensure that the flow-through process in the housing market is clogged. It is difficult for the starters to find a suitable home. This is due to, for example, the fact that families, which are no longer starters, cannot move up to an adjusted home.

The stiffening effect of the housing market can be turned into an opportunity. To counteract this rigidifying effect, it is worth considering to have the current home adjusted to a life-proof house. This is an idea that the current study is focused on. When carrying out these adjustments you can think of: lowered thresholds, walk-in shower, bedroom and / or bathroom on the ground floor, stair lift, brackets, adjusted kitchen and / or bathroom, anti-slip floor, automatic door opener, hoist, senior bed and wide doors. But also comfort and sustainability solutions as creating ground floor space which could be easily adjusted later on in life or services as more add in-house apartments for informal caregiving.

#### *Consequences of the credit crisis for the housing market*

At the time, the credit crisis ensured that housing construction, due to the high housing supply, had almost completely stopped. For that reason, it was also impossible to respond to the demand for other forms of housing that have arisen over time. This is also not missed by the General Dutch Association

for the Elderly (ANBO). A survey that they conducted shows that 56% of the municipalities in 2012 concluded that there is a shortage of senior housing (ANBO, 2015). Two years later, these shortages have still not been reduced. "Housing production, which has declined in recent years, has to increase again in order to shorten the deficit in the long term", says director Den Haan of the elderly organization.

The research 'The State of the housing market' indicates that there are large regional differences in the deficits. In some densely populated areas the deficit is relatively large (ANBO, 2015). In addition, this research on the housing market also shows that 50,000 owner-occupied houses will become available annually due to the aging population in 20 years' time. This is especially true in regions where housing demand is limited: supply and demand must therefore be geared to this (ANBO, 2015). The owner-occupied properties that are released there will largely not meet the requirements of a life-proof home. However, these can be achieved. Den Haan calls on the government at national, regional and local level: "Make it quicker to build more suitable housing and to renovate existing housing!". All in all ANBO responds to the results of the study with concern: "The government policy is aimed at allowing elderly people to live independently at home as long as possible, and that is also the wish of many elderly people. But as it is now, that is unfeasible (de Groot, 2016)".

The Cabinet policy was introduced in 2013 and the aim is to create a society that offers people more opportunities to take responsibility for their own lives, and for more equal participation (Rijksoverheid, 2013).

When you need support and/or care, you try to offer it as much as possible in your own living environment. Both municipal and health insurers are involved in this. The purpose of this policy is to create a situation in which people initially try to find a solution for their need for support themselves and with their social environment. In the second instance, an appeal can be made to municipalities and/or the health insurer(s) (Rijksoverheid, 2013).

With this reform, the Cabinet is reconciling what people can and prefer and makes municipalities and health insurers more responsible for home help. Older people often need other forms of support and care than people with a physical, mental or social disability (Rijksoverheid, 2013).

Up to now, possibilities for living longer at home have already increased through, among other things, informal care, a more flexible use of home care and new forms of domotics. These developments in recent years are taken as the starting point in government policy (Rijksoverheid, 2013).

### *Three new ways of financing life-proof homes*

For individuals who are unable or unwilling to take extra mortgage to make their home more sustainable, the banks are currently developing an alternative 'building-related' form of financing (Vastgoedactueel, 2017). This alternative will have to ensure that individuals get more incentive to adjust their house. One of the ideas is to expand the National Mortgage Guarantee for zero-on-the-meter homes (Sustainably built, 2017). The idea comes from 'Sustainable Development Goals', with which the Dutch Banking Association (NVB) translates the challenge of the United Nations to ambitions for the Netherlands (Vastgoedactueel, 2017).

Furthermore, the Dutch banks want to help customers with their services to stay longer at home, if desired. The idea is to use cash flows for housing, care and pensions more flexibly for specific needs. The banks are discussing these topics with (health) insurers, pension funds and the government (Duurzaam gebouwd, 2017).

An initiative that has already been applied in practice is the 'Blijvers loan'. The Booster Team Langer Zelfstandig Wonen has made a strong case for this. This has contributed to the fact that the Dutch Housing Stimulation Fund for Housing (SVN) has developed a financial tool in 2015 that includes the 'Savings Loan' instrument (Government, 2016). By means of this loan adjustments can be made that make the home life-proof. In this way, residents can enjoy their home longer. The owner or tenant can have this loan taken out by mortgage or from 1 January 2016 at the own municipality (Stimuleringsfonds Volkshuisvesting, z.d.). Municipalities decide themselves which form (s) they offer. A municipality or province promotes independent living at home with the 'Blijversloan'. The most important factors that contribute to the amount of the loan are (SVN, z.d.): age limit, duration, principal amount of the loan.

Not every municipality offers a Savings loan. Of the three elected municipalities for this study: Horst aan de Maas, Nijmegen and Renkum, the latter is the only municipality that offers a Savings loan.

On 28 March 2017, the 'Regulation on land price measures to encourage life-course and / or gas-free new homes' was accepted by the municipality of Horst aan de Maas. The purpose of this regulation is to stimulate the sale and construction of life-course and / or gas-free homes (Council of the municipality of Horst aan de Maas, 2017).

In this decree, the term 'life-proof new house' is defined as follows: "A new house where living, cooking, sleeping and bathing / showering takes place on one level and all rooms are wheelchair accessible. In the case of an apartment, an elevator must also be present in the relevant complex, which is accessible to wheelchairs. The purchase price limit of the complete life-proof new-build house (or apartment) amounts to a maximum of € 300,000 (price level 1-1-2017) and must be located in an area in which the municipality of Horst aan de Maas carries out the land development (Council of the Municipality of Horst on the Maas, 2017).

A subsidy for making home adjustments is granted by the municipality on the basis of the Social Support Act (WMO). In determining this, municipalities have a large policy freedom. This means that the granting of the subsidy can bring big differences per municipality (Rijksoverheid, z.d.). Nowadays we strive for a society that offers people more opportunities to take responsibility for their own lives, for more equal participation and more direct control. This also applies to the WMO 2015: people first have to find a solution to the problem themselves. In this case, the problem is that as a private home owner you need adaptations that make it possible to live longer at home. When the residents themselves have looked at the possibilities for this and they do not offer a solution, the municipality needs to assist. In this case, the situation at the WMO counter is mentioned and a meeting with the applicant at home follows. During this meeting, the experienced problem areas and possible solutions will be discussed with the WMO consultant (Housing adjustment money & law, etc.). If this discussion shows that the problem cannot be solved alone or with the help of a general provision, the municipality will look for a suitable tailor-made service. This search is usually carried out by a consultancy firm that reports to the municipality what the findings are. The municipality can also indicate whether a move to another, already adjusted (or cheaper) home is possible (Ouderenwegwijs, 2017). From this follows the conclusion on whether or not moving is the best solution. If the latter is the case, namely not moving, then a remodelling comes into the picture. The municipality directs the Schedule of Requirements. This requires to request at least two contractor quotations specified on components. As soon as these have been received, they must be sent to the municipality (Housing adjustment money & law, etc.). The municipality evaluates these offers, among other things, on the criterion 'cheapest adequate' and tests it against its own Schedule of Requirements. If necessary, budget items are changed or deleted. On the basis of this procedure, the subsidy amount is ultimately determined by the municipality (Ouderenwegwijs, 2017).

### *Main and sub questions*

This introduction leads for this research to the following main question: "What added value does a life-proof house have according to real estate agents?" The primary goal of this research is to find out whether a life-proof house can generate financial added value. The secondary goal is to see if and how real estate agents include the 'life-cycle continuity' theme in their services.

In order to achieve the above goal, sub-questions have been drawn up:

- What is already known about life-proof houses and the possible added value?
- How much are homes worth extra or more saleable if they are life-proof, according to real estate agents?
- How do real estate agents include the theme of life-cycle continuity in their services?

## Method

An exploratory literature study was conducted for this research and both quantitative and qualitative research methods were used. The research was carried out in three phases: an exploratory literature study was conducted into what is known in the literature about the (possible) added value of life-proof houses; a scan was made of information about the supply of life-proof houses on the Funda website (N = 51). It examined to what extent and how life-proof housing elements are promoted by real estate agents; how often is reported about life-course resistance and how is it written about; and a qualitative and quantitative research is carried out in collaboration with various real estate agents. This paper presents the results of the third and final part.

For the qualitative part, both sales and purchase real estate agents were interviewed. It concerns estate agents in the municipality of Horst on the Maas (rural area) and Nijmegen (urban area). The aim of these interviews is to find out how they incorporate life-cycle continuity in their services. It also investigates how real estate agents see this in the future. There are 7 real estate agents per municipality that have been interviewed. This means that a total of 14 interviews. The results that emerge during the discussions will eventually show whether and to what extent real estate agents are currently (and will) be working in the provision of their life-cycle continuity. These are obtained in the following way: two telephone interviews in Horst aan de Maas; five interviews on the spot in Horst aan de Maas; seven telephone interviews in Nijmegen

The quantitative part is shaped by presenting different scenarios to the contacted real estate agents. These scenarios range from completely unadjusted homes to completely adjusted homes. The central question is what the estimated value of the property concerned is. In this way an estimate can be made of the expected added value of a life-proof (= fully adjusted) house.

### *Policy two local governments*

In order to get an idea of the way in which each municipality currently deals with life-proof living, a number of policy documents have been examined. With regard to this subject, the most recent documents that make living at home longer possible are described per municipality. Furthermore, a number of questions have been asked to the municipality on the basis of these policy documents.

The municipality of Horst aan de Maas is at the forefront when it comes to stimulating life-proof housing. For example, on 9 May 2017, they signed for the 'Regulation on land price measures to stimulate life-proof and / or gas-free new homes'. The objective of this regulation is to stimulate the sale and construction of life-proof and / or gas-free homes.

For this a subsidy application can be submitted to the college. This subsidy is called the 'life-proof purchase subsidy'. This can only be requested by means of an application form made available by the Commission.

The city of Nijmegen is not only the oldest municipality of the three selected regions, but also the largest as in the Plan of Approach. Because it is so large in size, it helps ensure that it is extra important to arrange the accommodation for all these residents. To steer this in the right direction, the 'Woonvisie Nijmegen 2015-2020' has been drawn up. First of all, under the heading 'Aging, living with care', the importance of aging is discussed as has been demonstrated in the literature study. The aging of the population will also continue strongly in Nijmegen in the coming years. The number of people older than 70 will increase from around 16,500 to 19,200 in 2020, a growth of 3,200 (Woonvisie Nijmegen 2015-2020, 2016). This has consequences for housing demand because old age often comes with physical limitations and requires adaptation of the home. As a result of the major and far-reaching developments, the task gets more weight and urgency.

In the coming years, more elderly people and people with disabilities will (continue to) live independently. Because people continue to live longer in their own homes and there is also new inflow every year, the demand for adequate housing will increase significantly. At the same time, there will be

greater pressure on facilities such as those of the WMO and informal caregivers (Woonvisie Nijmegen 2015-2020, 2016).

Much is already happening in Nijmegen regarding this issue. Housing corporations are active in developing housing complexes with care together with care providers. Social neighbourhood teams have started working city-wide to better coordinate demand and supply in care and welfare. Care and welfare organizations are also working together more and more, for example, the day spending for Pluryn customers takes place in various neighbourhood centres (Woonvisie Nijmegen 2015-2020, 2016). These are excellent developments. But it is important that because of the demographic shift and extramuralisation more needs to be done in the coming years in order to continue to provide good accommodation.

The planning framework "Living with Care" provides the basis for this. In addition, the older person of the future probably does not have the same wishes when it comes to housing and care (Woonvisie Nijmegen 2015-2020, 2016). The baby boomers are better educated, have on average more to spend and are more used to organizing things themselves in terms of lifestyle. Through recent research we have a clearer picture of the housing demand. In 2016 this will be incorporated into the policy for housing and care.

### *Expected results*

the expectations regarding lifetime stability within the service were:

- Real estate agents are working on the theme, but do not yet consciously include it in their services.
- The inclusion in the service provision differs per real estate agent because, for example, they value different house aspects.
- Real estate agents still link life-cycle continuity to seniors (this usually has a negative effect and gives a distorted picture).
- The size of the municipality is positively related to the degree of life-cycle resistance.
- By improving the insulation of the house, which is also an adjustment for the purpose of life-cycle resistance, there will be added value in any case.
- The addition of a stair lift does not always result in added value.
- An extra room can generate added value, but when this takes place in front of a garage this is doubtful.
- Without adjusting the comfort (insulation + domotics), there is also a surplus value for a home that is resistant to life.

### *Scenarios and arrangements*

For the quantitative part of the research, scenarios were discussed with the real estate agents who can eventually map out any added value of a home. The real estate agent will estimate an asking price to each scenario.

One detached house and one semi-detached house were used via Funda. These homes are on average larger than, for example, a house in between, and for that reason it is easier and more realistic to let certain house adaptations be solved. This concerns houses that are for sale and that will be adjusted.

Arrangements have been drawn up by researchers who have researched this before, within the framework of the overarching research. Use was made here of possible and desirable starting points. A non-optimal match makes longer home independent shorter. In order to achieve an optimal match as a private home owner, an assessment framework has been drawn up within which various adjustments can be made. Each arrangement has its own name and associated adjustments. An overview of the arrangements is shown in table 1.

Table 1: Arrangements for life-course-proof private homes according to limited selection

<b>Arrangement</b>	<b>Measures</b>
Comfort without refurbishment	All conceivable domotics for light, sound and communication
Comfort energy (with refurbishment)	Energetic erection of the house, including (choice of) double glazing, floor, roof and wall insulation, improved heating system, possibly. with PV panels or solar collector
	Smart lock safety, smart doorbell, secure sockets, gas and smoke detectors, extra handrails, adjustment of night lighting, adaptation of cooking form (gas, electricity, induction)
Independence I	Adjustment locations switches and sockets or central control, make threshold free, improved access to home, high / low toilet, sunblind / curtain openers, seat shower
Independence II	Construction of walk-in shower, stair lift, adapt kitchen or bathroom, possibly. broadening corridors, lazy stairs, laying cables and pipes for living on the ground floor.
Independence III	Moving the kitchen or bathroom for living on the ground floor or placing a vertical lift.
Receiving care I	Custom furniture, remote monitoring, built-in care equipment.
Receive of care II	Care unit (building part) places at home incl. cables and pipes. Source: Hamers, 2017. For each house two packages are chosen based on the possibilities that the house offers. The house will be adjusted on paper to the measures that are part of the package. For example, three floor plans are created per dwelling with the current and two new layouts of the dwelling.

To find out whether a life-proof home has added value according to real estate agents, two houses were redesigned to be life-proof, one detached house and one semi-detached house. The three different scenarios that arise as a result are presented to the real estate agents per house in book form, see table 2. The scenarios described are supported by images, plans and characteristics to let the real estate agent come to an indication of the asking price.

Table 2. Scenario's for the life-proof houses as shown to the real estate agents

<b>Scenario's</b>	<b>Description scenario</b>
Scenario 1	The home is presented here as it is currently offered on the housing market. No further adjustments were made.
Scenario 2	In this scenario, the basic profile of the home has been adjusted to the medium-scale degree of adaptation of the life-course-proof arrangements
Scenario 3	In this scenario, the basic profile, drawn up by the real estate agent and the profile of scenario 2, is adjusted to the heaviest degree of adaptation of the life-proof arrangements

## Results

In this section the comparison between services of the real estate agents of Nijmegen and Horst will be juxtaposed. From this, the similarities and differences are listed. Themes that are only mentioned in one of the two regions will not be included in this comparison.

### *Familiarity theme life-course proof*

Real estate agents in Horst aan de Maas, and in Nijmegen are familiar with the theme life-course proof. It differs in both regions regarding the degree of interest in the theme. Some real estate agents react enthusiastic;

*"Well, we had a course recently, about three weeks ago."*  
(Real estate agent O, Nijmegen)

*"Yes, we certainly take that."*  
(Real estate agent A, Horst aan de Maas)

*"Yes, that term we sometimes use in conversations and sometimes in uh offers to pass yes."*  
(Real estate agent M, Nijmegen)

*"At our office we are familiar with the theme of life-proof living."*  
(Real estate agent F, Horst aan de Maas)

### *Lifetime stability with regard to services*

A result that immediately emerges from the statements is that the real estate agents actually only take the theme into service when the needs of the customer fits or when they specifically ask for it.

Real estate agents in Horst take the initiative for the theme faster than the real estate agents in Nijmegen, they don't wait for the customer to raise the topic.

Both Horst aan de Maas and Nijmegen have to deal with the demand for life-proof homes. A clear difference between the two regions Horst aan de Maas indicates that it has a greater demand than the offer while real estate agents in Nijmegen say they cannot see whether the need is there.

In Horst, it is also indicated that the emphasis in selling life-proof housing lies mainly in the apartments.

*"Yes ... But yes, of course, that depends on the type of customer as well. If you are a bit more mature than uh you use it and young people who uh yes ... it does not add anything."*  
(Real estate agent M, Nijmegen)

*"We do look at the possibilities for both the seller and the buyer, if there are possibilities to make this life course sustainable in order to increase the target group."*  
(Real estate agent F, Horst aan de Maas)

### *Increase or decrease the theme lifetime stability within services*

With a view to the future, real estate agents in both regions share the same opinion. A majority of 70% in Nijmegen and 100% in Horst aan de Maas expects that the aging of the population will bring structural changes. Furthermore, both in Horst aan de Maas and Nijmegen, real estate agents are worried about the offer for the older and whether it can tie in with the growth in demand.

*"The offer we have in Horst is mostly or life-proof apartments, but not life-proof homes."*  
(Real estate agent F, Horst aan de Maas)

*"I cannot tell you that there is a special need for that."*  
(Real estate agent O, Nijmegen)



*"We deliberately increase this target group because we expect that we will only get more involved in the future because of the aging population in the Netherlands."*

(Real estate agent F, Horst aan de Maas)

*"Well there are more and more elderly people so what you already see is that there are uh ... that uh yes ... what you see is that there is simply not built what the market wants."*

(Real estate agent J, Nijmegen)

### *Results from the scenario's research*

During the conversations held with the real estate agents, a comparison was made between the scenarios of both houses.

Table 3 shows narratives about faster marketability, added value, financial added value, and illustrating possibilities.

Real estate agent C indicates that there is even play with the costs and that there is no added value to the scenarios. While Real estate agent A clearly indicates that there is an added value to both scenarios This added value is around € 20,000. Here is a clear contrast between these two real estate agents.

In addition to or without added value, Real estate agent B clearly indicates that the scenarios help to ensure a faster marketability. Real estate agent D also indicates that there is added value to the property, but that this depends on the target group and the price range in which the property is offered.

that it would be an idea to take a side with a blueprint during the sale of the house.

Table 3. Narratives from the interviews with real estate agents

<b>Theme</b>	<b>Real Estate Agent</b>	<b>Narratives</b>
Faster marketability	B	"Yes, yes, that's good. That makes it more interesting for the people, but not to get more money out of that. "
Financial extra value	A	"Yes, the real added value you create by really visible things, so the spaces that are added so to say. "
Other extra value	D	"Well the lower the price range, the less space there is for that investment."
Illustrating possibilities	B	"Then you might actually have a ready-made picture"
	C	"Yes, look, when you have a blueprint and you can quickly make such a sketch as an option than you can take advantage of it in sales, without extra costs. "

Regarding scenario 2, four of the five real estate agents indicate that scenario 2 will not generate any financial added value for the detached house. And one real estate agent indicates that for the detached house an added value of € 15,000 will be generated with these adjustments.

Real estate agents mention an added value in marketability. A house with these adjustments of scenario two would be sold faster than a house that was not adjusted.

Within scenario 3 there are also several conclusions to be drawn. The real estate agents indicate that the adjustments made by creating a ground floor are logical adjustments in the field of life-course resistance. For the semi-detached house, the changes are more logical than within the. Within the Detached house it is indicated that the bedroom is very large in relation to the bathroom.

During the adjustments that have been made one can see, among other things, that PV panels have been used. It is indicated that PV panels give little or no added value and that this has no effect on a possible added value of a home.

If the dwellings themselves are then looked at, the fact that real estate agents see these dwellings as family dwellings instead of life-proof residences also relates to this scenario. Within the price range of the semi-detached house a certain comfort and luxury desire is present, making buyers different expectations of a home and especially concerning the bathroom and bedroom. Nowadays it is

increasingly seen that a buyer wants to have a garage insulated. To use this first as a garage and then as a bedroom.

Following the adjustments that were made within scenario 3, it was also asked whether this would provide a possible financial added value. Four out of five real estate agents indicate that these adjustments will not generate any financial added value. And one real estate agent indicates that this will generate added value.

In scenario 2, he indicates that these adjustments will generate a capital gain of € 15,000 for the detached house. In scenario three, this differs: the detached house will generate an added value between € 20,000 and € 25,000 and the semi-detached house between € 20,000 and € 30,000.

20% of the respondents indicate that scenario 3 yields a financial added value and 80% does not.

In addition to a financial surplus value, a real estate agent indicates that a fully adjusted home also provides a feeling of added value. Only this is a feeling and cannot be properly substantiated. It is also indicated by a single real estate agent that a life-proof housing has an added value of 10% of the investment. However, this cannot be expressed in exact figures as this depends on several factors, including the investment costs, the type of property, the location and the asking price

## **Conclusion and recommendations**

### *Conclusion*

In response to the research question, the results from the integrated, triangulated analysis show that the theme of life-cycle resilience among all regions is known and in most cases is included in the service provision.

Lifetime stability is mainly taken into account in the way of recommendations for renovations. Real estate agents indicate that they do this with customers from the age of 55 or when customers request this. The reasons for naming the life-cycle continuity are: to increase the target group and to be able to answer the customer's request. This is necessary because growth is expected within the group that is looking for these life-proof homes. Whether this group is looking for life-proof homes is the question, at the moment they mainly deviate towards the apartments. The supply of life-proof homes is currently too low. When a life-proof house is on the market, it is almost immediately sold. The demand here is therefore greater than the supply

When looking at the adjustments, it can be seen that adjustments regarding the comfort component are the most appealing adjustments. And especially the adjustments in the field of insulation.

From the real estate agents, the houses are more often seen as family homes instead of a life-proof house. As a result, some adjustments in the field of life-course resistance may not yield any added value. The question is also whether the asking prices of the homes are currently the right ones and whether they are not too high.

The theme of life-course resilience appears to be familiar among the real estate agents in all regions and in most cases this is included in the service provision. Lifetime stability is mainly taken into account in the way of recommendations for renovations. Real estate agents indicate doing this with the age group from the age of 55 or when customers request this.

Under real estate agents, it was examined on the basis of various scenarios whether there is a financial added value to a life-proof home. As soon as minimal adjustments have been made in the field of life-course continuity, 10% of the respondents will allocate a financial added value. And once maximum adjustments have been made (a ground dwelling has been created), 20% of the respondents will have a financial added value. How high this added value differs per house that was used in making the scenarios. The theory cannot be generalized and for this reason every home must be viewed separately.

### *Recommendations for future research*

In the interest of the follow-up research, it is advisable to interview more real estate agents from different regions within the Netherlands, such as the Nijmegen or Rotterdam/Amsterdam region. In this way a result can be obtained that can be more generalized and offer a more concrete answer to the research question.

The advice for the follow-up research is to apply a different method for obtaining answers during interviews. Consider, for example, the use of a survey during the interviews, so a larger number of respondents can be reached, using fixed questions, but that there is also room for the respondent to be able to tell his story.

## **Discussion**

### *Validity of the research design*

To ensure a valid outcome, seven interviews were conducted per region. The interviews were conducted both by telephone and in presence. This was done on the basis of an interview guide and on the basis of a preliminary investigation. In the preliminary investigation, a number of test interviews were conducted by telephone in order to be able to retrieve possible errors from the 'measuring instrument'. In addition to telephone contact, mail contact has also been sought. The response via the mail was nil and for that reason a telephone approach was chosen as an approach method.

Partly as a result of the preliminary investigation, it was decided to submit the research question to the real estate agents on the basis of scenarios. Many considerations were made during the preparation of the scenarios. After discussions with the client and co-researchers, the choice was made to focus the research on two types of housing. A detached and semi-detached house in the region Horst aan de Maas. These scenarios are made from an existing home (with a current asking price) in which fictitious adjustments are made. In this way, a stable starting point has been created from which a value estimate can be made from the real estate agent as accurately as possible.

### *New insights into familiar themes*

Young people move from the villages to the (large) cities to study and / or work here. They often stay there and do not return to the villages anymore. In the literature study it is stated that aging is a problem but offers opportunities for creating life-proof homes. However, the conversations with the real estate agents showed that not only the young people go to the cities but also the elderly. They exchange their homes in the small villages for a ground floor apartment / house in the city centre, close to all amenities. In Nijmegen, life-proof advice is less often included in the services of a Real estate agent. This can be explained by the fact that there is less supply of suitable housing in this region.

### *Expectations compared to the results*

The quantitative part of the research has shown that the adjustments in the area of comfort are the most relevant adjustments. This includes, among other things, the insulation of the house. Prior to the interviews, the following statement was made about this: isolating the home creates added value. Real estate agents indicated that the sustainability of the home, including isolation, provides added value. The expected expectation was therefore correct.

"By placing a stair lift, there is no need always to create added value."

"A bedroom on the ground floor can generate added value, but when this is replaced by a garage or other relevant space, this is doubtful."

Placing a stair lift in a home will not necessarily generate added value. This depends on several factors. For example, respondents often spoke about the location of the home, the target group that comes to the home and the size of the home. The latter has a very strong influence on the second expectation. An extra bedroom on the ground floor creates added value if it does not replace a relevant room (eg a utility room with space for the washing machine and dryer). In addition, the space that is left behind on the upper floor may not be too large. This is often difficult because homes where there is a possibility to create a bedroom on the ground floor are so large that they have at least three bedrooms on the first floor and perhaps two more in the attic. Plenty of space is pleasant, but for most people this is less pleasant when the top floor has to be maintained. To add value to this, next to the bedroom downstairs a stair lift is needed or a smaller space on the first floor.

Without adjusting the comfort, there is also an added value to a home. Provided it has a ground floor that has not been at the expense of necessary spaces.

### *Restrictions within the survey*

During the investigation, there were a number of elements that ensured that the optimum result was not achieved. First of all the time limit and, in addition to that, the willingness of the real estate agents to cooperate with the research. In Horst 10 real estate agents were approached. Of these 2 were willing to do a telephone interview and five were willing to receive us at their office for an interview. And in Nijmegen a total of 23 real estate agents were approached, 7 of whom were prepared to cooperate with the telephone interview.

The real estate agents all felt that the houses were family houses and were therefore not suitable as a life-proof home. The question now is which homes are suitable as life-course proofs other than an apartment or bungalow. Partly because of this it becomes clear that there are still enough paths to walk for further research.

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## **References**

Aanjaagteam Langer zelfstandig wonen (2016). Van tehuis naar thuis. Hoe is te bevorderen dat mensen zelfstandig kunnen (blijven) wonen?

ABF Research. (2016). Vooruitzichten bevolking, huishoudens en woningmarkt.

ANBO. (2015). Bouw meer geschikte seniorenwoningen.

Duivenvoorden, A., Kooistra, H., Triest, N. van, Senior, P., Witter, Y. (2015). Langer zelfstandig wonen: de opgave voor corporaties. Platform31, Den Haag.

Duurzaam gebouwd. (2017). Banken willen meer financieringsruimte duurzame woningen.

Groot, N. de., (2016). Tekort aan seniorenwoningen loopt snel op.

Humanitas. (z.d.). Geschiedenis Humanitas. Geraadpleegd op 5 oktober 2017, van <http://www.stichtinghumanitas.nl/home/homepage/over-humanitas/geschiedenis-humanitas/>

Ipsos Facto (2016). Landelijk onderzoek lokaal beleid seniorenhuisvesting 2016.

Kenniscentrum Wonen-Zorg. (2009). Introductie woonvariaties.

Ouderenwegwijs. (2017). Eigen huis met aanpassingen.

Overheid. (2016). 32847 (Hoofddossier) Integrale visie op de woningmarkt: Nr. 228 brief van de minister voor wonen en rijksdienst en staatssecretaris van volksgezondheid, welzijn en sport. Aan de Voorzitter van de Tweede Kamer der Staten-Generaal.

Planbureau voor de leefomgeving. (2016). Wat zijn de gevolgen van de vergrijzing?

Portal2care. (z.d.). Wat houdt 'levensloop bestendig wonen' in?. Geraadpleegd op 5 oktober 2017, van <https://www.portal2care.nu/inc/media/inhoud/downloads/levensloop-bestendig-wonen-24.pdf>

Raad van de gemeente Horst aan de Maas. (2017). Besluit; vast te stellen de: Verordening grondprijismaatregelen ter stimulering levensloopbestendige en/of gasloze nieuwbouwwoningen.

Rijksoverheid. (2007). Beter (t)huis in de buurt: Actieplan Samenwerken aan wonen, welzijn en zorg 2007-2011 van de minister voor Wonen, Wijken en Integratie en de staatssecretaris van Volksgezondheid, Welzijn en Sport.

Stimuleringsfonds Volkshuisvesting. (z.d.). Wat is de Blijverslening?

Triest, N. van,. (2015). Preventief investeren in woningaanpassingen loont! Op weg naar een nieuwe businesscase voor woningaanpassingen.Platform31 / Energiesprong.

Vastgoedactueel. (2017). NVB wil meer financieringsruimte duurzame en levensloopbestendige woningen.

Woonvisie Nijmegen 2015-2020. (2016). Samen werken aan goed wonen.