

# **AMBIENT ASSISTED LIVING**

The case of Porto Historic Centre

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To my family

*Knowledge is power*

*Francis Bacon*

## **ACKNOWLEDGMENTS**

First, I thank God for my life and for guiding my personal attitudes and choices through all these years. I'd like to dedicate this piece of work to my whole family, especially to my parents: Ivone Lucia Lautert and Antonio Bernardo, as they were always present doing the best for me and providing me with the best education that was possible, encouraging the realization of my dreams.

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## **ABSTRACT**

The way the cities were designed has been one of the most debated topics lately. It is important to understand how they provide comfort and inclusiveness, as much as the ability of everyone exercising their civil rights without any discrimination or barrier.

The theme of this dissertation concerns a systematic reflection on the concept of Ambient Assisted Living (AAL), that is, the urban environment that should adapt itself to nowadays everyone's needs, creating equal opportunities. The aimed communities are the most vulnerable ones, such as the elderly. They represent nowadays a considerable percentage of the world population, thanks to modern medical advances. The concepts of age and ageing have changed throughout the last decades and the cities should adapt to this new reality.

Having a theoretical research basis, the present dissertation goes through authors and issues related to the subject, including policies and orientations. Later, it focuses on Porto Historic Centre, which has been classified as UNESCO World Heritage Site, in 1996.

As an outcome, it was possible to verify that many difficulties remain in the local community's daily life of Porto Historic Centre. Consequently, this study serves as a basis for future scientific investigation regarding the AAL not only in the city of Porto but also in other Portuguese cities.

**KEYWORDS:** Urbanism, Urban Planning, Ambient Assisted Living, Elderly



## **RESUMO**

A maneira como as cidades foram projetadas tem sido um dos tópicos mais debatidos recentemente. É importante entender como elas proporcionam conforto e inclusão, incluindo a capacidade de todos exercerem seus direitos civis sem nenhuma discriminação ou barreira.

O tema desta dissertação refere-se a uma reflexão sistemática sobre o conceito de *Ambient Assisted Living* (AAL), ou seja, o ambiente urbano que deve se adaptar às necessidades atuais de todos, criando oportunidades iguais. As comunidades visadas são as mais vulneráveis, como os idosos. Atualmente, eles representam uma percentagem considerável da população mundial, graças aos avanços modernos da medicina. Os conceitos de idade e envelhecimento mudaram ao longo das últimas décadas e as cidades devem se adaptar a essa nova realidade.

Com base em uma pesquisa teórica, a presente dissertação aborda autores e questões relacionadas ao assunto, incluindo políticas e orientações. Mais tarde, concentra-se no Centro Histórico do Porto, que foi classificado como Patrimônio Mundial da UNESCO, em 1996

Como resultado, foi possível verificar que muitas dificuldades permanecem no cotidiano da comunidade local do Centro Histórico do Porto. Consequentemente, este estudo serve de base para futuras investigações científicas sobre o AAL, não apenas na cidade do Porto, mas também em outras cidades portuguesas.

**PALAVRAS-CHAVES:** Urbanismo, Planeamento Urbano, Ambient Assisted Living, Idosos,





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## **ABBREVIATIONS AND SYMBOLS**

WHO - World Health Organisation

AAL – Ambient Assisted Living

OECD - Organisation for Economic Co-operation and Development

EC – European Commission

UN – United Nations

TOD – Transit Oriented Development

EU –European Union

ICT- Infrastructure for communication and technology

NYAM- New Yorker Academy of Medicine

GDP- Gross Domestic Product

BAS- Belgium Ageing Studies

BGOP- Better Government for Older people

VOP- Valuing Older People

MAS- Manchester Ageing Strategy

UNESCO-United Nations Educational, Scientific and Cultural Organization



# 1

## INTRODUCTION

Nowadays, when someone would think about leading with spatial planning and urban design, it is each day more important to have in mind the quality of life in the context where people live. It is not only about planning streets to supply the new demand for transportation or to allocate houses and services. An urban planner must keep in mind the needs and the desires of the whole population and the main subjects that may affect and transform the city, as so to achieve a better scenario for everyone. It is important to think about the most vulnerable parts of society because while reaching them, it might be possible to achieve a balance of comfort and well-being. The number of elderlies worldwide keeps growing faster. It is possible to state that the human beings are reaching a different perspective of life when it comes to getting older and so most of these people are aiming to age in place, instead of going elsewhere, far away from their usual habitat. This new population of older individuals allied with the huge urbanization that happened in the last few decades, when more people decided to live in the cities instead of the countryside to reach more services and goods, changed the city as people used to know. Now, this population is getting older, and there is a new challenge ahead of the urban planners, and that is how to change the city in a way to adapt it to the needs of all types of citizens. (BUFFEL,2012)

The World Health Organization (WHO) stated that by the end of 2050, the population of elderlies will be about 2 billion globally. This new perspective inspired several types of research and scientific studies in preparation to answer for this new demand of this older population. As much as the quality of life is increasing in many countries, most precisely the northern ones, people are living longer, provoking a new challenge for the present and the future. Soon, there will be countries where the working-age population will be lower in numbers than the older population. The consequences of the urbanization and the ageing population are one of the most current debated topics, with the aim to encourage our society to adapt itself and engage everyone in what reflects the advances that have occurred in the last century.

In this way, it is possible to state that the new urban planning policies will have to adapt themselves to this new reality, otherwise, problems will happen in the future. It is essential the role of the urban planners, with a view to control and to diminish the damage that the old methodology of planning the cities caused in these vulnerable populations.

Most of the older population prefer to get older in place. It is scientifically proved that when people reach a certain age, they do not want big changes in their already consolidated environment, so for that reason, they want to enjoy this new phase of their lives in their home communities. (PLOUFFE, 2010). In Europe, this population is growing faster than in most places in the world. While most of the municipalities have a protected historic centre, most of the elderlies tend to concentrate in these parts of the cities, creating a challenge for the urban planners: Firstly, it's not possible to promote changes in these areas, as much as because the environment belongs to the category of urban heritage and it is an already consolidated area, which means that it is protected by specific organizations, laws, rules, and policies that define tight parameters regarding new interventions in these sites. Secondly, as it is a dense urban area in terms of the elderlies population, it urges for interventions more than any other place in

these cities. The main challenge is to develop a methodology of urban projects that would suit all the involved parts. An intervention that creates small physical changes for the protected historic environment, with the aim to mitigate and to eliminate people's problems, achieving better conditions to age in place with good quality of life (PEREZ, 2016).

When it comes to Portugal, the country is working together with the WHO with the objective to develop policies to help the elderly to age actively. In April 2017, a working group from the government submitted a proposal for a National Strategy for Active and Healthy Ageing. The decreasing number of the working population worries the government as at the same time, it causes other problems related to the ageing population. The cities that have been playing a central example in the country are Porto, Viana do Castelo and Aveiro. (UNECE, 2017)

The main question for the future is how to keep the old population engaged in our societies, in such a way to promote healthy and happy ageing for them. The ageing population topic started being discussed by the end of the last century, it was the headline of many congresses and conferences, and ever since then, its relevance has increased even more. Many countries and cities have been testing and promoting a different kind of policies and actions in an effort to change the environment for better, in other words, many places around the world have been used as open space labs for experiences regarding all the challenges that the future holds about this subject. The main agent of these changes is the WHO which has been guiding many types of research and publications with the purpose of drawing guidelines for the municipalities and different stakeholders to do their part. The government and the municipalities take an important role in this process due to their relevance and ability to modify the cities, but of course, the population's support is very important as no government is able to promote changes without its people's support.

It was in this context that the Ambient Assisted Living (AAL) was created, it is a European program created by the European Commission in 2007, in Brussels. The program promotes a type of urbanism that takes in charge the main needs of the old population, but at the same time, it ensures accessibility to all different kinds of people. A safe place for an older person is equally safe for a young child and the rest of the population, as well. (GLOBAL INSTITUTE MCGRAW HILL, 2016)

### **1.1. OBJECTIVES**

The main objective of this current dissertation is to discuss the social and municipal policies regarding the urban AAL, so as to draw a concise set of guidelines and actions that can be applied to Porto Historic Centre area.

A second group of 4 objectives are also presented, particularly, i) To understand how local populations can react to the current urban environment; ii) To discuss social policies and their effectiveness regarding the AAL; iii) To draw a perspective about how other places are leading with the AAL challenge; iv) To understand the relation of the city of Porto with its elderly population.

The clear definition of the objectives helped to guide this dissertation, delimitating the study, and creating a baseline focusing on the AAL main aspects. The next chapter presents the methodology used to reach the objectives already described above.

# 2

## METHODOLOGY

To search evidence of the dynamics regarding the AAL cities, a literature review was made, taking in charge scientific articles, books and relevant publications about the subject that could be found on different platforms such as the Web of Science, Google Scholar and many more. They were divided in order of relevance for a better organization and the creation of a rational line of thought, in order to incorporate them into the research purposed in this dissertation. After this investigation, it was possible to understand the different views that the main authors wrote about the subject.

After delimiting the main theme and all the different views that most of the authors have regarding it, it was possible to analyse the area of study, aiming to understand better the environment where it will be put in case the AAL purpose. As one of the first steps, it was brought into consideration many books, articles and even documents, more precisely the ones that were sent to the UNESCO committee with the intention to make the historic centre of Porto eligible to be considered worldwide heritage.

With all this background of information, it was possible to write and to describe the demographic situation of the city of the Porto, so that to relate it to the concept of the AAL communities, and to understand which areas are the ones that need the most changes to create a better environment for the elderly population. After the delimitation of the area of study, it was created a chapter with the purpose to describe this region and their actual situation, serving as an introduction of the place. Later, it was made a questionnaire in an attempt to understand this population opinion regarding the place they live and their main wishes to improve the quality of life in this region of the city. With this methodology of hearing the elderly population that live in the area of study, it will be possible to promote interventions and to achieve results in the place. At the same time, it comes along with the thought to make people an important part of the whole process.

The results were discussed in another chapter and with this data, it was possible to draw a line of thought that will serve as background information for the main policies that can be worked in this place, in such a way to implement them soon and to create the changes that might be needed in this environment.

# 3

## AGEING AND URBANIZATION

It's important to rethink about the problem of the constantly growing number of elderly people in our society and in the main implications that a comprehensive approach of urban policies allied with urban design strategies can achieve, so as to change the environment for better. A long time ago, individuals used to think the elderly as an inactive part of the community, individuals who only have losses ahead, not only in terms of potentiality but also production. Times are changing quickly, and the elderly people are taking a more active approach in our societies. (BEARD, 2010)

The number of elderly people is growing faster. Coming from this statement, one must think that one of the main challenges of the modern world is to create a city that can embrace the needs of all types of people. Variety is a reality and so urban planners should concentrate themselves to create an environment that can have accessibility to everyone. Skouby (2014) defends the creation of smart homes and smart cities, in such a way to provide infrastructure and an AAL environment while others have a different point of view regarding the ageing population.

The global population will be 9.3 billion by the year 2050, and most countries will have an aged society by then, which means that the old people will have a significant share of this number. To draw the scenario, it is important to get these numbers in mind: In 1950, there were only 205 million people aged 60 or more in the world. In 2012, the number was 810 million and in 2050, it will be around 2 billion. Considering the European context, it will be around 25 per cent of the inhabitants who will be aged more than 60 years old, only by the year 2030. Another impact on the European population is that the birth rates in Europe are becoming lower when compared to the data from other decades. While talking about these demographic changes, it must be expected that they will have a huge impact on what concerns the European scenario, not only in terms of economy but also in every aspect of the European reality. (SKOUBY, 2014)

The XXI century has already seen a lot of changes. In 2015, the number of elderly people overcame the number of children aged 5 years old. This is the first time in history, ever since the humans started recording the population data that the elderly people have surpassed the young children in numbers. It means a great deal from what is coming soon and how human society will have to change and adapt itself to overcome this new situation. This scenario highlights two main topics: Urbanization and ageing. Thus, it reveals that most of the residents in developed countries have become older, but it is not only there that the problem happens, it also occurs dramatically in low or middle-income countries. Even so, it's possible to state that the emerging economies will also be suffering from the same problem, countries such as China, Thailand and Brazil will have to find ways to adapt themselves in an attempt to assure the stability and the quality of life of their old population. (BEARD, 2012)

According to Buffel (2010), it's also important to state that the ageing society problem is not an exclusive one of the developed countries, by 2050 a quarter of the population in the less developed countries will be over 60 years old, as well. This is one of the many reasons why some authors support the active ageing idea, making these people live in an environment that allows their productive

engagement in the community. On the tab below, it is possible to understand how different countries are ageing:

Table 1 - Countries with more than 10 million inhabitants (2002) with the highest proportion of persons above 60 years old

Countries with more than 10 million inhabitants (2002) with the highest proportion of persons above 60 years old			
2002		2025	
Italy	24.5%	Japan	35.1%
Japan	24.3%	Italy	34%
Germany	24%	Germany	33.2%
Greece	23.9%	Greece	31.6%
Belgium	22.3%	Spain	31.4%
Spain	22.1%	Belgium	31.2%
Portugal	21.1%	United Kingdom	29.4%
United Kingdom	20.8%	Netherlands	29.4%
Ukraine	20.7%	France	28.7%
France	20.5%	Canada	27.9%

Source: UN, 2002

Most of the developed countries are already facing a fast-growing of its elderly population. According to the literature, the main organizations dealing with this challenge are OECD (Organization for Economic Co-operation and Development), EC (European Commission), UN (United Nations) and WHO (World Health Organization).

The WHO has developed an important programme of the Healthy Cities Network specifically on age-friendly environments. This programme started in 2006 and 33 cities were taken to be part of it. Although they are still discussing the subject, their first initiatives started back in the 1990s. Most of the ideas were developed by the 1999's year of the elderly people promoted by the UN. The WHO's programme takes in charge groups of old people, caregivers, and service providers intending to identify the factors that make urban environments age-friendly. With this data, it is possible to help urban planners from all around the world to design places with this concept. (WHO, 2007)

Because of the ageing societies, the known classification of young, adult, and old age people changed. They are dividing them into two groups: 65–74 years old and 75 years old and over. The main reason is that the opportunities, possibilities, and needs are no longer the same for these groups of people. (OECD, 2015)

It is stated that population ageing happens when people start to live longer and to have fewer children than they used to. As a direct consequence from it, the rate of elderly people in the total population grows, changing the shape of the age pyramid. Most Europeans nations are dealing with this problem nowadays, but it is not an exclusive problem from Europe. European society is going to grow older by the day. The main problem is not about having more old people alive, actually, this is a great feature that should be celebrated by the advances of the modern medicine, but what really must concern everyone is the lower number of young people, affecting directly the working-age people. (MYERS, G.C., 1995)

The graphic below illustrates that although the growth of the elderly population between the most developed and the not so developed countries are different in terms of numbers, both cases are growing fast and in a very urgent speed, which implies that the policies regarding the elderlies should not only be focused in the most developed nations but in every country.



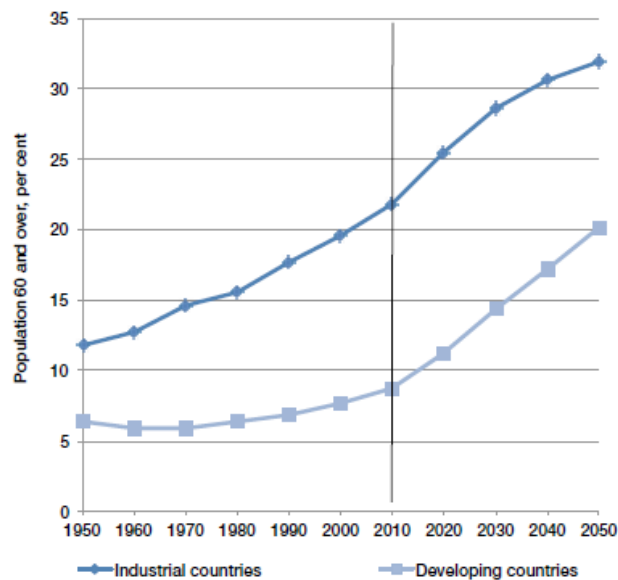


Figure 1 –Graphic of the population over 60 per cent

Source: Beard,2012

### 3.1. URBAN POPULATION

According to Beard (2010), when someone thinks about ageing, one must consider the urbanization process as they are still occurring almost alongside each other. Most of the elderly people already live in cities in developed countries. From one side, it represents that they will have better access to services that are not available in the countryside areas, but it also describes a treat to their safety as they will be more vulnerable in the cities.

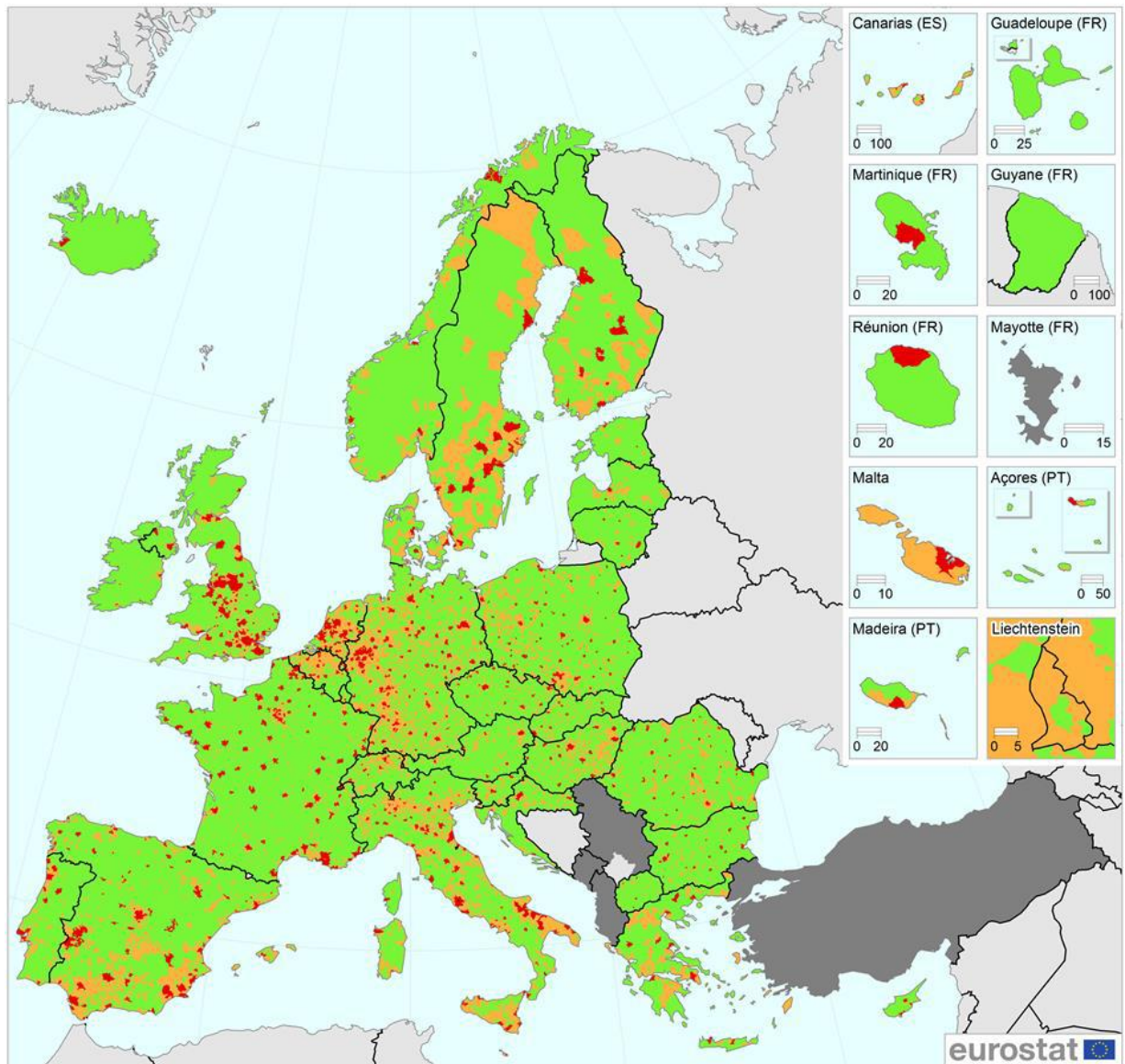
Right now, almost 3/4 of the European population live inside the urban areas (OECD, 2015.). If one comes to the percentage of the contribution that the cities and their metropolitan areas give to their countries in terms of economy, it is a huge one, as they play a very important role in the global market. The urban areas are the main targets of the increasing and competitive world of the business industry as most of the investors put their capital into them. The main European challenge nowadays is to control the city in terms of its expansion, congestion, innovation, social inclusion, and sustainability.

Inside the social inclusion, the ageing population has a very important role. Europe is the most aged continent in the world now. The European policies should now be focused on

"...infrastructure and plan for an ageing labour force, change revenues, rising demand for affordable housing and higher spending on health and social care." (VAN STAALDUINEN, 2018, p. 3)

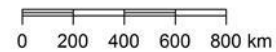
Also, related to the relative grown of the elderlies in numbers, there is an increase in the urban population. Until 2030, it is expected that 60% of the world population will live inside the cities. From now on, it's possible to say that the old people are occupying their time with a new role in our societies, working informally as the social policies are more focused on promoting an active ageing rather than the old concept of the terminal decline model of life. (SANTINHA, 2013)

Degree of urbanisation for local administrative units level 2 (LAU2) (\*)



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat  
 Cartography: Eurostat — GISCO, 05/2016

- Cities**  
 (Densely populated areas: at least 50 % of the population lives in urban centres)
- Towns and suburbs**  
 (Intermediate density areas: less than 50 % of the population lives in rural grid cells and less than 50 % of the population lives in urban centres)
- Rural areas**  
 (Thinly populated areas: more than 50 % of the population lives in rural grid cells)
- Data not available**



(\*) Based on population grid from 2011 and LAU 2014. Denmark, Greece and Malta: local administrative units level 1 (LAU1).

Source: Eurostat, JRC and European Commission Directorate-General for Regional Policy

Figure 2 – Map of the degree of urbanization.

Source: Van Staaldin, 2018

The map represented on the other page highlights the effects of the urbanization in the European continent and how the main cities have become densely populated. Most of the elderly people want to live in an urban environment. Lehr (2007) thinks that this is not a consequence of the lack of health assistance that most of the rural areas have, but it's related with the urbanization that happened one century ago when people decided to change their lives, going to live in the urban areas instead of the rural regions. The author also reinforces that another important portion of this population to be cared about are the widows, as women tend to live longer, they may be more affected by the ageing problems.

The European context suggests itself to be taken separately, as it has many different perspectives when compared to the rest of the world. The intra-immigration is something that differs from the rest of the globe and it has its main reason tied up with the long-run prosperities of the cities and the countries. Beard (2012) also believes it to be one of the main reasons to directly influence the demographic change. Not only on this matter but also it influences the birth rate data as the bigger metropolitan areas tend to have a younger population and much better data regarding it. The author illustrates four categories regarding the demographic login in Europe. It is also affirmed that one region or city can have more than one of these categories embraced.

The first group represents the ones that are economically dynamic and are growing up as global communities. In this case, most of the cities have a younger population and skilled one, as the income is constantly being replaced and upgraded. Most of them have a high quality of life score, but on the other hand, the prices of land are very high, pushing people out for what is called out-migration of the elderlies. The opposite also happens, as they are municipalities with a lot of opportunities, the younger people feel attracted to work there, keeping the profile of the city as a young one. Furthermore, the relationship between the working-age population and the older ones are good, as enough individuals are working to ensure the pensions. Also, the local taxes contribution increases the chances to invest in age-friendly spaces, and this is the case of most European capitals. Examples like this can be found in urban areas like London, Amsterdam, Paris, and many others. Although these places are the ones to offer a better quality of life for elderlies in theory as they have the money to invest in more policies regarding age-friendly environments, what the author states is that these are the places with the lesser need for this, as most of the elderlies choose not to stay there. (BEARD,2012)

The second group of cities are the ones who have suffered from deindustrialisation, most of them are in population decline and they are suffering from outflows from the younger generations. The price of the land in these places tends to be quite low when compared with the first group of cities and so for that reason, many older people tend to settle themselves there. The population has wealth problems and the characteristics of urban decline can affect everyone. The only immigrants to come to these places are the ones from the even less developed countries. One of the main difficulties of these regions is the financial one as the working-age workers are diminishing at a fast speed. In this case, these regions have problems to provide age-related care and assistance to their inhabitants. Pieces of evidence point that they are mostly in peripheral regions, mostly in central and southern Europe. Beard (2012) stats that the taxes incomes from the population are not enough to guarantee the services demand and age-friendly policies interventions.

The third group of cities are the ones in areas of amenity, which they may be rural or coastal. They are mostly small or medium in terms of population. These regions attract most of the older people, as they want to age in a more relaxed and sunnier place than the cities where they used to work. Most of these individuals bring together wealth and incomes forcing the price of land to rise, putting the local ones at risk as they are not able to afford the same as the foreigners. Consequently, the younger ones tend to move away, trying to reach better wages or at least to live in places where they can afford better accommodations for cheaper prices. The results of this affect mostly the local ones, the birth rate data and the relationship between land prices and land use. These regions face a faster ageing process of

their population, as the youngers tend to leave. As for that reason, the working force is smaller affecting the economy and services that the municipalities should offer to older people. The author also reinforces that these challenges can be surpassed when the elderlies can afford to pay private services, but of course, it leads the local older population to a case of lower quality of life. Examples of these regions can be found in the UK, Italy, Spain, and Portugal. (BEARD, 2012)

The fourth group are mostly rural regions. These parts of the globe find a very rapid decline of its population, leading it to aged places, as the older ones have more difficulties to move. The only immigrants are the ones coming to work in the agricultural industries, but even so, they are not a relevant number. These regions suffer a lot from the fiscal conditions, as they are not able to provide solely policies and assistance to the older people. They are mostly regions of static or falling economy, where the land prices are very low as much as the quality of life. The working force tends to be lower as much as the human capital, in contrast, the older population tends to be higher in numbers. (BEARD, 2012)

Most of the bibliography tends to link the decline of the population with the growth of the cities. But almost none of the authors suggest a linkage of the urban decline, adverse residents shift and the long-run financial positions of cities. McCann (2017) suggests that as many of the available literature is written in English, it may be the case that most of the English speaking countries are still facing the growth of the population, which explains the fact of having fewer analytical data regarding ageing societies and the economic features of the same. Only Japan seems to be exploring the ageing population for more years and relating it to the economical level of policies, ever since it is one of the nations that has the biggest number of elderlies worldwide. What really should concern all the countries is the fact that the working-age population are diminishing, and the effects of it will be suffered for everyone.

### **3.2. THE BABY BOOMER GENERATION**

Bonvalet (2008) defends that the generation to be worried about today is the one that belongs to the baby boomer generation (individuals who were born between 1945-1954). They can divide themselves into two groups. The first group concerns the newcomers, who moved to the city when they were young adults and have settled themselves ever since then in the local community. According to the urbanism data related to Europe (BUTTLER & ROBINSON, 2001), these people lived in the neighbourhoods created in the 1970s and 1980s, most precisely in a big metropolis such as London and Paris. As they were inhabitants from the countryside most of them only fixed their roots when their children were born, in a way to reach a perfectly normal life. They are choosing to stay in big urban environments and to get older in place, as this is a new trend among the elderlies. The majority has developed financial incomes enough to choose this path and to settle themselves in their neighbourhoods, where they are used to live. The second group of people is the local ones, which represents the citizens that they were already born in urban areas. Some of them have enough meanings to stay and get old in place, as most of their families have already owned properties in the urban areas. (BONVALET, 2008)

In some ways, most of them embraced a new kind of life and left behind the way of living in rural areas. By that time, one could always find cheap and good accommodations in places like London or Paris, something quite far from the reality of today, which makes it important to understand the profile of these people that decided to have a better existence in the cities and now they have decided to age in place. What attracted them were the jobs and the comfort of life, as all the goods could be easily accessed. Ever since then, things have changed, and so on, the goods may not still be available easily for someone when they reach a certain age. The governments also created policies attempting to help these people to settle themselves in the cities. Many middle-class individuals were attracted to that, occupying different activities in the urban areas. France was one of the countries that were most affected

by this, ever since the authors stated that it was almost impossible to keep the jobs in rural areas and to compete with the urban environment. (BONVALET & MERLIN 1988; CRIBIER 1988).

Most of this generation from 1950-1960s that started to settle themselves in the cities made families in the same place, some of them even buying properties and having solids incomes in the urban area. These people were the first ones to participate in the vanguard of the process of gentrification, as reinforced by the author. Gentrification is a state of the process involving a change in the population of land-users, the new users are of a higher socioeconomic status than the previous ones, together comes an associated change in the built environment through reinvestment in fixed capital. (CLARK, 2005). In this way, the older population tends to be more vulnerable to suffer from this issue as they are the ones who rely on their incomes mostly from the government pensions, and as the current systems of pensions are proving to fail in most of the countries, these people don't have sufficient meanings to compete with the tourist demand, mostly in the historic centres of the big cities in Europe.

Bonvalet (2008) states that it is very early to put into evaluation the consequences that the ageing in place trend will have in the big cities, but some changes are already happening. It's also worthwhile to mention that most of the individuals from the baby boomer generation can divide their time living in rural areas and the urban ones. One of the many aspects that reassure these people to live in the city, it's the facility to have hospitals and health centre close to their home location.

Also, the ones with more saved money during their lifetime are the ones who are going to get better conditions to choose how they would like to age. Those that earned and saved a bigger amount of money are more likely to have a bigger variety of options regarding their ageing environment. Even inside the city context, it is possible to state that those who have better economic conditions are going to have a more pleasant quality of life than the others. (GOODHART ET AL., 2015)

### **3.3. THE ECONOMIC ASPECT**

McCann (2017) defends that furthermore than looking to the ageing issues and the city, the economical level must have an important spotlight too. The economy of the urban areas depends on its working force, so as it was already stated before. There is a complex interrelationship between aged population, population decline and local economic prosperity. It's important to analyse different contexts to achieve a better understanding about what is happening in the rest of the world, as not everything is going to be the same everywhere, but some things repeat themselves and urban planners and policymakers should learn from it.

The main problem from the ageing society and the decreasing of the working-age population is the taxation, which may be already affecting countries such as Germany, Italy, Spain and Japan. These are countries where the working force is expected to diminish by the same numbers of 1990 and 1970 in 2050. In Europe, the last years have been shaped by inter-regional and international migration. As it was defended before, the migration flows are a very important concept related to ageing and inhabitants as it may help to fill the gap of the lacking people in the working-age population. (MCCANN, 2008)

Urban life has always been less connected in terms of a social network than life in smaller communities, and this will also affect the elderlies lives. At the same time, these changings are happening along with the whole process of globalization and furthermore, it'll affect older employees as they will become obsolete to many employers, and in a world where everything can be easily exchanged, this will be a real treat for older employees as they will be vulnerable to lose their jobs. Not only by this, but many employers might be feeling the changes of this new world, some are accompanying the process and becoming more successful than they were before, but not all of them can overreach this new world. There are different pressures, so as to make social changes to happen very fast, and in this context that appears the reasons why the younger population are shrinking, as many of the families are deciding to have fewer children or none at all. At the same time, the younger generation

is becoming more dynamic, as they can travel from one place to another or find jobs in different cities or countries very easily, creating a feeling that they won't be able to support the older generations. (BEARD, 2010)

The strictly-age related budget of the EU will increase by 4.1 per cent by 2060, or at least, that is what it is expected to happen. Although if the ageing population policies are not going to be a serious part of the agenda, the budget may have to increase even more, in such a way to control and to provide a decent quality of life for people. (SKOUBY, 2014)

The EC has stated that up to 2020, there will be 2 million vacancies in the health and social care professions. The demand is huge, as it does not go alongside with the rest of the other professions. This rapid growth of the elderly population will reach for economic measures, but it won't be enough to solve the math equation. There must be social policies to improve life quality for the elderlies as much as to develop the cities, in order to adapt them to all different kinds of people. Changing the economic legislation won't be enough to help the world facing this new challenge, for that there will be the need of personalized solutions, in a way to reduce high costs of health and care services and to support social interaction with friends, families, health and social supporters and neighbourhoods.

Considering that there are two main reasons why people are living longer than they used to. The first one has to do with the fact that people are now taking more healthy lifestyles and improving their nutritional diet, not to mention the advances regarding the hygiene aspects of life. People are now taking a less stressed way of living, as they are now concerned about their physical and mental health. It directly affects the longevity of humanity. The second reason is the medical progress as it was stated before. When someone compares the average life expectancy of 100 years ago, it was 46.4 for men and 52.2 for women. Today's data reflects that men should live 81.7 and women 88 years. It's quite a different scenario, the life expectancy has doubled in the last 100 years. Not only from this perspective but also the number of people with more than 80 years old will triple in the next 50 years, which may have several consequences worldwide. (LEHR, 2003)

There are many misunderstood consequences of having an older population such as the social security systems (old-age insurance, health care, etc.), economic development, labour markets, urbanisation, traffic and educational systems and many other subjects worth the debate.

Most of the retirement income schemes in Europe are called pay-as-you-go systems, which implies that rather than saving for their pensions, each generation must pay directly for the elderly's retirement fund. Right now, two workers finance one pensioner (statistic from Germany, although quite similar in other European countries). Looking ahead to the future, this data will develop to 1: 1 when the generation from the 1970s and the 1980s will get older. As a direct consequence of this, many countries are changing their pensions legislation, providing a more sustainable context. In reality, what's happening is that the retirement incomes are getting a lower value and the age to be retired is getting higher.

Another problem that many authors suggest is the fact that many of the pension systems rely on government help. Lehr (2003) implies that the working life will change in the long term, by the shortages of young workers, which consequently will help to grow the demand for elderly workers. More than only problems, many authors suggest that there will be other positive impacts on the economy of these countries, and one must take advantages of the changes happening to adapt itself. It is important to state that the functional age has nothing to do with the chronological one. This functional age is tied up with biological and social factors alongside with cultural ones. Cities, municipalities, and all the companies in charge should get used with older societies in the future. The older people are not exclusively dependent, they may have some limitations, but they are still able to produce.



In the map below, it is possible to see that majority of countries rely on their pensions systems in the government. Most of the Europeans nations support themselves with retirement incomes via public programmes, except for Russia, the UK, and other small countries.

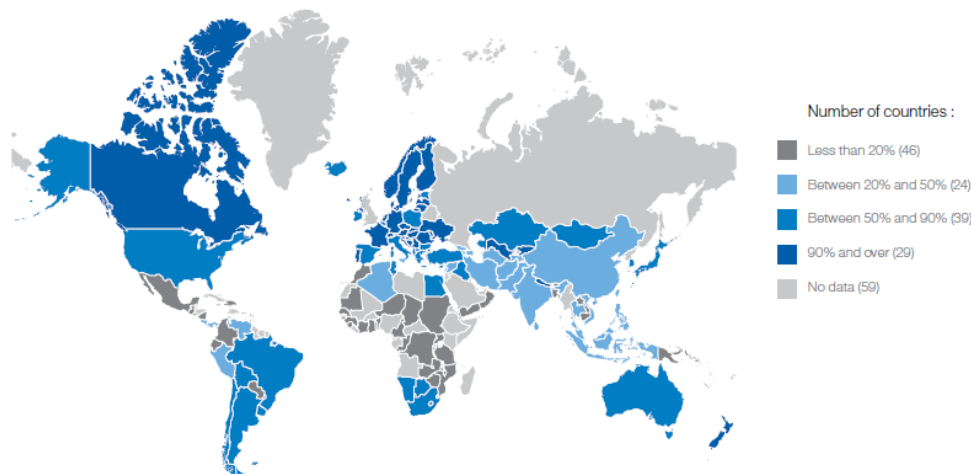


Figure 3 –Share of the elderlies who receive a pension via public programmes

Source: Beard,2012

There will be an increase in the money spent by the EU regarding the pensions, health care systems and everything related to the ageing population. In this way, the legislation needs to be updated in such a way that it will be able to embrace this new situation. Not only because this issue will become more important inside the European context, but also because it will affect the whole EU in terms of economy. There will be disbalance in many aspects of the budget. Creative approaches urge to be taken as part of these policies. Only with a different point of view, there will be the possibility to overcome this problem, providing quality of life to everyone. The smart cities will also help to create more accessible scenarios to everyone where mobility, visual impact and many other characteristics will help to present a more equity equation regarding the quality of life.

From 2010 till 2060 the total amount of money spent by the EU regarding pensions, health care, unemployment and education will increase by 20 per cent. With this new scenario, it will require the European legislation to provide policies regarding the elderlies, in such a way to assure their place inside the society fabric, not only for the good sake of it but also because it will affect aggressively the economy of the EU. It will create disbalance in aspects, such as health budgets. Only with creative solutions such as the AAL planning concept, it will be possible to retain the increase of the budgets, or at least to diminish it, aiming to soften the impact and to improve the quality of life, reducing the high costs of health and care services, defining the axis, improving the social interaction with the older people. The smart cities would also help to create an ambient with better management of mobility, visual impact and to assist people with cognitive problems. (SKOUBY, 2014)

The local economy must be fostered to reach better levels of resilience and to diminish the social disorder, lowering the social problems and bad behaviours. In this way, people should be able to have healthier relationships with each other. (WANG, 2015)

The ageing process has started to happen mostly in the late XX century when the European birth rates started to diminish, and the life expectancy started to rise. Germany housing population reached its peak in 1995 and by that the time the prices of the houses were increasing gently. After this, Germany and many other European countries entered in a process of ageing and so the housing prices started to rise slowly when compared to before. In the USA something similar happened, while in the 1980s the prices of the houses rose around 19% a year due to the high demand of the baby boomer generation from 1950. During the 1990s, this demand became lower and the real estate value rose little when compared to before.

In the last century, the housing demand was high, and the elderly population was lower. One of the most important facts that helped the countries to develop in the last century was the high labour population ratio and the low dependency ratio. Many countries like China experienced their baby-boomer generation from 1950 till 1970, and then later, they started to implement a limit of children per couple, diminishing the population growth. It meant that demographic and economic growth would weaken and even disappear. At this moment, China is the country where most of the elderly live, accounting 20% of the world's numbers. The country is also suffering from a rapid programme of urbanization that may also affect and change the lives of everyone.

It's important to rethink the role of the elderly people in our society, as many of the countries in the world are already facing birth rate problems, which means that in the main future the working population of these nations are going to diminish, creating a structural problem that will affect directly the lives of everyone. Answering to this new problem, the concept of getting old will change radically. Most of these people will have to work longer and instead of being completely inactive in our societies like the old concept of ageing reinforced, they will have to produce, as they will not be able to trust their incomes on the pensions.

Many people around the world decided not to be parents, not only for their wishes but for circumstances such as economic crises. In this way, the birth rate keeps going down in many countries. Radical decreases in the birth rate data are also being detected globally. The WHO statistics show that by 2025, 120 countries around the world will not have enough workers to support their elderly population.

Lehr (2003) describes that taking into the perspective of the general numbers, one may think that what happens is that people are living more, but not only this, the birth rates are becoming lower by the time. There are many different reasons to explain this, the most common in the European context is that the contraceptive methods are becoming more reliable ever since the late 1970s, also there are the economic reasons as many people are coming to think more about their lives when they retire and children may be considered by them a way of saving less money. Another reason is that to have a child in most of the European countries means to pay for a good education, such as a university degree. There is also a percentage of 15% of the population who wishes to have children, but they are not able to produce it. So, in this way, it is possible to conclude that most of the Europeans populational pyramids are now changing their shapes. Surprisingly, these changes can be seen in the less developed countries as well.

Population ageing is mostly associated with the more developed regions of the world, but it's only for now, as it may affect the whole world soon, and those nations who are already facing it, should be able to open paths and test new policies to guarantee good examples for the countries that will face it soon. Nowadays around 70 per cent of the world old population live in developed countries.

Ageing should be a positive experience as many people are willing to experience this process. In this context, the WHO (2002) created its concept of active ageing:

“Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age.” (WHO, 2002, p. 12)



### **3.4. IMMIGRATION**

The concept of in-migration has always been associated with the cities, even more, because in the last century most of the people moved from the countryside to take a new life in the urban areas. The main reason was to get a better assessment of goods and to find jobs. This is how Bonvalet (2008) described the current generation who is turning into the older population now.

The immigration factor is not only relevant because of the data of individuals coming from other continents to Europe, but there's also a huge migration flux inside the continent where many people leave their countries and move to other European countries looking for higher wages and better job opportunities. (DENNETT, 2014)

The old generation who has immigrated to gain their lives in the city, nowadays, has decided to age in place, as a consequence from the process of the creation of a sense of 'belonging' in that region and being attached to the local community. What's also important to take in charge is the fact that these areas have changed as well, they are not the same neighbourhoods that these people found in the late 1950s or 1960s, and once again, comes the question what one should do regarding the quality of life of the elderlies who have decided to age in place and what is the role of the city in order to encourage these people to have a normal and healthy life inside the urban areas.

Another very important concept regarding the ageing and the urbanization is the so-called retirement migration. Bonvalet (2008) has suggested three different reasons to understand why retirement migration happens. Firstly, one must take in charge the life course model, in which it must be considered the fact that most people move or alter their residential places when major modifications happen in their lives. These major changes can be marriage, children, divorce, new of job, ageing and retirement. If it comes into consideration the two last ones, the choice and the destination of the person can be very diverse, some return to their birthplaces, as it may happen with the generation that chooses to leave the countryside aiming to have a better life in the city's centre, others choose places with a more pleasant quality of life and far away from the stress of the urban life. The second reason should be as simple as that people are not happy where they are, and with their incomes from government pensions, so they move to another more pleasant city or village. The third aspect to be taken into consideration is the so-called 'housing disequilibrium model' regarding the economical aspect, as not everyone can keep their houses with the pensions.

Although this concept can still be one of the most common paths of life, it has been proved that most of the old people tend to keep their houses and to live there until they are still able to do so. While the 1990s and the beginning of the XXI century have shown a wave of people's changing their houses for the many reasons explained before, nowadays the trend is the opposite and for that reason, urban planners and the different spheres from the government should help to allow the elderlies to have the possibility of ageing in place. (BONVALET, 2008)

This situation has altered the urban context in many European cities, most precisely when the northern ones can rely on a younger society than the ones located in the southern and eastern Europe, creating a scenario wherein this part of Europe the population tends to be older. It's also relevant to point out that this condition happens differently in many parts of one country, there are areas which tend to have older people, such as small villages and there are also the bigger cities where the society are more likely to be younger. In this way, there is not a common formula in what regards the places that need intervention to develop themselves offering a better quality of life for the elderly population. Each case is different from the other. (MCCANN, 2017)

Regarding the ageing population what may help to balance but not to solve the problem completely is the migration flows, as it was stated before. Many people from less developed countries are trying to fix themselves in Europe to work and produce. There will be several implications not only

in what concerns the demographic dimensions but also in the geographic one. Many scenarios are possible, and they will challenge the different levels of each country laws, although they can be easily handled in the regional and the local level of interventions.

### **3.5. THE URBAN PLANNERS ROLE**

Smart cities reinforce the concept that someone's activities are not limited to their homes, everyone must have the right to live their lives among the rest of the society, accomplishing a full and joyful life. One of the most important fields to be tackled by the AAL is the health care system, as it affects the whole population, but even more the most vulnerable people, that is something that will be discussed further in this chapter. Not only undertaking this field, but the smart cities should also be able to guarantee social housing, community services, leisure, and culture to everyone. (SKOUBY, 2014)

Zlotnik (2016) defends that the elderly place in the community has been neglected for so long because there was no such necessary infrastructure in the cities to promote their role as part of the fabric of the society. The main infrastructures necessary for old people are housing, social services and healthcare assistance. The urban management of the land and TOD (Transit Oriented Development) solutions as much as the pedestrian conditions are important subjects that can alter the lives of many old people. With what concerns a model of ideal distances for the main necessary infrastructure for urban planning, the author states that an old person must always be in a maximum distance of 400 meters from the main services and 800 meters from other complimentary services. Otherwise, it does not characterize an AAL environment.

To determine the best scenario for old people there is a main theory. The author put some neighbourhood socioeconomic disadvantages as one of the main reasons why some elderlies have bigger chances to have a better life than others. This theory is the so-called differential vulnerability and is defended by the affirmation that physical disorder and high levels of crimes would create a chronic level of stress and fear, generating an environment for diseases. While a positive residential neighbourhood would allow more social resources to diminish the daily basis stresses as much as provide a safer place with fewer problems, creating a so-called healthy environment. (ZLOTNIK, 2016)

To break this scenario, urban planners must take in charge planning concepts for disabled people, including universal accessibility, healthy cities, liveable and walkable communities. It is also important to state that when the AAL concept comes to mind, it's a multi-generational planning one, because the needs of elders and children overlap the needs of the whole society, bringing benefits to everyone.

The environment can influence the life, the health, and the wellbeing of all the residents in one city, including the older residents and others that may feel in need of assistance. The urban characteristics may influence the elderly life directly, as they will spend more time in their neighbourhoods, increasing what it's called as biological, psychological and cognitive dependence, becoming vulnerable and relying more on community interactions. (BEARD, 2010)

Living in an adverse environment can influence older people's health by increasing stress, and even if it's the case trauma, violence or unemployment. It is scientifically proved that many diseases can be generated by a higher level of stress and fear. Nowadays, there is a growing number of new articles and publications concerning this subject. The literature also explains that there are many methodological limitations for researches in this field, most of them by the fact that part of the researches relies on their results in the census numbers as much as the personal perception of individuals. While analysing these researches, it is possible to conclude that the walkability as much as

the physical characteristics are the main points that come out as a result from people's perception of a good environment for the elderly, although housing design may also influence everyone's life.

Beard (2012) defends that this theme of ageing and population should have been more discussed during the previous decades, as a way to prepare society for what is happening now. The main literature concerns the European context and the Japanese and Korean ones, as these are the places on earth facing most of the issues regarding this topic right now, but soon the rest of the world will be facing it as well.

The spatial meaning of an ageing population is that the urban and regional approach will be necessary to understand it and to promote the needed changes. Each one of the cities is complex and has aspects that should be taken into consideration, making it very complicated to create a model for all cities. The author reinforces that this is very important in terms of public policies and urban planning. It is important to evaluate the context and to include the long-term fiscal and financial impacts that will happen in the environment, most precisely in the demographic changes and the programmes regarding the age-related services. (MCCANN, 2017)

One of the thoughts that should disappear from people's mind is that creating smart cities and providing a better environment for everyone will also increase the value of the projects. With the right professionals, it may mean less money spent but with a better result, as the money will be better used. In other words, there will be a way to reduce costs and increase the efficacy of the services. The infrastructures for communication and technology are in the centre of the examples for the creation of smart cities. (SKOUBY,2014)

One of the examples that should help to improve the environment is the ICT (Infrastructure for communication and technology), as it can create sustainable economic development and increase the quality of life. Most of the authors defend this as the possibility to assist in the creation of smart cities, in which the elderly population will be able to live and to age in place, creating personalized solution regarding health care and services.

As this can be easily changed by the urban policies and other actions, many projects have been implemented worldwide, trying to reach the main goal of living in a better society with quality of life to the elderly population. They also represent a big part of the marginalized society. Their main goals are to focus on

"...accessible and affordable health and health care services, opportunities to be physically active and embrace healthy lifestyles, models of lifelong learning that foster the acquisition of new skills, new knowledge, access to relevant information, public transportation, recreational programmes, social connections, volunteer opportunities, places to worship, being valued and respected home and community safety, transportation safety, financial security, affordable housing and services."

(Beard, 2012, p.93)

With the current changes happening in the world, many professionals will have to adapt themselves to understand and to contribute to this new perspective. The model of society that we have, where the elderly are put apart, being sometimes marginalized as someone who only has losses ahead, it won't be sustainable anymore. It may generate an internal crisis, not only in economic terms but also in structure ones, as people are living more, thanks to new advances of our contemporary medicine and the current transformations happening in the world. These people will also expect to be able to age differently. The number of old adults is increasing, and their worries should be heard by everyone, not

only because they, now, represent a bigger number of people, but also because they represent the future of the today's new generations.

In this way that the role of the urban planner becomes more relevant, as he is the one able to use the good street design, transportation and public buildings to make other people's lives easier. He can have a very positive result in the life of the elderlies if he takes in charges the needs of all types of people. It's also his role to provide attractive destinations and to manage the land use, attracting individuals to live in these places, changing the local scale to a better place to live and to visit, as much as to make the local ones engage and support their social networks. With good and interesting design to everyone, it is possible to create an environment where the elderlies will feel attracted to walk and to do other physical activities, reaching a better life, living longer and healthier in the urban areas.

The good environment can reduce the level of chronic diseases and reduce the elderly functional limitation if the place is already adapted to all types of people. When it comes to the wish of getting older in place there are two main pillars regarding the possibility of doing so, the first one is the own capacity of the elderly, their physical condition, and the second one is if the environment is pleasant enough to provide all the quality of life needed to achieve this goal.

Universal access to public transport and buildings can help the elderlies but not only them, as it can help everyone to reach a better life. A positive neighbourhood has also the ability to provide the social resources to improve the lives of everyone, as it must have places to promote the social life and leisure, such as squares, pedestrian streets, gardens, and parks.

The cities are becoming a very important part of the elderlies lives as they work as places where the local policies can be fostered, tested and later implemented in other parts of the globe, creating such an open laboratory to understand better the needs of everyone, developing new policies and projects for a common goal. One thing that is very important to remember, it is that not only the municipalities can affect the elderly population's life but also other levels of governance, such as the national and the international ones. Many policies are not able to be implemented by the municipalities alone, they need the reinforcement of other levels of governance. What many cities around the globe are doing is to create partnerships between different companies and different levels of governance, having in these colligations many government representatives, civil society organizations and academic institutions. In these cases, the rules must be clear, and all the involved parts should fight for the rights of the elderlies, always having in mind the importance of the community being engaged in the process. The infrastructure of a city is a complex part of different areas such as housing, land-use, utility networks, resources, waste management and social networks. All these areas should be following the same goal, otherwise, an age-friendly package of policies will fail. As a result of many years of lack of good and inclusive design, the elderlies and other marginalized population have suffered the negative impacts of it.

To reach the so-called inclusive projects, it must be a set of creative ideas incorporated with one main goal responding to the needs of different users. (WANG, 2015) The inclusive design is "a means of designing for transport that is dignified, accessible, affordable, safe and easy to use" (THE UK DESIGN COUNCIL, p. 95). It can be all the elements that should provide comforts such as shelters, benches, lighting, signs, audibility systems, emergency assistance, a ramp of accessibility and so many more. The inclusive design is able to be related to the AAL as it's possible to take everyone into account, in a way that the elderly people can get their independence to do the usual things that they would have difficulties in other environments.

Accessibility and connectivity can be very important tools to help to improve the elderlies' lives. The infrastructure is affected by all levels of governance, as it is influenced by the decisions of different organizations and bodies from the government. The policymakers and urban planners must take into consideration important public buildings such as healthcare clinics, pharmacies, and grocery

stores. The urban planners and all the stakeholders involved should not forget the conditions of these places for older people access it. Alternative transportation should also be an important part of any package of policies. They should also think means to stimulate the elderly population to participate in the community as it can be vital for them to have a good relationship with the outdoor environment.

Mobility can be very important when someone thinks about having fewer barriers on the streets and better access to trains, buses, and other transportations. The neighbourhoods must have well-designed access to promote mobility, instead of acting as a barrier for them. For example, the importance of signals for the bicycle paths are just as important for the cyclists as for the elderly people, because they act as a safety element.

The environment must be considered an important topic not only because nowadays, it is a very important issue of the global debate but also because having a healthier air to breath can help the elderlies to achieve longevity. The impacts of air pollution should be considered not only for older adults but to everyone, as no one deserves to live in a place that could be dangerous to their health. (WANG, 2015)

All the mentioned things will only be effective if there is a sense of place that the local population can develop through time. They must feel attached to the place, and the urban design can help to achieve this, as it changes the city, making it more attractive to the local ones, answering their needs. The local population must be part of any process of change, as without the engagement of the community all the other activities will not succeed.

Assuring that the old people will have a better environment, it will not only help this portion of the society but the whole system as well. As the literature reinforces, when the elderlies needs are taken in charge, it's possible to assure the needs of the children as much as the rest of our population, creating an inclusive scenario in our society, which must become each day more important. The future of our population is in the hands of many professionals, such as urban planners, architects, and engineers. They are the ones to promote this new approach regarding the inclusive design, as they will be able to change the environment for better. Many different paths can be followed to achieve the main objective, many professionals rely on the social policies from the governments or just in small actions from private companies and organizations. In a future section of this dissertation, there will be a discussion of different examples of how countries are leading to this theme.

The concept of active ageing started being used in the late 1990s by the WHO, as it encourages older people to get through their lives independently, reaching a level of healthy ageing. (KALACHE AND KICKBUSCH, 1997). This idea is only reassuring that the human rights of older people have to be protected, and their wishes must be respected. Active ageing should apply to all human beings, bringing awareness to them, in attempting to realise their potential as active agents of our society. It must help them to keep mentally and physically healthy. They should be encouraged to participate in our society democratically, exposing their desires, wishes and needs for a better environment. At the same time, the government and other institutions should provide them security, health care access and a voice in the main decisions of the core of our society.

The word active is used in a context of continuity, as we all have our rights guaranteed to participate socially, economically, and culturally in our countries, and so should the elderly people go through their lives. There are many ways of keeping someone active and it must be based in a personal decision where the individual itself should decide how he is going to keep producing and how he would like to contribute to our society. What is fundamental for the government, it is to ensure that his people are going to have the rights to do it.

Homecare is becoming strongly reinforced by the patients will as much as for economic reasons, as not everyone is willing to pay senior care houses or any other institution. One of the authors defends that the future is to use sensor-based technology to allow older people to be cared at home in

safety and without any costs. The technology will be a very important part of the process that will help to define different solutions for the ageing population. (SKOUBY, 2014)

The world population is ageing and, in this context, that one of the most urgencies of the world is to create a city that embraces the needs of the elderly population and all types of people. Variety is a fact, and one must accept it while designing spaces. One of the fundamental issues of these spaces is the fact the everyone must be allowed to live their lives inside and outside their homes among the rest of society.

When the healthy context come into the debate, it is referring to the physical, mental and social conditions of a human being, as it is expressed by the WHO. Ageing in place is another important concept, as it allows to maintain the connections between friends, work associates, neighbours and even family members, allowing a more peaceful transition during this process. The WHO defends interdependent and intergenerational solidarity to achieve better results with old adults. This also helps to create awareness about the importance of the old generations, because the young and the adults of today are going to be the elderlies of tomorrow. In the next chapter, there will be a more detailed discussion and literature review about what concerns the theoretical aspect of the social policies.

# 4

## SOCIAL POLICIES

One of the fundamental rights of human beings is the respect and enjoyment of their lives, that is the basis of every democratic society in the world. It is important that every human being feel that he is treated with respect and dignity, and most of all, he should feel like an active part of society. Some people may think that the human rights have reached a good amount of achievements lately in the last few decades, but in fact, the rights for the elderly haven't reached the ideal goal, as many of the fundamental rights that society should provide to the older people tend to be overshadowed by financial decisions. (AGE European, 2018)

The EU has modelled and changed the concept and the scenario of the political basis in the last few decades. There were several challenges in the last few years, such as the economic crisis, social crisis, the baby boomer's generation, migration fluxes, refugees, Brexit and other subjects that are still affecting the EU now. All of this was enough to make the policymakers reconsider the importance of certain aspects and to correct some mistakes, reinforcing old objectives and creating new goals to obtain a more sustainable package of policies. In the next years, the EU intends to focus more on creating a better society and in the implementation of fair policies to everyone to help the less fortunate ones. (AGE European, 2018).

### 4.1. THE HISTORICAL CONTEXT

The urban initiatives regarding the AAL communities started in the USA back in 1977 with the creation of the association called Partners for Liveable Communities, their main aim was to promote quality of life and social equity for the whole American population. The liveable communities concept comes to offer:

“...affordable and appropriate housing, supportive community features and services, and adequate mobility options, which together facilitate personal independence and the engagement of residents in civic and social life”. (BEARD, 2016, p. 441)

Lots of different programmes have been undertaken all around the world as the City of Calgary's Elderly Friendly Community, the Valuing Older People Partnership in Manchester in the United Kingdom, and the Canberra Plan, an Age-friendly City project in Australia. As a good example, there are the New York and Atlanta City plans for ageing people. They created a strategic plan to foster creative policies that can help communities, allowing older residents to stay independent and engaged.

When related to social policies, these programmes were clear on the main tasks that they have ahead. Morken (2012) defines that partnerships are essential, as much as to establish priorities, staying focused on the main concerns of the social policies. Language always matters as it is the communication that may keep people interested in the program. Once more, the author defends that it is important to get acknowledge from the relevant institutions and stakeholders that can contribute positively to this

cause. The main objectives focus on anti-discrimination and equality, improving the already existing guidelines and creating an international framework of policies where people must feel safe regarding their rights. Gender equality should also tackle the subject of the ageing population, as in this way the differences between older men and older women should disappear, promoting a better approach for both. It is also important to fight the age abuse and multiple discriminations, as much as to provide accessible transport, housing, public spaces with quality and access to new technologies. (AGE European, 2018)

WHO published a policy framework back in 2002 to help other countries and cities around the world to develop age-friendly programs. One of the main concerns is to define how someone can be considered old, as cultures diverse between each other. WHO uses the UN standard to describe old people, they classify an older person as someone with 60 years old or more. For the developed countries, it may seem a bit odd, as being that age does not mean old in these countries, as life expectancy is higher there than in the rest of the world. WHO (2007) also explains that this age is just a number, as the chronological age is not a precisely mark to identify the transformations that come along with the ageing process.

#### **4.2. THE AAL CHALLENGES**

There are many differences between people at the same chronological age, so urban planners and the government should be careful when labelling someone into a delimited frame of one society, as it can be discriminatory and cause several problems. It is very crucial to take care of the description of one appropriate methodology to assess how age-friendly one neighbourhood is and what are the main issues that require intervention. The profile of the local community and the older population as much as the caregivers and the service providers should be evaluated. It is important to divide the community regarding its geographic, demographic, social and economic characteristics. This information is vital to describe and to analyse the community. The topography is very crucial as it can create obstacles for the elderly public. The size and location of the intervention are also important. The population data is relevant as it can reveal how people are ageing. The social, ethnic, and economic characteristics help to understand better the local ones. The housing type as much as the land use and the distribution of services and goods are also important for the data.

The population of different ages when compared between regions can have distinctive implications when it comes to social policies. There are several regions in the world that they are not only ageing but also diminishing in numbers for different reasons. The main challenge of these policies is to find a way to encourage people to grow in numbers again. Such ways can be policies regarding the birth rates or immigrants as they can be a very useful tool to fill the populational gap of these regions, mostly the working force one. Most of the times, it is impossible to stop the decline of the population, what one can do it's to manage it most adequately. (MCCANN, 2017)

According to Deloitte (2012), as the UK's elderly population tend to rise from 9.7 million in 2013 to 15.8 million in 2030, they are expecting to spend 2.5 times more the value that they are doing now. Many cities in Europe will find a huge mismatch between their demands and the ability of their local economy to provide these requirements for the people. What the author suggests is the urgency for the EU to take care of these problems before they grow and become bigger. This means that there must be a big cooperation between society and all levels of governance to reach a sustainable combination of practices to solve this new problem of the ageing population. (MCCANN, 2017)

What comes with different challenges are the new innovative possibilities and one must take advantage from it to reach different solutions in the most different areas tackling subjects such as architecture, infrastructure, reconfigurations, policies, re-designs, and many more. The new ideas can be easily incorporated into urban design. At this constantly changing world, one must learn how to readapt itself to change the already existing environment.



The social innovation that comes from actors of the third sector and networks can be hugely implemented in the local and community-based settings. Sometimes they even change the policies to achieve a more efficient approach when it comes to social management.

The local management of programs may be a better experience for these communities. Locally-based policies do not mean isolated ones. The role of the urban planner must be very important to have these strategies aligned with the guidelines from other levels of governance. What must happen is a coordinated interaction. The local policies follow the objectives and the main goals of the national and the international ones.

In many countries, including most of the European ones, these policies are not well integrated, as sometimes they change courses, or they are not able to be focused on the whole population. There is a lack of integration. To complement, the author reinforces the need for more advanced and analytical evaluation to these systems to reach a better comprehension of the context, integrating the system, instead of isolating it.

The author reinforces the need and the importance that the small-scale surveys have in the context to promote changes and to settle urban regeneration strategies for the population. To facilitate these changes, the whole community must feel attached to the common goal. Different stakeholders must work together to organize the data and to produce it, such as the universities, civil society and third-sector actors. Without the coordination of all these elements, it becomes very difficult to overreach the problem and to find a solution to promote equality of the quality of life to everyone. (MCCANN, 2017)

### **4.3. COMMUNITY POLICIES**

It is very important to have the involvement from the health and social services to support any intervention. They are essential services, being able to help the city to develop and to increase the quality of life of its inhabitants. Health and social services must receive more investment from the govern. One important characteristic that should be focused on, it is the energy spent on these buildings. It is very important to have a sustainable transition to an age-friendly society. These services should also have an important role to collect information and publish them to understand the diagnosis of the area and the situation of the elderlies. (VAN STAALDUINEN, WILLEKE, 2018)

An active ageing package of policies should also address discrimination. Many elderlies suffer from ageism. It happens when people think that the elderlies are not able to perform certain services or to act actively in our society, due to their age. These individuals think that old adults should only rest and wait for the losses that they have ahead of their lives. Unfortunately, it still happening as a consequence of the previous concept of ageing. Now, with all the developments that are occurring and the new role that this generation of old people has ahead, it is important to fight against any kind of prejudice.

Age-friendly places are the most important part of any package of policies dealing with the situation of the ageing population. The WHO reinforces that the environment can affect people's lives in different ways. The physical and social conditions of one place can be key determinants to individuals' health. It is more important to age actively, that is why many people want to age in place and to live the rest of their lives in the neighbourhoods that they are used. To create a new isolated area for older adults to age makes no sense. What is important is to turn our current environment in an age-friendly one, promoting autonomy and good quality of life for everyone. (AGE European, 2018)

These new strategies should be very important for now and for the future, as life expectancy is growing as well. Improving awareness regarding older people's rights is a global responsibility. The AGE defends the strategy of creating a 4 years plan when taking in charge the creation of a package of policies regarding an ageing society. Strategies are very important to achieve the main goals. The

strategies must support longer working lives but with quality and employment for all. All older people should receive good wages, as much as the universal access to good services and long-term health care. They must have the right of ageing in place for as long as they want. The older generation should be an active one, the policies have to encourage people's autonomy and promote a positive image of the elderly to everyone. There must be engagement between the different generations as well, creating synergy to diminish any type of prejudice.

There should be a package of policies as it was stated before, but also a project work, with all the projects being coordinated by the main guidelines. Another thing to complement can be the networking of different entities and stakeholders, participating and promoting new creative ideas to achieve the main goals and objectives of the policies. (AGE European, 2018)

It is very important to develop one cross-disciplinary approach, to find a coherent way to change society. Many different visions would help to see all the diverse aspects of one society. The biggest challenge is to create a multi-sectoral or multi-stakeholder collaboration of everyone inside the community. There should be an association of the different ideas of an ideal society: smart city, healthy city, age-friendly city and green city. (VAN STAALDUINEN, WILLEKE, 2018).

There must be a balance between innovative and sustainable projects. In this way, there might be possible to create new infrastructure, developing the city in terms of economy and social achievements. Everyone should experience the benefits of living in an AAL environment. (VAN STAALDUINEN, WILLEKE, 2018)

Technology and innovative ideas were always thought to change younger people's life but now, they must also change the life for the elderlies. The Internet can be used as a platform which detects people's preferences, including older adults, helping them with their daily-basis activities. There is a marketing opportunity for the elderlies and technology. They need to adapt themselves to have a better life and the market should create something that has the appeal for them. Technology is increasing anyways; the estimation is that nowadays there are 9 billion devices connected. Soon, it will be more than 24 billion devices. (SKOUBY, 2014)

From this point of view, the new technology that is being developed now will help the life of elderly people and it will also change the way that the future generations will age. As part of the modernization of this new era, one can rely on that the smart homes will bring some advantages to the market. What makes it a smart home is the fact that they have automated and controlled systems. It may come in help for the elderlies when it comes to age in place. They should be able to react to the needs of their owners, for example, turning off one stove or closing one gate, helping people to live independently and safely. The house must have one own system able to react to some specific situations. What comes to do the magic are the sensors and the timers. It is important to have them, although they should not take decisions on their own. They must only react to certain inputs from their owners. The authors considered this type of house as an advance from the automated homes, there is an addition of more features and AI (artificial intelligence). The author defends it as being the most advanced type of house, being able to be dynamic, intelligent, context-aware and knowledgeable. (SKOUBY, 2014)

An informal definition of smart homes is provided by Alam et al (2012) is that:

"A smart home is an application of ubiquitous computing in which the home environment is monitored by ambient intelligence to provide context-aware services and facilitate remote home control".  
Alam et al (2012, p. 1)

Many solutions are coming to hand today such as remote monitoring and robot-based ones. These new technologies will be able to change completely the life of the elderly, modelling the future of the next generations, because therefore from what is happening now, they will be able to age in a better environment. The focus of these new advances is to allow the elderly to stay as much independent as they want to be in their lives. (SKOUBY, 2014)

The urbanism will also be widely influenced by these new advances. Many direct and indirect effects will model the cities, in order to adapt themselves to the new reality. The author defends that it cannot directly change the new problem of the ageing population, however, it's part of the set of concepts that are influenced by external factors and together can change the scenario. What the author defends as being one characteristic of the urbanism to influence the life's satisfaction of the individuals. Alongside with this thought, there might also be said that the urbanism is able to reflect on people's healthy depending on the size and dimensions of the place. Coming to the theoretic field the linkage between urbanism and individual's quality of life is not simple, there are different kinds of effects and they should distinguish themselves from one another. The author characterizes the effect of the urbanism in people's lives as an indirect and interactive one. The elderly living in rural areas can suffer certain disadvantages when compared to the ones living inside the urban limits. (LEE & LASSEY, 1980; YOUNG, 1977). But in many ways, the elderly living in these areas are not able to perceive the effects on their daily basis life. As part of this scenario comes the interpretation that the daily life inside the urban areas may not be the best one for the elderly, as they keep trying to leave the place and find a quieter place or a place that might have memories attached with them. The city most of the times, might be a challenge for the elderly as it tends to have some obstacles from what concerns the social interactions. The author defends that the elderly in the larger cities have fewer interaction and it is a disadvantage when it comes to their mental health. (SKOUBY, 2014)

Urbanism might be able to influence individuals in many indirect ways, such as with their integration, health and life satisfaction. Subjectively, it might change people's life. For example, it can affect people's health in many ways, as it has a direct effect on their life quality. The author also reinforces the fact that there's little research about this field. Most of the times, it is hard to analyse and to create a logical line of thought for the relationship because all the researches that have been already done used different methods and schemes. It can affect their interpretation and it might cause some difficulties to create a general description regarding the relation of the urbanism and the elderly's life. The urban planners should have in mind that every circumstance is different from the other, and there's no better way to design something than using the local data to understand the context of the actions and the policies to be implemented.

Elderly's social interaction effects should be hard to describe as they can change accordingly to their environments, some places are more age-friendly than the others. The scenario can change drastically this relationship as population, dimensions and cultural values are able to influence directly the whole.

The author also reinforces that opportunities in an urban territory can also be different from a point of view, where the social, economic and physical environment might change everything. The structure can also influence their lives and they might have different effects in the urbanism. The author suggests that the elderly living in rural areas are able to perceive more often the convenience of the services, even that they are living in a bigger distance when compared with the ones living in the urban environment.

One important aspect to classify is the differences between the bigger municipalities and the smaller ones, as they tend to be completely different. These differences may lie on the fact that in smaller cities people are able to interact more and it may also be easier to be heard in comparison with a bigger city, where most of the individuals live in an anonymous relationship with the whole. In the

smaller towns, social relationships tend to be more like in the rural environment, being more personal, holistic and based in common attitudes and aims. Consequently, from all of this, the social interaction is less satisfactory in the bigger towns.

All these reflections lead to a different kind of urbanism, where it is more elaborated and certainly, multidimensional in terms of conceptions. In an ideal situation, this way of designing should allow the communities to have their voice to change their lives. (SKOUBY,2014)

#### 4.4. ECONOMIC POLICIES

Allowing people to choose when they want to retire is a good example of developments being implemented to inspire the settlement of an age-friendly society. Many changes are happening in what regards the pension's systems, some countries tend to be more flexible than the others. In some cases, there were internal conflicts regarding the subject in countries like France. All of the things stated before leads to a scenario where to change the pension's system might be effective and help to solve the problem of the working-age population, but from the other side, it won't be an easy thing to implement everywhere. As it is possible to state in the figure below, research concludes that most of the countries worldwide believe that their governments are not doing enough regarding the pensions and the health care programs. (BLOOM, 2012)

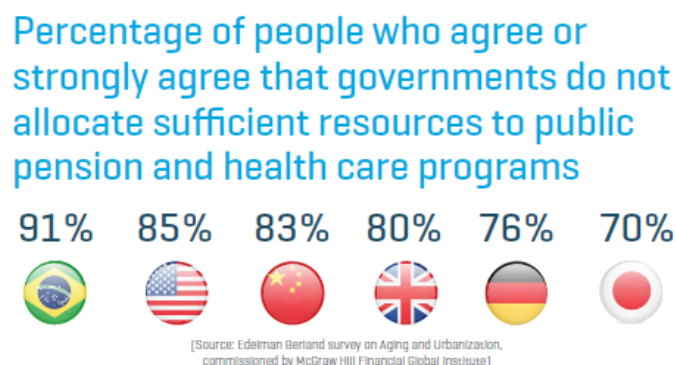


Figure 4 –Percentage of people who agree that governments do not allocate enough resources to public pension and health care programs

Source: Global Institute McGraw Hill, 2016

There are many ways to create policies that should help the population to be working longer, such as to remove the incentives from those who retire at the age of 60 till 65. The other way is to adjust the taxes, creating a better scenario for people to continue to work when they are already older than 60 years old.

In many developed countries, their pension schemes are already very complex systems, with different ways of retiring, even from partial retirement to unretirement at all. What happens is that people work as much as they can and then later, they rely themselves on their children. Most of the schemes are already insufficient to provide quality of life for the elderlies and to change the existing system might be a very complicated task. The policymakers should look to the whole scenario and find a solution where it does not create any gap or any unfair situation to anyone. To modify the pension's scheme is a hard and difficult measure and most of the politicians don't want to lose the support from the population by changing it, what they do is to delay the problem, something that can be very dangerous for the future.

Another issue that deserves a better approach is the financial aspect of the healthcare systems. It might be very problematic in many nations, even more, in countries like the United States where it is not universal. There might be considerable difficulties to reach certain modern treatments. It is pretty

much important that the governments instigate many options of health care services to create such a competitiveness market for better services. There should be many advertisement investments from the government to create awareness among the older population about subjects like alcohol, tobacco and many other aspects that are unhealthy and would affect them negatively.

One of the already mentioned options for many countries is migration, where individuals in the working-age can move to older societies. Even so, these numbers and the flow of people migrating to these nations are not able to fill the gap of the absent ageing society. Not to mention, that it will also create a huge politic discussion, as not every country is willing to open their boundaries for immigrants.

It is important to look at the ageing populations as an achievement of our civilization. It may cause several consequences to our way of life and the national systems of different governments, but it is an important achievement of humanity. The main consequence will be suffered by the economic and social policies of all countries, and those nations will have to find a way to absorb these people into the fabric of our civilization. The Who (2002) answer for all the questions that the actual scenario leaves are the promotion of active ageing.

The policies that should be created may focus on the basic rights of humans, as much as the needs, preferences and capacities of the older people, embracing the new situation. The ageing population suggests having a larger number of older adults than young or middle-aged adults, shaping the age pyramid of one society as a top-down.

“In all countries, and in developing countries in particular, measures to help older people remain healthy and active are a necessity, not a luxury”  
(WHO, 1995, p.6)

The old-age dependency ratio, which consists on the total population aged 60 or over divided by the population aged 15 to 60, it's the main tool used by economists to measure how a country or community can have financial sources to guarantee the pensions and reforms of the old population. It is also important for urban planners to understand the planning of care services and the needs of the population. Japan is one of the examples where the ratio dependency changed drastically in the last years, having 39 elderlies for each group of 100 people. In 2025, this number will increase to 66.

There are many authors (BLOOM, 2012; ZLOTINIK, 2016) who think that there will be a collapse if nothing happens soon. They tend to say that there will be a problematic scenario in terms of the economic performance of the countries. Others (LEHR, 2007; BUFFEL, 2012) defend that there might be a way to keep the economical rates and to assure a better environment for the elderlies. What people must keep looking are for creative solutions, different from the ones implemented with already known results.

Young people will be declining in number, mostly in the developed world, and as a consequence, the working-age population will be highly affected. On the other hand, as many of the elderlies are living more and healthier, there will be a possibility for them to work longer and to supply the demand of the working-age population absent. Women are the ones who should participate more, and there should be equality between women and man to motivate them with better opportunities for job. The Markets for the goods, services and many other things related to the ageing process that the nowadays society is suffering should adjust itself naturally to adapt it with the new reality. (BLOOM, 2014)

The biggest challenge for all is that the human's society is not able to change fast enough, all the transformations that happened took decades or even centuries, but this time people should adapt

themselves for the new reality facing them or there will be another imminent crisis. There must be an open mind to the changes in all levels, such as individual, organizational and societal. (BLOOM, 2014)

All these transformations urge to find a solution where older people will still be able to contribute to our society. Many of them will still be able to work formally or informally as they age. In this field appears the concept of the active ageing. Active ageing policies and programmes are emerging all around the globe, fostering elderlies to work and to produce, instead of looking ahead only as an outsider from our society. The old population should continually work accordingly to their capacities and preferences as they get older. This also helps to prevent many diseases, as it helps their minds to keep healthy.

In an active ageing environment, there should be policies and programmes to endorse mental health and social connections between human beings. If the autonomy and the independence of an individual would be kept through the process of getting old, it should be possible to ensure the quality of life for this population.

Although many countries encouraged the early retirement in the last decades, now the reality is a completely different one because the more healthy people are, the more they can keep producing and the less they depend on pensions and reforms, as much as they also keep helping the government to reach a certain balance between the working-age workers and the retired ones. In what concerns the population decline, if one thinks about the consequences of this process, it comes to mind the decline of the working-age and consequently the economy of the place in question. The decreasing of the economy allied with the increasing health care needed to the local population may even reach a chaotic situation. For that reason, that the author defends the importance of finding ways to maintain the place economically active, such ways can be reached by the land-use plan. If it does not occur, what tends to happen are many houses abandoned, as the ones who have conditions will leave the town and the area will start to turn into such kind of a poor neighbourhood. If the policies are applied before it happens, the chances for success may be even greater, as regions in degradation are harder to fix from a police maker point of view. The geographic isolation that these places tend to live will create such a barrier and a stereotype harder to change. (MCCANN, 2017)

The working force of one society is critical for its development. Nowadays societies are used with the reality that people after their 50's are not willing to participate and to contribute anymore. The willingness to work can be even smaller when the elderlies rely on their savings to spend the rest of their lives in a relaxed way. This scenario suggests that the most developed countries are going to face an imminent crisis soon as their economical force will diminish from the one already existing today. (BLOOM,2012)

Recent studies point to a slightly different scenario, it is true that the working-age population is diminishing alongside with the people aged 15 or less. The most developed countries are at the decline of their birth rates numbers, directly affecting the economy. Female participation in the labour market also affects this data. The main challenge is that the elderly dependence circle will offset by a decline of the younger population. This offset can be used to foster people to work longer but with life quality, as one is still able to contribute to our society even after reaching a certain age. The capability of adaption and creative solutions will be responsible for the main changes needed. The biggest fear is that this increase in the elderlies by numbers will not increase their participation in our society.

Many countries in Europe are still not facing the so-called low labour force contribution from the elderlies. From one side, it is completely easy to understand the logic as most of them feel that they have already done a lot in their lives regarding their working life and that they have contributed a lot to the government. From the other side, it shows that policies that should be fostering the active ageing are not being well implemented or they are not having the expected result. They can be failing for not

inspiring people enough to change their ways of life or by not fighting discrimination on the labour market as some individuals think that the elderly are not able to produce.

The elderly do not need to participate and work in the nowadays society, but they can participate actively in the society as it would also help to improve their quality of life and be good for everyone. As a contrast, there are countries where the labour force is increasing among the elderly, such as Japan. (BLOOM, 2012)

In the figure below, it is possible to understand how the relationship between the private and the public sector works regarding individual's opinion. Some countries believe that the public sector should address the population and help them to overcome the problem of the ageing population. There are other places like the United States and Japan, that people think that it is a situation that should be addressed by the private sector.

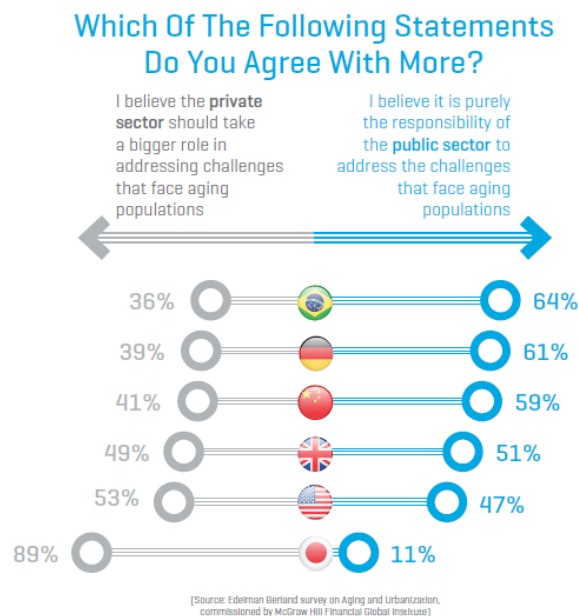


Figure 5 –Private sector x Public sector

Source: Global Institute McGraw Hill, 2016

Healthcare and social services are very highly connected. Increasing the interrelation between these two areas should improve their effectiveness. The author also reinforces that many of the investments are becoming more expensive as the new technologies are arising. The expenses of the healthcare policies are not only higher because of the demographic changes. (MCCANN, 2017)

The circumstances will bring some advantages for the market and the elderly, as the older people are getting more active participation in our society. Based on the statistics the market of technology will already value around \$8.90 trillion in 2020. The Internet will also gain value, reaching the mark of \$19 trillion. Before thinking about all the money, it is also important to think about how the demographic changes will influence the market. The main progress will be to increase access to technology, influencing all types of people. Also, there will be a huge demand for telehealth and to observe patients remotely. All the new technologies regarding health care should benefit from this new boom.

#### **4.5. AGE-FRIENDLY POLICIES**

To improve the quality of life is also essential to approach the caregivers and to understand their needs and complains. It is important to reach not only the professionals such as nurses but also the informal carers as many people caring the elderlies are not necessarily professionals. Most of the times, they are someone from their own family. The government should soften the life of the elderlies, as these people are also an important part of the society that may help to understand the needs of everyone. (WHO, 2007)

It is also important to have in mind the number of people answering the surveys. A relevant number of individuals must be necessary to understand the local community relations and their needs. It is important to take into consideration the answers that repeat themselves the most, so they are the most relevant aspects to be taken in charge. Increasing the focused group would also help to understand more general aspects and difficulties of the place. Volunteers can also be encouraged to answer the surveys, as they can help to understand the context. It is vital to acknowledge the needs of the elderlies of different ages: the ones above 85 years old and the not so old ones between 60-85 years old. Both men and women should be part of the process. If there are people with disabilities, they should be taken in charge to answer the questions as well.

The management of the space is related to the urban population. Both have a tight relationship, so for that reason that policies regarding them should approach a more sustainable path to create a good relationship between the urban forms and the population. There are bigger challenges such as social cohesion, dynamism, creativity and innovation. This is the time for different ideas, the world is changing quickly and so must the policies accompany these changes. Some initiatives may fail but they will serve as a basement to other strategies that will come to succeed.

In terms of governance, one can say that the main challenge globally might be to effectively manage the current scenario. The first concern is the raising of capital and investment in the cities. The second one is an effective plan for land-use transitions. In terms of specific changes in the land use planning, one can say that it directly affects the population when it comes to the real estate market. An area with population decline is not always a place of high value, bringing some difficulties to the community. In many European countries, housing is the most important wealth and so if the price of the land is affected, these places lose value, concerning everyone. The author states that land and housing prices play an important role in the economic dynamic. The land-use policies can affect this market very easily and so consequently it can change the reality of one place. (MCCANN, 2017)

Places that have economic prosperity are easier to plan, reassuring a sustainable land-use policy. In the regional planning sense, what McCann (2017) defends to achieve success is the strong land-use policies, as the spatial restrictions can work as geographical barriers from which the market will work against it. Completing this thought, even a greenbelt would reinforce those geographical barriers to achieve success. This would create a place of breathing air and quality of life for their residents, increasing the value of the land. Infrastructure should also be in the centre of these policies, such as transportation, energy, water. It is important to have detailed analysis in the economic scale regarding these investments, in an attempting to prove their cost-effectiveness. In this way, it is possible to state that the land markets allied with land-use restrictions and good infrastructure should create a better environment, establishing a very attractive place for people.

The author also defends the creation of a bottom-up approach regarding the age-friendly cities. This approach should start with the status of how the elderlies are living and to understand what they need and how it is the best way to improve the quality of life of that local population. The local ones are the best people to know their needs. Furthermore, it is important to have a clear definition of what is age-friendly and what is not. (WHO, 2007)



After this, it is important to understand the strong points and the barriers regarding the new age-friendly environment. There should be leaders among the target population, and they must have a complete assessment from time to time, taking in charge the opinions of the local population and the decision-makers. Quality researches must happen to ensure the character of the project, assuring that it is compromised with its scientific and ethical effort. The methodology is very important as it reinforces the success of the measures. It is also crucial to have people with gerontology experience together in the group plan. The researchers should be focused on presenting strategies including the ethical approval and proceed with samplings and data of the first measures implemented. It is also important to have a training assistant as much as feedback from the community. (WHO, 2007)

When the entities should think about making policies, there are important questions, such as how it is possible to keep people individually independent and active while they are living through the natural process of ageing. The main answers should be reinforcing the funds for health systems, prevention policies and quality of life improvement. Another important factor to be held is how to prepare the whole system to have a necessary amount of money to invest in these programs.

When governs all around the world think about the policies and programmes regarding the old people, they should focus on everyone, and it is in this way that the concept of AAL comes through the mind. They should address many challenges in the individual scale and the collective one. All other policies should also endorse the old population, in attempting to create awareness and to include this community among the rest of the society.

With an AAL scenario, one can rely on that the elderlies will be able to age actively and healthy, remaining independent for a long period of their lives. It is important to understand their context to reach the best perspectives to implement policies for the target population. Social interaction is one of the main aspects that assist the elderlies to stay active, and this can only be achieved in an age-friendly environment. The author states that being socially active can help to keep the elderlies healthy maintaining their physical capacities and their emotional health, which is something as much important as their physical health. The newer technologies can assist the elderly population to keep their social contacts and too wide them, as much as to help them to reach ways to engage in the society, exposing their skills and experiences with the rest of the people. This can only happen in an environment where individuals respect the elderly people and their approach closer to the new technologies are positive. The old people must not feel isolated from the advances, they are still capable of participating in the innovations happening in the world right now. (SKOUBY, 2014)

Smart cities should have a better approach with the elderlies, including them in the main decisions regarding housing, transportation, social needs, inclusion, health care systems, communication, community support services, leisure and culture. Only in this way, there will be the possibility to have an age-friendly environment.

Due to the diversity of people around the world is very important to create an accessible city. Everyone from all ages or with any disability should feel encouraged to live their lives normally in any scenario, that is the main principle of equity. New technologies allied with creative solutions from the urban planners should foster people to have a normal, healthy and fulfilled life. (SKOUBY, 2014)

Other policies that would complement the already spoken ones are those regarding premature deaths, chronic diseases, medical treatments, quality of life, social, economic, and cultural guidelines. Strategies should also tackle the family, as they must prepare themselves for the future. For a nation is better when the health policies are being promoted, so it enables people to work more and produce continually.

Furthermore, if it the land-management is not good, what may happen is that the in the first moment there will be opportunism from some local ones, to do whatever they want with the land, and then secondly, there might be some resistance to the changes to create a better environment and to assure

the health ability of the place. In this case, not only the economic situation will be very low, but it'll also affect the depreciation costs to the government. In other words, not only to weaken the local economy and the sustainability of the place, but it'll also create public-financial fragilities as the age-related needs will increase, creating a very dangerous scenario even to their inhabitants, to sum up, the author states that:

"(...) areas facing demographic decline and population ageing are also associated with greater unit infrastructure usage costs and greater redevelopment costs than areas facing population growth (...)" (MCCANN, 2017, p.552)

The transitions costs will be very high in these areas, as they would be already in a weak economy relation if the government does not act. Even the pension funds and insurances are going to be very alike to invest their money in such regions where the scenario will be the most adverse. The urban sustainability of the place will be in a dangerous situation as the investors will not have the willingness to invest there. Only, when the government takes in charge the very different aspects of the ageing population scenario, they will be able to overreach the problem, they must act following the specific interconnected relations such as financial, fiscal and land-use planning. The possibilities to keep growing down the population will become fewer, the faster they do it. (MCCANN, 2017)

When someone is making policies, it is important to look at the full-frame and not only in specific situations. According to Cutler (2001), in the USA, such policies can lower medical expenses in about 20 per cent over the next 50 years. Also, it costs less to prevent a disease than to treat it. The US Centres for Disease Control has the statics that one-dollar investment in activities to encourage healthy ageing should lead to a general cost of 3.2 dollars in medicaments that will be avoided. (U.S. CENTERS FOR DISEASE CONTROL, 1999).

When someone tackles the ageing population issue, this should be a cooperation between policymakers having contributions from different spheres, such as the international, national, regional and the local ones, reaching a coordinated action. The main challenge to a global level, it is how to reach those less developed parts of the world to bring awareness and the necessaries transformations to ensure a better future.

The changes that are happening right now are going to model our near future and how the actual generation of adults will live. According to the UN (2002), there are main concepts that should be taken in charge when relating the ageing populations issue: independence, participation, care, self-fulfilment and dignity. The policymakers should draw their decisions based on these main concepts and how they are going to influence people's life. Furthermore, there are three basic pillars regarding ageing population when someone wants to tackle policies: Health, Life and Participation.

The demographic changes must be one opportunity to overcome the problem and to create the so-called age-friendly society. It does not matter how many changes Europe face, these modifications should happen to promote a better quality of life to everyone, and all the citizens must enjoy equal rights and opportunities. The less successful ones should be empowered. Most of the elderlies tend to stay living independently as a reflection of the changes that happened in the urban context globally in the last century. The needs of those who have more problems and dependency regarding the ageing process must be seen not as a problem or an obstacle but as an opportunity to create employment and innovation for people. (AGE European, 2018)

The different needs of the older society must be faced as one opportunity to develop technologies, to test new strategies and to foster ideas. The main challenge is to create a comprehensive

approach to create a strategy of guidelines to produce the so-called sustainable model. It should ensure that the next generations will have a balanced package of policies, avoiding a further crisis. Everyone must be involved in these settings. The promotion of these rules must create awareness regarding the matter. Only with this approach, it would be able to create a new future with an age-friendly environment. The author believes that older women and men should advocate, and they must be heard, as they can make policymakers understand better their interests and needs. They should have a voice in politics and leadership. (AGE European,2018)

What is important to take in charge is that an age-friendly package of policies must be promoting active ageing. In other words, it should help the process of improving health, participation and safety, increasing life's quality to the older people. Even knowing that doing so, it will improve the quality of life of everyone. The author describes an age-friendly city as a place that recognizes that we live in a plural society, and the inclusion of all individuals is very important. These policies should acknowledge the different decisions regarding the lifestyle of each one and anticipate the flexibility of everyone's needs, as there is no pattern of an older person. All the programs must be destined to include people in their societies and to allow them to age with confidence enjoying good health and an active voice in our society. (WHO, 2007)

The author complements by stating that this approach is not only fresh, but the policies will also have to address the populational variations in the future. It is very important to do not forget the importance of planning local, each region in the world has a demographic emergency to be solved. The centralised policies in the world will not be able to solve all the problems. The local rules are the ones to reassure and to offer potential solutions to the local society. (MCCANN, 2017)

In what concerns the city as a regional level, the decentralised policies regarding taxes and the fiscal structures will have a bigger impact in the areas where there is a bigger concentration of the older population. This is a more difficult scenario to convert into a positive situation, as the local authorities have small autonomy over the public financial management and their taxes income are weaker when compared to other younger regions. It is also a very polemical case as if it comes to the point where one region must pay more taxes to help another one, where people aged faster, there will always be those who would disapprove and protest against it.

Another huge challenge is local healthcare, and in this case, there are many ways of leading with it. What most of the municipalities tend to do is to copy the social care services of other cities and this can generate lots of problems. According to the OECD (2015), the EU has doubled the investment in health care ever since 1970, as many of the governments are taking more responsibilities regarding their elderly population.

Regarding the health subject, the most important observation is that the risk factor in terms of chronic diseases must be low in numbers. At the same time, the protective factors must be high, which means that this can ensure longevity and quality of life for people. When someone talks about life in this context, the most important determinant is to find a way to keep people healthy and able to manage their own lives when they are getting older. In this way, only a small portion of the population would need special medical treatments and for those who need it, the government should ensure access to these services and treatments.

Participation reflects the already spoken idea that the whole population should engage in the programmes and the creation of the policies. It is important that people feel that they are the main agent of the advances that are happening. It is crucial that everyone feels connected and attached to these programmes and that the policies can deal with all sorts of people to reach the less fortunate and the most marginalized people. The basis of the European values for respect and dignity should be kept promoting equality and to build up a better and more fair society.

The older generation should have a heard voice inside the context of the EU as most of the countries are turning into a process of ageing. The policies should promote peace, solidarity, growth and prosperity to everyone, respecting diversity among the states member of the union and the different regions inside these states. (AGE European, 2018)

Another concept that must be co-related is protection. Programmes should address social, financial and physical security for people while they are ageing. When these policies are implemented, one should also seek for cooperation between different sectors of the society, including the private ones. Only when there is a balance between the public and the private sector, there will be a guarantee for these policies to succeed. This concept is called Intersectoral action. Policymakers must be focused on health and social services, including education, employment and labour, finance, social security, housing, transportation, justice and rural and urban development. (YACH, 1996).

Since a couple of years, two bottom-up initiatives have been launched in Europe to address the challenges of urbanisation and ageing population. European Innovation Partnerships have been created, one for Smart Cities and Communities (EIP SCC) and one for Active and Healthy Ageing (EIPonAHA). They are working on action plans in several groups, the EIPs intends to bring together the quadruple helix: citizens, government, commerce and research.

The EIP SCC defines that:

“Smart cities should be regarded as systems of people interacting with and using flows of energy, materials, services and financing to catalyse sustainable economic development, resilience, and high quality of life; these flows and interactions become smart through making strategic use of information and communication infrastructure and services in a process of transparent urban planning and management that is responsive to the social and economic needs of society.” (VAN STAALDUINEN, WILLEKE, 2018, p. 3)

In terms of strategy, they must focus on Sustainable Urban Mobility, Sustainable Districts and Built Environment and Integrated Infrastructures and processes. The EU should promote people’s rights at the international level. Unfortunately for as much as human society has evolved, there are still older people facing negative approaches regarding them. Examples can be found in subjects regarding employment, goods, services, health and long-term care, transport, housing, information and education. Human rights must be promoted in all policies to reach a level of awareness where these prejudices should fade away. Individuals must be allowed to participate in their society’s activities and decisions, it does not matter how old they are. Everyone should live with dignity and respect. (AGE European, 2018)

Different reforms must be implemented in the EU to create a more sustainable territory. The guidelines should have enough resources to support themselves. The basis of these policies must be being smart, sustainable and inclusive to everyone. The main approach is to focus on economic changes and the needs of older people in Europe to reach a better approach of policies to everyone. The EU has already stated that everyone should live and age with dignity. It is stated in its Art. 25 of the European Charter of the Fundamental Rights.

The author also reinforces that the image that most of the people have about older adults is that they are only weighted to society, as they are no longer part of the working-age population. This is not

true, ever since the older are still able to do their contribution to society, such as taxes, volunteers, informal careers and many more. (AGE European, 2018)

The focus of these policies should be the cities as they are becoming each day more the habitat of human beings. In comparison to some decades ago, nowadays three-quarters of the elderly population lives inside the city's boundaries in the developed world. In the rest of the world, there is also one big portion of their urban population that is older. (WHO, 2007)

Mobility is also something crucial for older people as life outdoors is very important to everyone. It is important to fight isolation, depression and other health problems. Mobility may become a bit more difficult to perform as someone age, as the physical and cognitive conditions may be declining and activities such as walking and climbing stairs can be not as easy to perform as they used to be. In this aspect that enters the role of the urban planners to design places where these people are still able to perform the same abilities as everyone else. Creative approaches come from simple lifts to very complicated structures that may help the city to be accessible to everyone. (VAN STAALDUINEN, WILLEKE, 2018)

To make transportation easy and accessible to older people should be a priority, as they are the ones who depend more on public transport. Different teams must do their parts to achieve the goal of arranging accessible and inclusive solutions to everyone. They must involve different stakeholders to reach different modes of transport.

In this way, the use of public transport will increase as much as their age-friendliness, and even so creating new opportunities for collective mobility. What concern the urban planners regarding the transportation and the accessibility of the same is the better integration and management of collective transport and the urban logistic and distribution. There are several challenges for the future regarding these aspects and there must be international cooperation to achieve results in all parts of Europe. Several adjustments should be promoted such as wheelchairs and strollers.

As it was stated before, it is very important to have older people involved in the process while designing different features. A sustainable approach is also very important to have clean air and to assure quality, minimizing its impacts on everyone. The biggest challenge is to adapt to older buildings, as many of the buildings in Europe are historic ones. They were designed to provide the best solution for the needs that families used to have in the past, not considering the needs of the elderlies. It is important to ensure new modifications on these buildings to provide the right accessibility and the desired comfort for all the users of these facilities. When someone aims to have better accessibility, some of the local interventions are simple and can be things such as better signals for individuals with hearing and visual disabilities, wheelchair accessibility, walkable paths, lifts and many more.

Regarding the better air condition, the ecological footprint is very important to ensure breathable air to everyone. There are many issues to think about it when developing a package of policies or designing a special facility with the assumption of being universally accessible. One must take into consideration the fact that integration and scale are very important. It is also primordial to analyse the already existing facilities. Developing auditing tools and systems for already existing new buildings are also of great impact for everyone. The green network is important as it can help to clean the air and to provide public spaces with a good quality of life. The level of energy that one building is going to provide and need is essential to measure the impact that it will have on the city scale. (VAN STAALDUINEN, WILLEKE, 2018)

According to Alves and Mendes (2015), it is important to evaluate the global course of the society and to provide sustainability at the local, regional and global scale. The author also reinforces that there is a new trend nowadays, regarding the culture of the active ageing and a social perspective of urban design.

Designing age-friendly cities are one of the most effective ways of responding to the ageing societies. There are many ways to develop a place as an age-friendly one, each case should be taken apart with its own characteristics as their cultural divergences must be part of the process of creating an AAL environment. Cities are also poles that attract people, including the elderly. Sometimes to do an intervention in one neighbourhood or district may be enough to attract individuals to live there, creating a flux of migration. The advantage of larger urban agglomerations is that residents tend to live and socialize more, going to smaller stores to get their goods and services. Many specific projects around the globe took part in smaller parts of each city, as it's easier to change a smaller scale than to promote a full and quick intervention. Most of these projects are focused on populated neighbourhoods where most of the elderly population live. (WHO, 2007)

The WHO comprises that an age-friendly community must be one where the health and well-being of all human beings must be fostered to achieve better results regarding quality of life. The main ideas are to turn the place into an area with good accessibility, equity, inclusiveness, safety and a supportive neighbour to the rest of the community. The most important goal is to improve the quality of life to prevent diseases and the stress of one life in a hostile circumstance. It should be developed centred services to create a habitat where people could recover and continue to do all the activities they are used to do. The main goal of an age-friendly context is to provide a healthy environment for everyone. It does not matter the age, sex, gender, ethnic background, wealth or any other particularity. Everyone should have the right to live in a pleasant territory that would help to achieve a better quality of life as much as to recover from any trauma that a previously hostile habitat may have offered. Acknowledging diversity in the current world is important to provide a better environment. Ageism must be fought to ensure equal opportunities for everyone. (VAN STAALDUINEN, WILLEKE, 2018)

It is important to create better free surroundings and affordable accessible houses to everyone, as much as to reinforce the importance of having a good transportation option. All these small parts can enable people to stay independent while they face the process of getting older.

Age-friendly environments can provide safety over the injuries that some older adults may be suffering. The naturally built habitat might be hostile for them, as many parts of it might not be suitable. The elderly are still able to play an active role in their communities as they can continue to engage in paid or volunteering work, and also exchange their knowledge and help the family and the community with different roles. This concept of active ageing might only be achieved if society allows older people to have an age-friendly environment.

Energy reduction is very important to everyone as it can help to fight climate change, meaning to reassure that the old generation will live on a planet where the temperatures and the pollution are balanced. It helps to reassure that the next generation will have a safe place to age. Housing is also a very important aspect of the elderly lives, but unfortunately, this aspect is harder to improve, as it depends on the private sector. What the government and the policymakers can do is to create policies to incentive the investors to create age-friendly houses with discounted taxes and other financial supports. The environment and the connection between the outdoor world and the indoor one must be pleasant. That is the way to create a balance to reach a point where the older generations will feel completely comfortable with their environment.

New platforms should be developed to provide access and information for the elderly. In these devices, the participation of the older people in the creative process is crucial. The main goals of the smart cities are to be focused on energy and communication, but this should be also increased by adding other values to the cause. Technologies and new devices are tools to provide more inclusive, responsive and sustainable environments for people in general. In this case, it is very important to involve other entities and stakeholders to achieve a better result.

# 5

## RELATED STUDIES REVIEW

To better understanding what is happening all around the world regarding the AAL, many examples of policies and actions will be described in this chapter. It is important to understand and to learn from different contexts.

### 5.1. UNITED STATES OF AMERICA

The USA population will keep rising and it has been stated that the country will have one-fifth of its inhabitants made of senior citizens. In this way, it is important to understand what the government and the urban planners are doing to solve the problems regarding these people.

This new reality will bring a bigger demand for services. The demand for housing, transportation, mobility, health care, and other services will increase. What it is important to realize, it is that the USA and many other countries in the world will be experiencing a different way to plan and design the multi-generational planning. In this type of planning, urban planners and politicians will have to think about the needs of everyone equally. Once you have got the necessities of the elderlies and the children overlapped, everyone's needs will be satisfied. Everyone wants a safe neighbourhood, walkable streets, local services and so many more things that concern this subject.

Accordingly to the AARP survey, more than 88 per cent of the adults in the USA want to age in place. There are two questions to be answered: 'How can we change the city to achieve the needs of this new elderly population?', and 'What is the role of the government to meet the needs of older residents?'. Atlanta and New York have been the pilots of this new way of planning. They are being used as open laboratories to test different methodologies in the USA. (MORKEN, 2012)

#### 5.1.1. NEW YORK

The Age-friendly programme emerged in New York City, in 2007, as a non-profit organization between the Academy of Medicine (NYAM) and the municipality. New York is also part of a network of different municipalities around the globe committed to change their environment to develop age-friendly conditions, using the WHO's age-friendly cities model. Firstly, the organization took some time to hear what the local population would like to improve in their neighbourhoods. They spoke with more than 1500 people. Later on, they could analyse and see what was already in the process of being planned by other agencies and institution, so they could focus on the problems that no one was taking in charge by that time. They created several subprograms to make elder's life better in the city, basing their main aim on the WHO's quote:

“An age-friendly city encourages active ageing by optimizing opportunities for health, participation and security to enhance the quality of life as people age. In practical terms, an age-friendly city adapts its

structures and services to be accessible to and inclusive of older people with varying needs and capacities” (WHO, 2007, p. 15).

There are eight main principles of the organization: the promotion of respect and social inclusion, information and communication, civic participation and engagement, social participation, housing, transport, public spaces and health services. The organization has a timeframe to work, they aim to still active for four years to promote the adjustments needed for the elderlies in the city. They want to rely on other institutions to help them promoting the main settings of the programme, including walkable neighbourhoods, public transport, medical care and housing.

One of the subprogrammes created in New York was the Aging-improvement districts, where three neighbourhoods were chosen to test this concept. With a partnership with the community, they were able to promote some specific activities, such as:

Table 2 - NYC Age Friendly Programme – Activities

NYC Age Friendly Programme - Activities
- Free seniors-only hours at a local public pool;
- School buses used during off-hours to transport seniors to the grocery store;
- Improved access to laundry in public housing;
- Better programming for older adults at local institutions, such as libraries, museums and restaurants;
- An Age-Friendly Grocery Guide maps stores that offer amenities valued by seniors, such as public restrooms, handicap accessible aisles, senior discounts, and delivery.

Source: Morken, 2012

Another programme was the age-friendly business. They reinforced the role of the local businesses in the daily life of the old population. In this way, they seek local businesses to promote interventions regarding the elderly's needs, as it is possible to see in the figure below. Not only information but physical changes that would improve and help the lives of other people.



Figure 6 –Age-friendly New York advertisement

Source: Morken, 2012



The main results were that in partnership with the municipality, a group of health clubs with more than 50 locations offered a 25 per cent discount for senior memberships. Nearly 3,000 new bus shelters with benches have been installed throughout five districts. For low-income seniors unable to ride public transportation, the city conducted a program that allows access to the axis using city-issued transportation vouchers.

#### 5.1.2. ATLANTA

Atlanta is another city to be taken as an example for the multigenerational planning. There, it was created the Atlanta Regional Commission, a long-term policy-based initiative to help the citizens. The organization is the official planning agency and the development commission for the Atlanta region. Before launching the organization, they talked with almost 1500 citizens to understand their needs. They have raised a program in the metropolitan area of Atlanta and Georgia to promote a place where individuals can live throughout their lifetime with a high quality of life. There are three main cores of the project: to promote housing and transportation, to encourage people having a healthy lifestyle and to expand information and access to all services. Other objectives are to increase connectivity, pedestrian access, neighbourhood services, promote social interaction, diversity and respect. (MORKEN, 2012)

The programme has no end date and it is held by the combination of funds from the federal govern, the regional and the local ones to achieve the goals. Metro Atlanta has also been benefited by a planning office for a multigenerational urban plan to adapt the stations to people from different ages.

The organization firstly started to see what the other cities have done in other parts of the world, in a process to define a strategic plan to start acting. They started doing studies about different projects and researches that were done in the academic field. They included concepts, such as TOD, greenways serving as connected boulevards, new town squares, retrofitting a failed shopping centre, and redeveloping commercial areas.

Cobb County and Conyers adopted a new planning system to provide more flexibles and responsible zoning of the cities. In this way, they were able to create mixed-used areas to apply the concept of TOD. In the figural bellow, it is possible to see a sketch of how it will look.



Figure 7 –Atlanta Age-friendly neighbourhood illustration

Source: Morken, 2012

In Clayton County, there were several discussions regarding the AAL with the community to achieve awareness about the subject. They even launched a web site about it. Two new senior centres were created, offering computer labs, fitness rooms, and walking trails near public transport. The government is also renovating several buildings incorporating the principles of an age-friendly environment. They created a program called Grandparents for Safe Routes to Schools as well, it's a program where the older adults can get some exercise while walking elementary children to the school, achieving social interaction.

## **5.2. JAPAN**

In the case of Japan, the author states that it is a nation that is growing faster in numbers of elderlies. What makes the case of Japan so interesting is the fact that it can be used as an open laboratory of experiences regarding the AAL policies, as they are more advanced in the process of having an older society.

The government of Japan fears the economic losses that a population in decline and ageing very fast will cause in the country in the future. Alongside the economic losses, it comes the less dynamic economy, the pensions and the health schemes to provide access to public health care to everyone. Business companies fear the loss of customers and labour shortages. The working-age inhabitants worry about their availability to support the older people in their families. Japan's concern is quite overspread through its people, as the country will suffer from the ageing population more than any other country in the next decades. It is stated that their inhabitants will age faster, and the percentage of the ageing speed will double itself from 10 per cent to 20 per cent in less than 25 years. The author also indicates that to have a comparison between Japan and Europe, it will take 50 years for Europe to reach the same level of the older population as Japan. (HORLACHER, 2003)

What the author also defends is that the ageing society is a normal part of the process of the modernisation of the world. Japan's society blames the fact that women are taking a place on the labour market, diminishing their fertility and not willing to be mothers, although what is universal acclaimed to be related with the elderly population is the advances of the modern medicine. The Japanese government has already started to work on the case of the ageing society, with policies that will encourage people to have more children. Horlacher (2003) believes that it is not enough to prevent or to change the scenario of an old population, which makes the future very different from what people are used. It will have direct implications on people's life.

To understand this context, it is important to analyse the Japanese case from different perspectives. From the integrated policies to reassure older people a good environment to age in place to some other consequences led by the ageing population, such as the Gross Domestic Product (GDP) slowly growing and the shrinking of the labour market. Some authors defend that there's the possibility to change the bad aspects from the ageing population and it's one of the major challenges of the modern world that this generation must learn to reassure that the next generations will be able to live in a pleasant environment while the actual generation will age in place with life quality and health assistance.

This is a new age structure that will impact Japan's economy strongly. Firstly, it will reduce the saving rates and money accumulated. Secondly, it will shrink the working force and then, finally, it will reduce the production of the country. The GDP has been in decline ever since 1991 when it peaked at its maximum value. Even so, Japan has high saving rates, even higher than countries like Germany and the USA. The future of their saving rates indicates the government attitude towards it and how they will change this situation to bring a better perspective for the whole population. The biggest challenge is that when the Japanese people start to age, they are also increasing the number of people receiving pensions, and this is also affecting the working population, as they are not only the working force of the

country but also the ones to maintain the older people's pensions. This new scenario will likely force people to have their own savings and not to rely on what the government will provide to them when they reach a certain age.

Most of the economic growth of Japan happened during the 1950s and 1960's when the working-age people were growing by number as most of their population was younger. By that time, Japan had an increasing of well-educated young age workers working for less than what it would be expected, reaching the point that these people led the country to a developing age, where it reached its zenith regarding economic factors. What will be seen in the next decades is completely the opposite, as this working-age population are now getting older by day.

As Japan is the country where the society is ageing faster, some methods and strategies are already being implemented in the country, as they are urging for changes in the urban space. It is also important to reinforce the fact that Japan also has an important impact on the whole of Asia.

To solve this demand, Japan is nowadays a living laboratory for experiences regarding the AAL, and probably most of the interventions that they are settling in Japan will influence other countries around the world. Murata (2010) states that what happens nowadays in Japan is that most of the elderly people go to senior homes when they reach a certain age. So one of the challenges is how to improve these places to achieve a better environment for these people. The number of senior homes is increasing immensely as the older population keep growing. Japan also stimulates brands to create new age-friendly devices, such as telephones and other services for old adults. What the author defines as the most difficult challenge nowadays is how to create a system for urban planning that can fulfil the necessities of all groups of people to achieve a relevant success in the multi-generational planning.

The city of Tokyo has already tested some age-friendly concepts in the community of Tama New town (figure below). It is a social block of buildings that were created in the 1960s. As most of the residents are still living there, they aged in place, so the government made a renovation of the blocks to achieve comfort and quality of life for everyone living there.



Figure 8 –Tama New Town

Source: Murata, 2010

Another good example is the city of Yukarigaoka, a small city located near the airport in Chiba. They focused on urban planning and how to implement the concept of TOD in the city. They centred

on transportation, residential zones, commercial zones, natural environment and elderlies facilities zones. All the railway stations are in a maximum of 10 minutes to reach from all the resident's houses. The railway was built with private investment and then later, it was donated to the municipality.

Another programme in Japan focuses on the housing problem. If someone who owns a house renovates it to achieve the requirements of different generations of people, the government pays part of the house value when it goes to market. Regarding the public transport, the government also put on the roads several electric buses to achieve sustainability, but not only this, the buses stop at any location, making the life more comfortable and safer for the elderlies, as it's possible to see in the figure below. (MURATA, 2010)



Figure 9 –Age-friendly TOD concept in Japan

Source: Murata, 2010

### 5.3. EUROPEAN CONTEXT

For better understand the European context and how the debate organizes itself regarding the social policies, the actions regarding the elderly in the cities of Brussels and Manchester are going to be described in this section. Brussels and Manchester are among the first cities to commit themselves with the WHO's Global Network of Age-friendly communities and cities. Being part of this programme both cities committed themselves to organize a five years plan to improve the situation of their elderly population and provide means for everyone to age in place with quality.

There are four main steps to be followed by cities that are part of this programme. First, they need to establish mechanisms to involve older people in all the stages of the age-friendly process. Second, a comprehensive and inclusive baseline assessment of the age-friendliness of the municipality must be developed. Third, the development of a 3-year city project to plan its actions based on the previous steps. Four, identification of indicators to monitor the progress of the plan. (BUFFEL, 2014)

The EU points out that technology and communication will be the main resource to help all the necessary modifications to happen. A document regarding the European Accessibility Requirements for Public Procurement of Products and Services in the ICT Domain is currently on discussion.

Alongside other measures and policies, there are many soft tools that the policymakers are trying to promote. Part of this is the EU Action Plan on Urban Mobility (2009), which consists of a set of policies and actions promoting an integrated transport solution. The focus of the plan is the elderly and the ageing societies in Europe. Part of the plan is about green urban transport, passengers rights and



intelligent transport system to help the elderly to move from one point to the other. There is also an award created in 2010, The EU Access City Award (figure below), promoting accessibility and fostering the cities to implement measures to compete for the prize. Older people's organisation and leaders have participated as a jury of the prize. (AGE, 2012)



Figure 10 –Access City Award 2020

Source: [www.inr.pt](http://www.inr.pt)

The EU is also promoting partnerships with different stakeholders regarding active and healthy ageing, offering different opportunities to create a better environment for the older population. There are several projects supporting accessibility, mobility and new technologies.

### 5.3.1. BRUSSELS

The city started getting worried about their elderly when they realised that by the year 2050 their old adult's population will be around 40%. In terms of socioeconomic data, the elderly people who live in Brussels (figure below) tend to have a better status than the ones who live in the rest of the country. But alone, this does not minimise the role of the government to provide a better quality of life for their old residents. (BUFFEL, 2014)



Figure 11 –Brussels, Belgium

Source: Buffel, 2014

The awareness that the government would have to act comes with a project called Belgium Ageing Studies (BAS). With this project, it was possible to address the first steps of the WHO's programme. Firstly, it was adopted as a participatory method involving the old population of the city. Then, it was developed a senior action plan. Their main actions were regarding community-saving, most precisely in the field of organizing information about crimes that would be more susceptible to happen with older people. After this, they increased the number of guards in the city. This achievement was only possible with the help of the local police, they also made several actions regarding the safety of the elderly people. In terms of housing, they first made sure to analyse if the current houses were comfortable enough for the elderly to live there. They also encouraged new adaptations to maximise the quality of life of older people. Another interesting fact that the programme did regarding the elderly was to promote different types of housing, such as group living houses where the elderly could interact with each other. It helped to diminish the problems of sociability and feeling isolated.

In terms of transportation, their first action was to reassure that all the public transport was enough equipped for all kind of disabilities that someone may have. Then, there were many types of research regarding the demand for services with the local population. They also made sure that leaders from the elderly community would be part of plans for transportation in the city. Actions promoting traffic calming were also made, along with carpooling and car-sharing, and finally, other actions in terms of improving the walkability of the city.

The project was completed in 2009. Several factors contributed to this, including political and practical support, stakeholders, population engagement and many others. The BAS project was also made in other cities of Belgium. (BUFFEL, 2014)

### 5.3.1. MANCHESTER

Nowadays Manchester has a population of 9.6% of elderly people but it does not mean that they are not working to provide a better environment for these people. What concerns the elderly of Manchester is that most of them tend to be poor, isolated and vulnerable since most of the other old residents emigrated to other areas of the great Manchester.

In the city of Manchester activities regarding age-friendly communities started in 1993, by the European Union Year of older people. By that time, the municipality council created a multi-department office with professionals promoting a broader range of services for the elderly. In 1998, it was created the Better Government for Older people (BGOP) and then, in 2003, the Valuing Older People (VOP) partnership to accelerate the work and the development of partnerships with the elderly and other organizations. Since then, it was developed different programmes and actions regarding the old adults by them. The first programme was an engagement one as they were aware that for a plan like this to succeed, it is crucial the commitment of the population.

The Manchester Ageing Strategy (MAS) was based on the WHO global network age-friendly cities, with objectives focused more on guaranteeing the older citizens to be more active and participate more on activities. There, it was created a healthy ageing programme, a sexual health one, a training programme for alcohol and ageing and the cultural offer for older people were increased, involving 15 arts organizations to promote activities.

The old residents (figure below) oversaw all the main decisions of the programmes. Because of this, Manchester was the first city of the UK to join the WHO Global Network of Age-friendly Cities and communities, in 2010. By then, they already had staff from the NHS, local government, housing trusts, art agencies, the national charity, and a local university involved on the project. The three main points that helped them to achieve success were political leadership, local narrative and partnership strategy. (BUFFEL, 2014)



Figure 12 –Senior house in Manchester

Source: Buffel, 2014

# 6

## THE PORTUGUESE CONTEXT

Nowadays one of the main concerns that the Portuguese government has is the ageing population. As it was stated before in a brief time the Portuguese working inhabitants should redraw in number and it can bring a lot of problems for the country. So lately, the government is developing many measures to reach the population of old adults. There are many compromises between the different scales of government to contribute and to develop new policies to improve the quality of life of the elderlies, to raise awareness about active ageing and to promote solidarity between different generations. The WHO works as a guideline for all these policies, as they have to be coordinated with global actions.

In the last few years, Portugal saw a huge change in the numbers regarding different age-groups like many other developed countries. The birth rate has been lower, not assuring that the actual inhabitants figure will be kept in the next years, in this case, generating a problem for the near future. The decreasing birth rate results in a smaller population of young individuals and working-age people. As the national data sets in 2015, there were 2.1 million elderly people in Portugal, 20% of its whole inhabitants. The old-age dependency ratio reached a value of 140 old people for every 100 young individuals. On the table below is possible to see some data regarding the changes that are happening on the demographic scale in Portugal. The main cities that are developing projects and policies regarding their old populations are Porto, Viana do Castelo and Aveiro. (UNECE, 2017)

Table 3 – Portuguese Population

	2010	2015	2030	2060
Resident Population (in millions)	10.6	10.3	9.9	8.6
0-14	1.6	1.5	1.1	1.0
15-64	7.0	6.7	6.0	4.5
65 and over	2.0	2.1	2.7	3.0
Dependency ratio (65+/15-64)	28.6	31.3	45.5	67.0
Longevity index (80+/65+)	25.9	29.3	30.5	46.7
Ageing index (65+/0-14)	125.0	140.0	242.6	306.5
Fertility rate	1.4	1.3	1.3	1.6
Net Migration	3.815	-10.481	15.312	19.493

Source: INE

In the next section, the current situation of the city of Porto will be discussed to understand the environment that takes place this research. Furthermore, in the next pages, it will be possible to understand the connection between the older population and the placement of the historic centre of the city.



## **6.1. THE HISTORIC CENTRE OF PORTO**

While submitting the process to convert the historic city of Porto as worldwide heritage in the year of 1996, the following description was made to present the area to the UNESCO committee:

“At the mouth of the Douro, Porto city spread out over the hills overlooking the river and creates an exceptional urban landscape that bears witness to a history of two millennia. Its continuous growth, linked to the maritime activity (the Romans named the city *Portus*, the port), can be read in the profusion of the monuments that live there, from the Cathedral and its Romanesque apse to the neoclassical Santa Clara church of Manueline style typical of Portugal”. (UNESCO, 1998, p.3)

The area was listed as World Heritage by UNESCO in 1996. It was based on criterion IV as:

"...it presents, by its urban fabric and its many historic buildings, a remarkable testimony of the development of a European city which, during this millennium, turned to the sea to enrich its cultural and commercial relationships. The description of this heritage is an exceptional urban landscape, and overall integrity and "the authenticity of the urban fabric (...) in terms of location and setting, shapes and designs and materials and substances" (...) reinforcing the great remarkable value of this place. (UNESCO, 1998, p.6)

UNESCO (1998) also defends that it is important to protect the area to keep its identity as much as to solve the regional problems, being the most important one the depopulation of the area.

Contrary to the recommendations, there was a gradual loss of the main fabric and urban landscape of the city following by the massive demolition of ancient buildings and new buildings, as well as an increasing depopulation of Porto's historic centre. These issues are common in many old cities that are being transformed by the increasing pressure from tourists. The tourism industry intensifies the development of real estate and gentrification, transforming historic buildings into new ones with distinct needs inspired by the lifestyle of a more affluent population. The only way to deal with it is by strengthening management and protection. (PINTO & SANTOS, 2017)

In the table below, it is possible to find the evolution of entities and organizations acting in the historic centre of Porto (ICOMOS, 2018):

Table 4 – Evolution of the entities in the historic centre of Porto

Evolution of the entities in the historic centre of Porto
1974- Creation of the Comissariado para a Renovação Urbana da Área Ribeira-Barredo (CRUARB) to solve the problem of rehousing the local populations of the areas of Ribeira and Barredo.
1982 - The CRUARB is integrated in Porto's municipality. A year later, his responsibility extends to Porto's entire historic urban centre.
1990 - Creation of the foundation for the development of Porto's historic area (Fundação para o Desenvolvimento da zona histórica do Porto).
1993 - CRUARB publishes the first edition of the book "Porto a Património Mundial" presenting the city's candidacy for the UNESCO list.
1994 – CHP (Centro Hospitalar do Porto) is recognized as a special area for urban reclamation and reconversion (Area Crítica de Recuperação e Reconversão Urbanística-ACRRU). Start of the urban pilot project for the cathedral district (Projecto Piloto Urbano do Bairro da Sé).
1996 – Listed as World Heritage (December 5, in Merida, Mexico).
1997 - Porto's Historic Centre is classified on the proposal of the IPPAR as a public interest area (Imóvel de Interesse Público).
2001 - The classified zone becomes National Heritage by the publication of a framework law (Lei de Bases do Património).
2002 - UNESCO reviews the program and the operational guide for the implementation of the Convention, requiring a management plan.
2003 - Extinction of CRUARB and establishment of a new municipal structure overseeing the whole Porto's heritage area.
2004 - Formation of the entity Porto Vivo-SRU (Sociedade de Reabilitação Urbana), whose mission is to lead the process of urban rehabilitation of Porto downtown (Baixa Portuense).
2005 - Sent to UNESCO the report on the application of the World Heritage Convention. 2006 - Porto master plan publication (PDM). Extinction of the Department for the Porto's Historic Centre Rehabilitation and Conservation.
2008 - Development of the Management Plan for the Historic Centre of Porto's World Heritage by Porto Vivo, SRU. 2010 - Update of the Management Plan for Porto World Heritage Historic Centre by Porto Vivo, SRU.

Source: Icomos, 2018

As it was possible to see in the table above, the preoccupation to create entities to protect and to regulate the historical centre of the city of Porto is crucial as it has started in 1974 with the creation of the CRUAB and ever since then, it has become more complex. In the historic centre of Porto there are some levels of legislations, as it is possible to see in the table below:

Table 5 – Levels of Legislation

Levels of legislation
- International legislation: World Heritage Convention.
- National legislation: framework law of the policy and the system for the protection and presentation of the cultural heritage (Lei n.º 107/2001, de 8 de Setembro).
- Regulation of the Municipal Master Plan for Porto City (Resolução do Conselho de Ministros n.º 19/2006, de 26 de Janeiro).
- Regulatory Code of Porto City (Edição da Câmara Municipal do Porto, publicado no D.R. n.º 56, Series II of 2008-03-19 e separata ao Boletim Municipal n.º 3720, de 3 de Agosto).
- Regulations of the Master Plan for Vila Nova de Gaia (under revision).
- Masterplan - Urban and social revitalization of the Porto's downtown, written by Porto Vivo, SRU.
- Masterplan - Study of the strategic management of the priority area of recovery and urban conversion in Vila Nova de Gaia (ACRRU).

Source: Icomos, 2018

The table above represents the levels of legislation regarding the historical centre of the city of Porto. It is important to understand them, as they are the agents that should be consulted in any case of intervention in the area.

CRUARB was born as the first organization to understand all the problems and the demands of the historic centre of the city of Porto. After several decades of lack of residents and the spread of its citizens through the surround's areas, sometimes even in other cities, it was time to begin thinking about what to do to preserve the region and the people who live there. (ICOMOS, 2018)

The institution represented a big effort from the municipality to improve life quality and to preserve the identity of the space. Furthermore, the CRUARB had also an important role when the area was sent for analysis to the UNESCO committee to create the worldwide heritage area in the city.

Another important event in the time-lapse of the city's history is the Porto 2001, in which an institution was created after the extinction of the CRUARB. Their main objective was to promote changes in the city regarding the nomination as the European Capital of the Culture. There were two main solid points touched by the organization, the first one was the cultural one, and the other was the urban requalification to create the image of a cultural and developed city in Europe. There were many subprojects regarding Porto 2001 with different proposals and basements. The author states that the results were poor when someone compares them with the previous achievements of the CRUARB period. There was a lack of perspective on what would affect positively the real population. The extinction of the Porto 2001 organization happened in 2008 with the creation of SALL.

The new Management Plan divided itself into three fundamental parameters - the first related to strategic values; the second related to the action plan; and finally, the third about the treatment of two types of axes to include hard measures aiming the protection, conservation, enhancement and promotion of the area.

When it comes to the analysis of the three dimensions of the constituted new Management Plan in question, it focuses more clearly on objectives and projects that in most ways, they were already enunciated by the Porto 2001, SA. (ICOMOS, 2018)

Different authors defend that what should be effective for the historic centre of the city would be a balance made not only by the quality or relevance of the projects but also by the ability to execute them and the reflection on the need to mobilize more multidisciplinary equipment and different sources of funds for the projects. Only in this way, it would be possible to carry on with such an extensive urban reflection work as the one presented by the 2008 Management Plan. (ICOMOS, 2018; PINTO & SANTOS, 2017)

More than being an international worldwide heritage, the historic centre of Porto is also considered a national heritage area and received the designation of special protection area by the national legislation (Artigo 72.º do Decreto-Lei n. 309/2009, out of 23 de Outubro).

The legislation from UNESCO compromises that the municipality from the city of Porto should enter in partnership with smaller and regional administration organizations to create a strategy for a safeguarding plan of the historic area. Unfortunately, the author reinforces that there is no safeguarding plan, what exists is a Master Plan dated from 2008 and updated in 2010 but with no specification regarding a safeguarding plan for the protected zone. (UNESCO, 1998)

In the late years, the city of Porto has been affected by a huge demand of tourists, most precisely in the historic area. From a positive side, it reinsures the city's economy as much as it helps the regional stores but there are also several bad aspects about the effects that an overcrowded tourist place may have in its population or the urban life. Gentrification is only one of them, the old houses are bought from foreign investors and transformed into hotels, hostels or Airbnb rooms. As a direct effect from the gentrification, the local people are not able to continue living in the area, as much as the rest of the city's population are not able to afford to live in the centre of the city because the tourist prices can't be

afforded for most of the local ones. In the other hand, it is possible to see many different international brands taking in charge places that once were occupied by regional stores. The city of Porto may be suffering from an identity loss. (ALBUQUERQUE, 2019)

At the same time, one cannot dismiss the fact that most of the rehabilitation interventions in the area are renovations, changing the character of the buildings and sometimes even the architecture value of the same.

Data collected from the National Tourism Registry for Porto, from April 2009 to April 2010 registered 8 applications for tourists accommodation; between April 2015 and April 2016, the number went to 849 applications. On the Airbnb website, there are 2710 housing units in Porto. (ALBUQUERQUE, 2019)

Looking across *Rua das Flores* and its immediate surrounding area, which most is occupied by the worldwide heritage area, there are 92 Airbnb units. Albuquerque (2019) also reinforces that there is a rate of the number of hotels, hostels and Airbnb increasing regularly at the number of 20% per year.

## 6.2. THE CITY OF PORTO AND THE ELDERLY

Porto is the second biggest city in Portugal and the largest urban area in the north of the country. Closer to the Douro river, Porto is one of the oldest Europeans cities, even the name of the country comes from this region *Portus Calle*. Part of the historic centre is considered World Heritage by UNESCO, ever since 1996. After this, many changes happened in this area. It is at this part of the city that are allocated the central Parishes with a huge number of old people living there. (CMP, 2014)

According to CMP (2014), almost 30% of Porto population is made of old citizens (65 years old or more), as it is possible to state in the graphic below. Most of these people are concentrated in the centre of the city, most precisely in the parishes group of *Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Victória*. WHO also confirms that this number is going to keep growing, by the fact that the birth rates in Portugal are low and the expectancy of life keeps growing when compared with other countries.

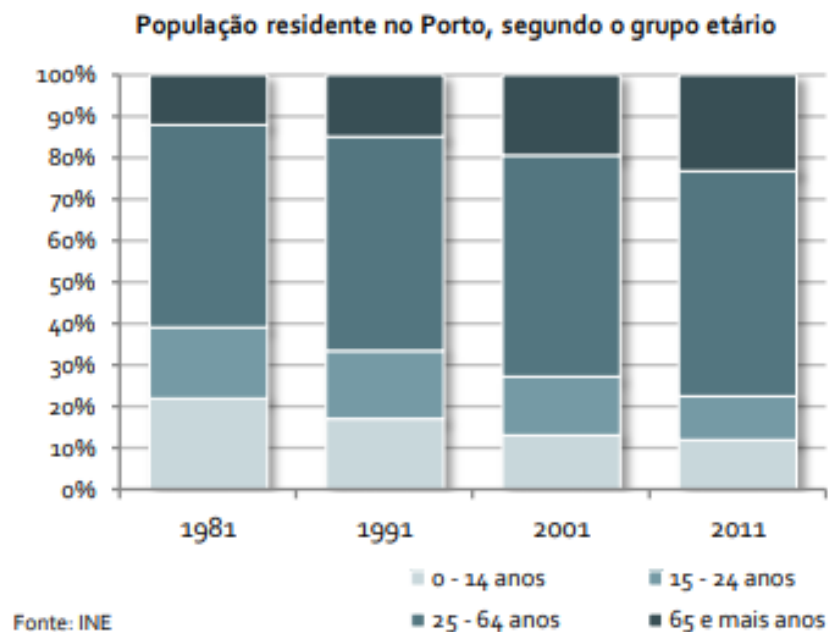


Figure 13 –Porto’s population by age

Source: CMP, 2014

It was in 2011 that the city of Porto decided to join the WHO's Global Network of Age-Friendly Cities. First, it was developed a strategic plan in a way that it would improve the quality of life of the whole community. Ever since then, the city is creating a lot of different projects regarding the population and old adults, promoting health and active ageing. Many organizations participated back in 2011 to evaluate the current situation of the old population in the city. After all, they made an action plan regarding all the data and instructions from WHO.

By that time, it was implemented a monitoring system of city life quality to understand better how the city works and implement the policies including different actions, keeping on mind the socio-spatial inequalities of the city. According to WHO (2007), assessment of the quality of life in a neighbourhood scale can generate information to help to create new policies and innovative solutions for the main challenge of the ageing population. WHO also incentive the local agents to take charge of the programmes to give a voice to the local ones. When people that are related with the daily experiences of the neighbourhoods are invited to work in these projects, they can bring lots of different perspectives that someone that is a nonlocal would never be able to think about. (CMP, 2014)

Ever since the evaluation of the situation regarding the old population happened, the municipality has been trying to find a way to integrate them in the many actions. The WHO's data states that the city of Porto is only on the first level of the process and there is still a lot to be done.

One of the most important things happening now in the city of Porto is the ageing population. The number of old individuals compared to young adults has increased a lot during the last years. What also worries, it is the fact the inhabitants of young people are diminishing. With the increase of the old population, they are starting to have a more important voice in the city.

Another important data is that the working-age inhabitants are also decreasing, the municipality also refers that it is not possible to guarantee the renovation of their population and in this way increasing the number of dependent people on the families. The reduction of young residents worries the municipality. This event is happening for decades, and although their effect is not so visible now, it will be soon. It is the so-called double ageing process, which combines the effects of the decline of young individuals with the increase in numbers of the elderly. Over the last 3 decades, Porto has been progressively losing young individuals (0-14) and winning the elderly (65 or more years old). (CMP, 2014)

At the beginning of the decade of 1980, the group of young people younger than 15 years old accounted for 22% of the city's inhabitants, while in 2011 it accounted for only about half of it (12%). The group of elderlies (65 years old or over) was only a percentage of 12% of the whole population, now it has become around 30%. The elderly people are the only number that increased from the 1980s till now. These changes on the structure of the population are resulting in a new average age between the citizens. It has grown from 38 years old in 1981 to 45 years old, in 2011.

At the same time, when someone compares Porto with the rest of the country, the average age had only reached a difference of 5 years from the previous data, so in the year of 2011 the average age of Portuguese people was 42 years old, showing that the city of Porto is increasing their old individuals populations faster than the rest of the country.

In the last inter census period (2011), the trend of negative variation of the resident population under 15 years (-7%) and a significant increase of individuals aged 65 or more (29%) remained in the Greater Porto, although it has slightly slowed down over the previous decade.

The evolution in the age structure of the resident's population in Porto increased in the proportion of the elderlies and decrease in the proportion of young people, between 2001 and 2011. A generalized behaviour in all municipalities in Portugal. A greater representation of women in the elderlies was also observed.

Evaluating the distribution of the resident population in 2011, by age groups and by gender in the municipality of Porto, it's verified that the greatest differences exist in the last two age groups (25-64 and 65 and over years old), where there is a predominance of female residents (a total of about 22,200 individuals). Between 2001 and 2011, the main difference in demographic evolution by age group and gender was in the elderly (65 years or older), which had a higher variation in the male population (11.9%). (CMP, 2014)

The analysis of the age structure of the population living in the parishes of Porto allows us to find some intra-urban differentiation, especially in the large extreme age groups. As it can be seen in the figure below, in 2011, the proportion of young people under 15 years old does not reach 10% of the population in a set of parishes, all of the central ones: *Cedofeita, Miragaia, Sto. Ildefonso* and *Vitória*. The parishes of *Aldoar, Lordelo do Ouro, Nevogilde* and *Ramalde*, where the percentage of young people exceeds 14%, appear in a more favourable situation with values above the municipality average. In the last census, there was a decrease of young residents in the order of 18% (- 6,200 individuals), and this tendency was observed in all parishes.

The historic central parishes - *Miragaia, S. Nicolau, Sé* and *Vitória* - registered variations of more than -40% of the young population, but in absolute terms these losses did not count 750 young people. *Campanhã* and *Paranhos* are the parishes accounted for about 46% of the county's youth losses in the decade (-2,864 young people), but these parishes also concentrate more than 1/3 of Porto's youth in 2011 (36%).

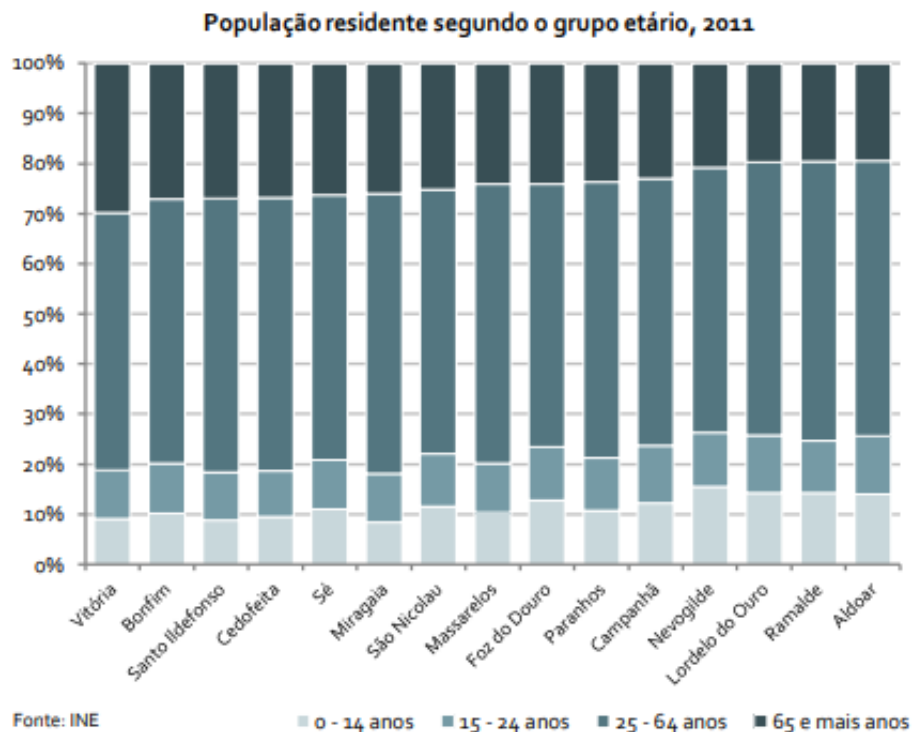


Figure 14 –Porto’s population by age and parishes

Source: CMP, 2014

In most parishes the proportion of young people was approximately 10%, *Miragaia* being the parish with the minimum value (9%). In the last decade happened a considerable loss of individuals at this age group, whose decrease of 32% represented a loss of 11,833 individuals of working age. The

parishes of *Bonfim*, *Campanhã*, *Cedofeita* and *Paranhos* figured more than 7,500 young people between the ages of 15 and 24, while in relative terms, *S. Nicolau* and *Miragaia* lost more than half of the resident population in this age group. Practically all the parishes of the historic and traditional centre are the most aged ones: *Bonfim*, *Cedofeita*, *Miragaia*, *Sto. Ildefonso*, *S. Nicolau*, *Sé* and *Vitória*. In the last 10 years, the general trend has been to increase the resident population aged 65 or over, with a relative variation of around 8% (4,080 individuals), although the rate was lower than the previous decade. (CMP, 2014)

In the graphic below, it is possible to state that between 2001 and 2011, there was a worsening of population ageing, with the reduction of young people (due to the decline in birth rate) and through the increase of the elderlies.

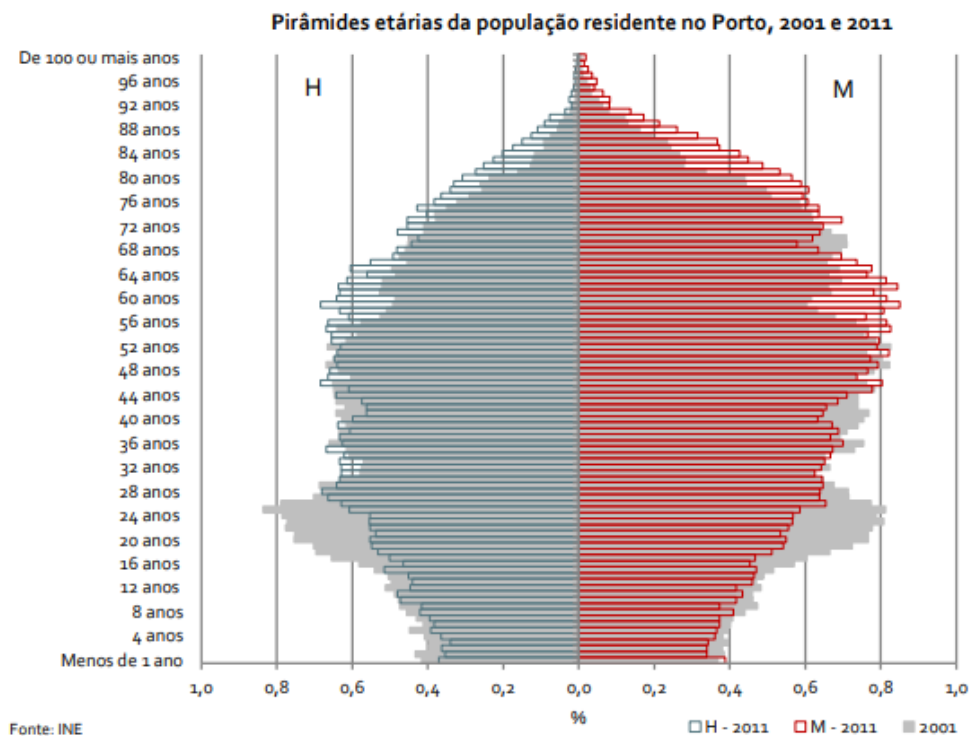


Figure 15 –Porto’s pyramid population 2001 and 2011

Source: CMP, 2014

The age groups that lost more individuals were those of the youngest working-age population: 15-19 years old (-28%), 20-24 years old (-36%), and 25-29 old (-22%), in a total of about 16000 individuals. Significant reductions in the younger age groups are also outstanding: from 0-14 years old, ranging from -16% to -21%, the last figure being that of males between 0 and 4 years old. From the age of 55, there is an increase in practically all age groups - in 2001, individuals with 55 or more years represented about 31% of the population (12% male, 19% female), it increased to 38% in 2011 (15% men, 22% women). Noticeable is the group of individuals aged between 55 and 64 years, with an increase of 8.6% over 2001, already showing the ageing of the working-age population.

The evaluation of some of the components of demographic ageing on a finer scale allows detecting the existing disparities in the city. In 2011, there was a notable concentration of areas with highest proportions of young people, representing more than 17% of the resident population, especially in areas of more recent urban occupation, in the parishes of the western zone (*Aldoar*, *Foz do Douro*, *Lordelo do Ouro*, *Nevogilde* and *Ramalde*).

With values below the municipality average (12%), there is a significant territory in the parishes of the historic and traditional centre, and in some areas of *Paranhos* and *Campanhã*, where this proportion does not reach 7%. The oldest areas of the city, where the proportion of elderly people exceeds  $\frac{1}{4}$  of the resident population, are distributed throughout the city, occupying about 44% of the municipality territory, although there is a greater representation of this age group in the most central areas, *Paranhos*, *Campanhã* and *Foz do Douro*, as it can be seen in the figure below. (CMP, 2014)

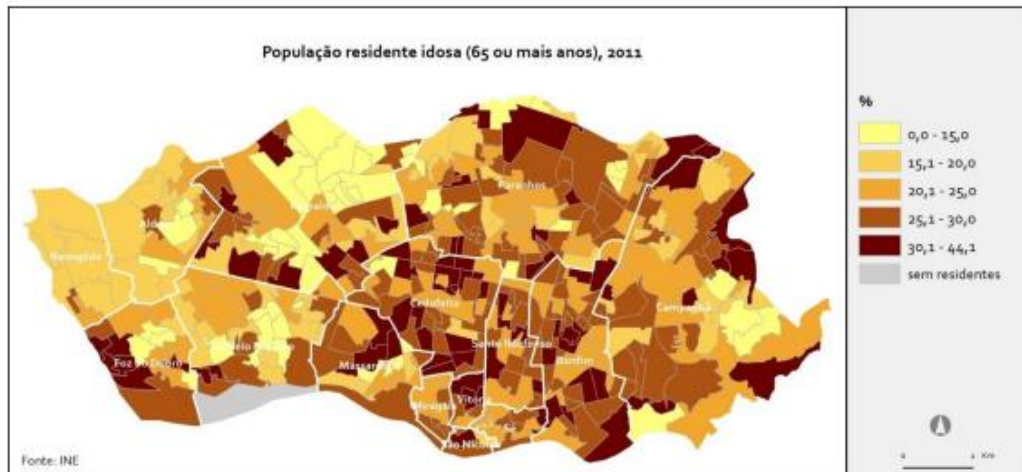


Figure 16 –Porto’s elderly population

Source: CMP, 2014

Analysing only the group of residents aged 75 years old or more, it is found that it represents more than 50% of the elderly population in 2011 (approximately 28,000 individuals). When evaluating the last decade, the evolution of the proportion of residents aged 75 years old or more in the total population age (the longevity index), we can see that this has been increasing continuously. In 2011, in *Vitória* and *Miragaia*, for every 100-elderly people, 57 were 75 or more years old, while the parishes in the opposite situation had a longevity index of 45 (Nevogilde) and 48 (Foz do Douro).

The total dependence index (figure 17) measures the level of dependence of the young and elderlies about the population of active age, including two components with divergent trends of evolution: the index of the dependence of young people and elderly.

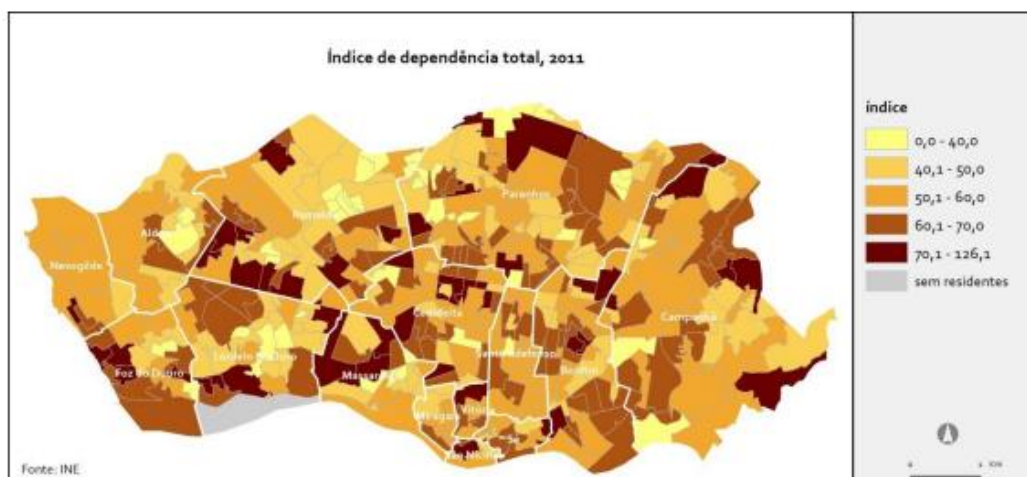


Figure 17 –Porto’s dependency ratio

Source: CMP, 2014



Between 2001 and 2011, the youth dependency ratio declined slightly from 19 young people (0 to 14 years old) per 100 active-age individuals to 18, showing already a drop in the birth rate. The elderly dependency ratio increased from 29 dependent elderly people to 36, in the same period, reflecting an increase in the average life expectancy. At the internal level, the differences between the parishes are evident, varying the total dependency ratio in 2011 from a minimum of 50 in *Aldoar* to a maximum of 64 in *Vitória*. However, the greatest asymmetries arise when the scale of analysis is increased for the statistical section. It can be observed that in a considerable number of sections (more than  $\frac{1}{3}$ ), the values reached are significantly high, where for every 100 people of active age there are 60 or more dependents. (CMP, 2014)

In sections where the total dependency level is lower, less than 40, is mostly influenced by the youth dependency index. It means that in these cases the weight of the young population is higher. It increases the difficulty of renewing the active population. A challenge that the ageing population has brought.

The Active Population Renewal Index accurately measures the relationship between individuals who are potentially entering (20 and 29 years old) and leaving the labour market (55-64 years old). In 2011 Porto had an active population renewal index of 83, which means that the municipality is no longer able to renew its active population since there are 83 young people between the ages of 20 and 29 per 100 individuals from 55 and 64 years.

Compared with other geographical areas, Porto continues to present the most disadvantageous situation, both in the regional context (Greater Porto - 92) and in the national context (Portugal continental - 93). The figure below brings the data from each parish of the city of Porto, comparing it through 2001 and 2011. (CMP, 2014)

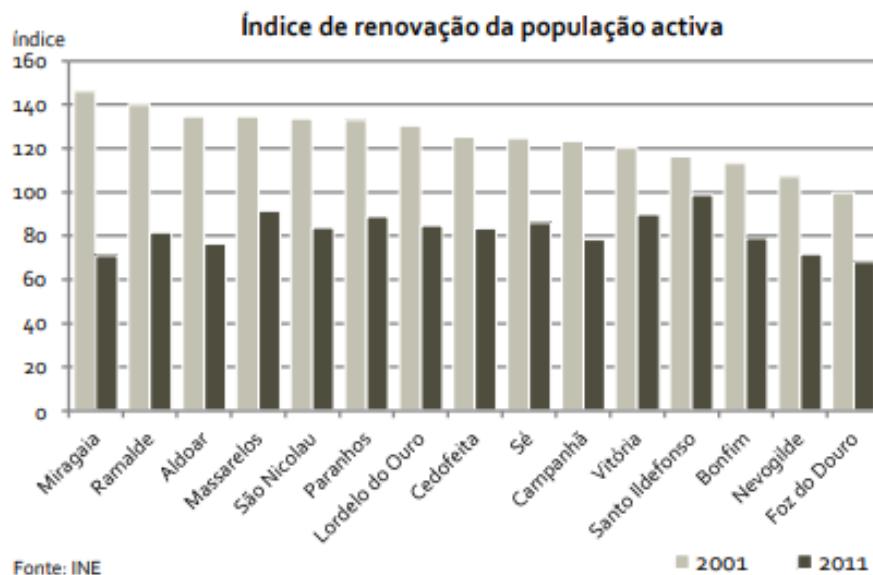


Figure 18 –Porto’s population renew

Source: CMP, 2014

The figure above represents a significant increase compared to 2001, a year in which the ratio was 126 in Porto, with all the municipalities in Greater Porto showing an even more noticeable decrease (159 in 2001). Internally, this indicator registered a generally declining trend, in which none of the parishes reached 100 in 2011, which reveals an inability to replace the active population in all parishes.

The most marked falls were observed in *Miragaia*, *Ramalde* and *Aldoar*, which in 2001 had the highest values of this indicator, passing in 2011 to be among the parishes that are in the most unfavourable situations. (CMP, 2014)

### 6.3. THE STUDY AREA

The area of study (Figure 19) comprehends the historic centre of the city of Porto, most precisely the part of it which was elected as Worldwide Heritage by the UNESCO. In this part of the city is possible to state that lives a total population of 40 440 inhabitants (2011), and a significant number from this represented by the elderly people. In the map below, it is possible to see the area highlighted in the red colour.



Figure 19 – Area of intervention

Source: Author of this dissertation, adapted from Google Earth

The topography is steep, coming from the banks of the river, where it has the height of 86 ft till the upper part where it reaches 361 ft (Figure 20). The topography works as an obstacle for the elderlies, as it may challenge the connection of this part of the city with the rest of it. As it's isolated from the rest of the region, so many of its inhabitants have to rely on the services from the local area. The topography works as a barrier for the older population, as they are not able to walk long distances at very edgy inclinations.



Figure 20 – Porto's topography

Source: [www.en-gb.topographic-map.com/maps/fy2c/Porto/](http://www.en-gb.topographic-map.com/maps/fy2c/Porto/)



As it can be seen in the map below (Figure 21), there is not a significant number of home care services for the elderly in the region. In terms of the health care system, there is only one unit to serve the population. The Hospital Santo António nearby attends a great part of the city. Although the number of health care places seem to be fair when compared with other parts of the city, they are far away from the ideal brought from the literature that everyone should have access to health care in a radius of 400 meters.



Figure 21 – Health Centre

Source: Author of this dissertation, adapted from Google Earth

In terms of commerce, the area has a wide variety of different stores, as it is also the most touristic part of the city (Figure 22). The majority of the commerce is local, and the products have good quality. Not so far from this region, in a walkable distance, there's the also the main commercial street of the city, which although is not inside the area of study, it may influence it, as it's the most crowded commercial street in Portugal. There are also markets and small fairs in the studied area.



Figure 22 – Commercial Zone

Source: Author of this dissertation, adapted from Google Earth



The accessibility of the streets is not universal, many people with disabilities may not be able to walk safely and independently through the streets, which may contribute to decreasing the quality of life. To get through the different heights from the banks of the river to the upper part of the city, there is one lift, although, unfortunately, it is not integrated with the public transport in the city, which causes that mostly the tourists use it. There are almost no ramps on the streets and no signalization regarding the blind people. Many streets have stairs due to the topography of the region and in most of the cases, there is no accessible alternative for people with disabilities. Even so, in some cases the stairs are not well preserved, endangering the life of the residents. There is a significative number of bus shelters and public transport seems to work normally as in the rest of the town.

The number of green spaces is very limited, as this area of the city is the oldest one. The ones that exist are the *Aliados* Avenue which lacks from green space, a private square with almost no green space at all and some other small squares (Figure 23). The urban furniture is not adequate, and many roads and squares have almost no urban furniture at all. The lengths of the sidewalks are tiny, forcing the local ones to walk on the streets. As a good feature, most of them are pedestrian zones.



Figure 23 – Green Area

Source: Author of this dissertation, adapted from Google Earth

There are many abandoned houses and sites. Another important factor is that the rents are above the average of the city, ever since it is a tourist region and most of the buildings are being converted into *Airbnb* and other types of accommodations for tourists (Figure 24). In this way, what happens is that the local ones are not able to pay the same prices as the tourists, so most of the elderlies residents are forced to move to other areas of the city.

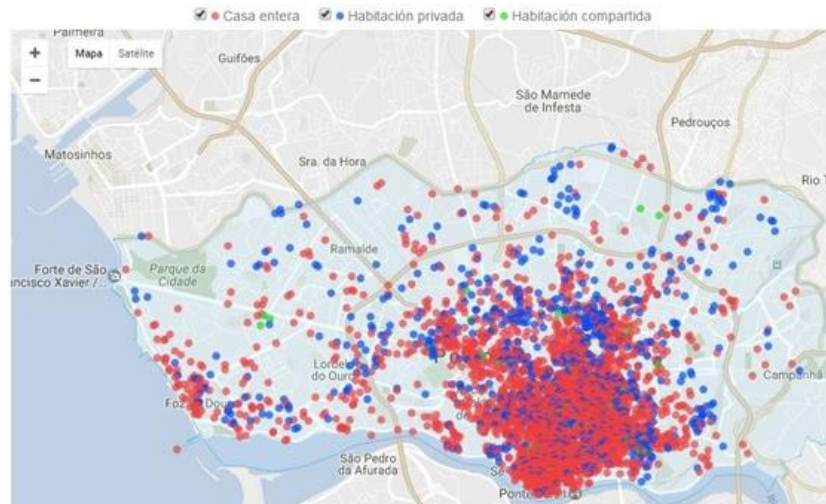


Figure 24 – Airbnb in the city of Porto

Source: [www.sabado.pt/dinheiro/detalhe/airbnb-em-numeros-e-dois-mapas-incriveis](http://www.sabado.pt/dinheiro/detalhe/airbnb-em-numeros-e-dois-mapas-incriveis)

There is no conflict between the tourists and the local population, most of them seem to live in harmony with this. Many of the residents are afraid to lose their houses for the tourists, there is no regulation regarding the number of houses that should be for the tourists and the ones that should be kept for the local ones.

Lots of families seem to be attached to the region. They are proud of being born there, as they have a strong feeling of affection regarding the place that their families live for centuries. During the last years, there were many interventions in this part of the city in terms of urban spaces, such as the *Rua das Flores*, or also in terms of private buildings, which comes to the fact of the constant noise pollution from the construction sites. In terms of criminality, there is not much to worry about, as it's not a danger zone.

In the next pages, it will be possible to see a collection of pictures that were taken by the author. These images help to understand the current situation of the studied area and the main obstacles that were found in the region for the elderly and other people with disabilities.



Figure 25 – São Bento Station

Source: Author of this dissertation





Figure 26 – São Bento Station

Source: Author of this dissertation



Figure 27 – Rua das Flores

Source: Author of this dissertation



Figure 28 – Rua das Flores

Source: Author of this dissertation



Figure 29 – Rua Mouzinho da Silveira

Source: Author of this dissertation





Figure 30 – Rua do Infante D. Henrique

Source: Author of this dissertation



Figure 31 a and b – Area of Intervention (1)

Source: Author of this dissertation





Figure 32 a and b – Area of Intervention (2)

Source: Author of this dissertation

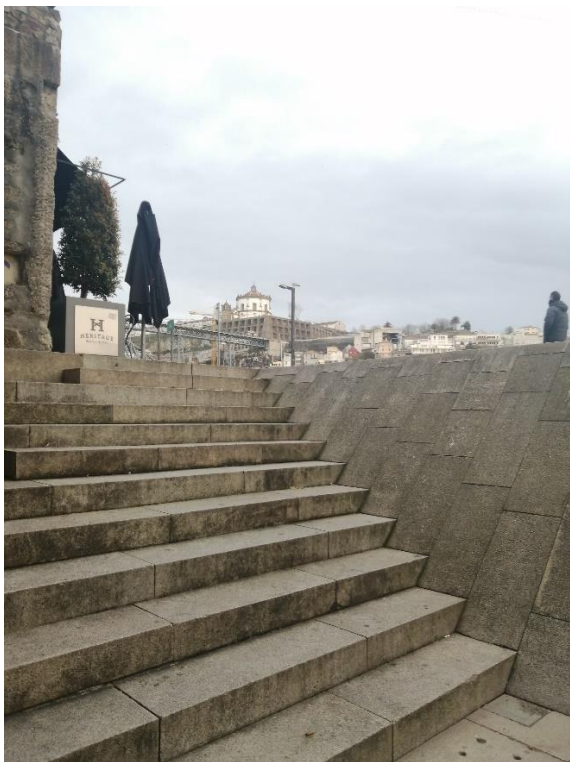


Figure 33 a and b – Area of Intervention (3)

Source: Author of this dissertation





Figure 34 a and b – Area of Intervention (4)

Source: Author of this dissertation



Figure 35 – Area of Intervention (5)

Source: Author of this dissertation



Figure 36 – Area of Intervention (6)

Source: Author of this dissertation



Figure 37 a and b – Area of Intervention (7)

Source: Author of this dissertation



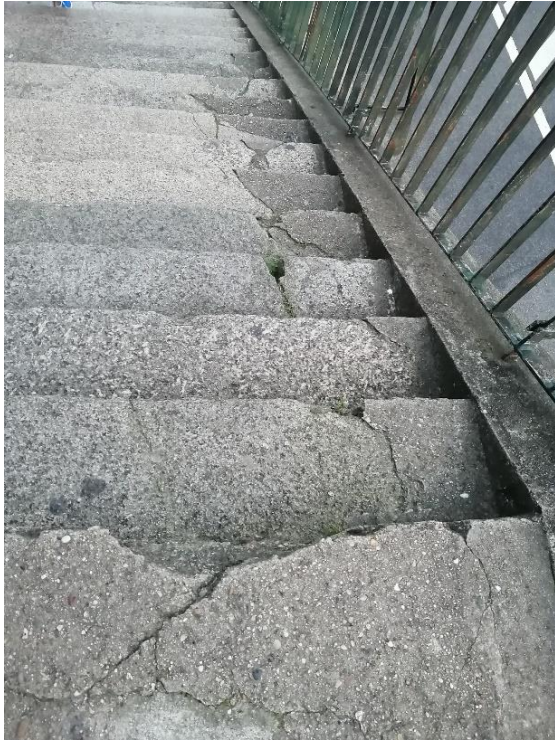


Figure 38 a and b – Area of Intervention (8)

Source: Author of this dissertation



Figure 39 – Area of Intervention (9)

Source: Author of this dissertation

After the analysis of the studied area, as a way to understand the main problems and aspects of the region, it will be possible to start drawing a line of thought to create the questionnaire that is going to be applied in the area. It is important to get to know the local population. The questionnaire will be described in the next chapter. The understanding of the area of the study serves as a basement for any intervention that may occur in the future.

# 7

## THE QUESTIONNAIRE

The current survey was implemented in the area of study and it was made by adapting the one from the WHO document from the Vancouver protocol from 2006. WHO (2007) recommends this research to be the main basis for a good questionnaire regarding the elderly and their quality of life and how to improve problems in specific communities. The questionnaire was modified to be focused on the elderly population of the historic centre of the city of Porto. The questions divide themselves into categories, confronting different topics. It concentrates more on specific themes such as outdoor spaces and buildings, transportation, housing and other social features. It was developed to be like an informal conversation to make the person who answers it the most comfortable as possible. So, it is possible to reach the most honest answers. (WHO, 2007)

The survey that was developed to be answered by the elderly in the historic centre of the city of Porto tried to adapt the questions to accommodate them to a greater variety of people. The number of individuals who answered the question was 25, all of them were people who live in the region and have more than 60 years old.

- What is it like to live in the historic city centre of Porto as an older person? Can you enumerate a few good features? How about the problems in this area of the city?
- How would you evaluate the outdoor spaces and the buildings regarding its design?
- How would you evaluate the traffic volume and the noise in the area?
- Do you think that green spaces present good quality? How would you evaluate it?
- Regarding public illumination, do you think that the region presents a good quality environment? How would you evaluate it?
- How could you evaluate the accessibility of this part of the city? Do you think that it's well designed in order to satisfy the needs of everyone?
- Do you feel safe while having a daily walking in the region? How would you evaluate it?
- How would you evaluate urban furniture, such as benches, phone boxes, streetlamps, bus stops, public bathrooms, fountains? Do you think that there are enough in number? Do they present good quality?
- Do you believe that price of public transport is fair enough for the elderly?
- Do you find easy to get information about public transport?
- The frequency of public transport is good enough?

- Regarding the rental prices in this area of the city, do you think that the local ones can afford to live there?
- Do you think that the real estate in this part of the city presents a good relation between price and quality?
- Do you feel that there is a good relationship between the local people and the tourists or neighbours from other regions of the city?
- Do you know any entity that helps the elderly to integrate between each other and with the rest of the local population?
- Have you ever been to any event regarding integration between the local population?
- How would you evaluate the quality of the health system in the region?
- Do you feel that the labour market embraces well the elderly?

All of these questions are important to understand the actual situation of the area of study. The informal approach as much as the community feeling attached to the interventions that need to happen in the place are very important. As it was stated before, no project can go ahead without the help and the approval of the community, they must be a powerful part of the process. At the same time, the local population is better qualified to understand the current situation as they live there. The questionnaire took place at informal chats on the streets and visits to places that are frequented by the local ones, such as cafes, shops and even the health care centre.

## 8

## RESULTS FROM THE QUESTIONNAIRE

From the critical analysis of the questionnaire, it is possible to understand better how the local population interacts among themselves and their thoughts about the current state of the place that they live. As it was stated before the questions based themselves in the document from the WHO guiding the main topics that should be undertaken in the current survey. These topics serve to help urban planners to understand better the reality of the area of study and to develop policies and actions that reflect the local's wishes. In the previous chapters, it was possible to understand how the participation of people is important in all steps of any package of policies that would be applied in a determined territory.

The first question (Figure 40) was regarding the relationship of the local population with the area of study. They were asked to enumerate some of the good features of the historic centre of the city of Porto. The answers were diverse but many of them tended to repeat some key aspects of this region. This question was very important to understand the population's thoughts about the place and the main aspects that should be preserved. The main streets in the area have a wide space for them to walk. Another very important feature is the architecture, not only to the local community as it is also protected as a worldwide heritage The most valued aspect was that several of by UNESCO. Another highlight mentioned was the diversity, as there are a great number of local stores, restaurants and coffee shops. The hospitality of the local ones was also mentioned alongside the good traffic and the organization of the area.

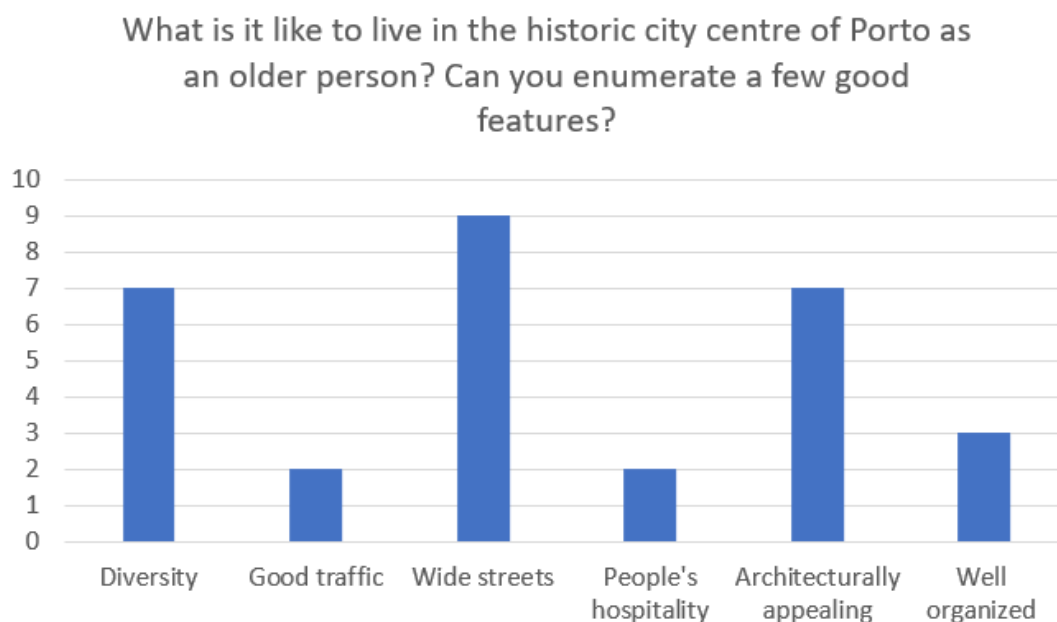


Figure 40 – Questionnaire results (1)

Source: Author of this dissertation



In contrast to the first question, the elderly were asked about the fragilities of the area too. (Figure 41) The local ones revealed what they think to be the main problems happening now in this portion of the city. Although this question may sound very vague, it is important to understand the main things that should be changed to improve the quality of life of the local population. The main problems exposed were the lack of adequate urban furniture and the fact that it's a part of the city that it's crowded as it's where most of the tourists like to stay, and not to mention being the part of the city with the majority of the famous sight-seeing. The topography seems to be also a challenge, as it has a huge difference of heights from the banks of the river Douro till the *Aliados* Avenue, it may be difficult for the elderly to get from one point to another one. Some of the local ones also complain about difficulties to drive. Many of the daily commuters tend to disrespect the rules of hygiene, throwing trash on the floor, complementing to a dirty aspect of the region. Another problem enumerated is the lack of green spaces, as it is an old part of the city, it's very dense in terms of buildings, leaving only smaller gaps to gardens and public places regarding the green spaces. Another not so common answer was the fact that some people consider the region dangerous and dark, as it should have better public illumination.

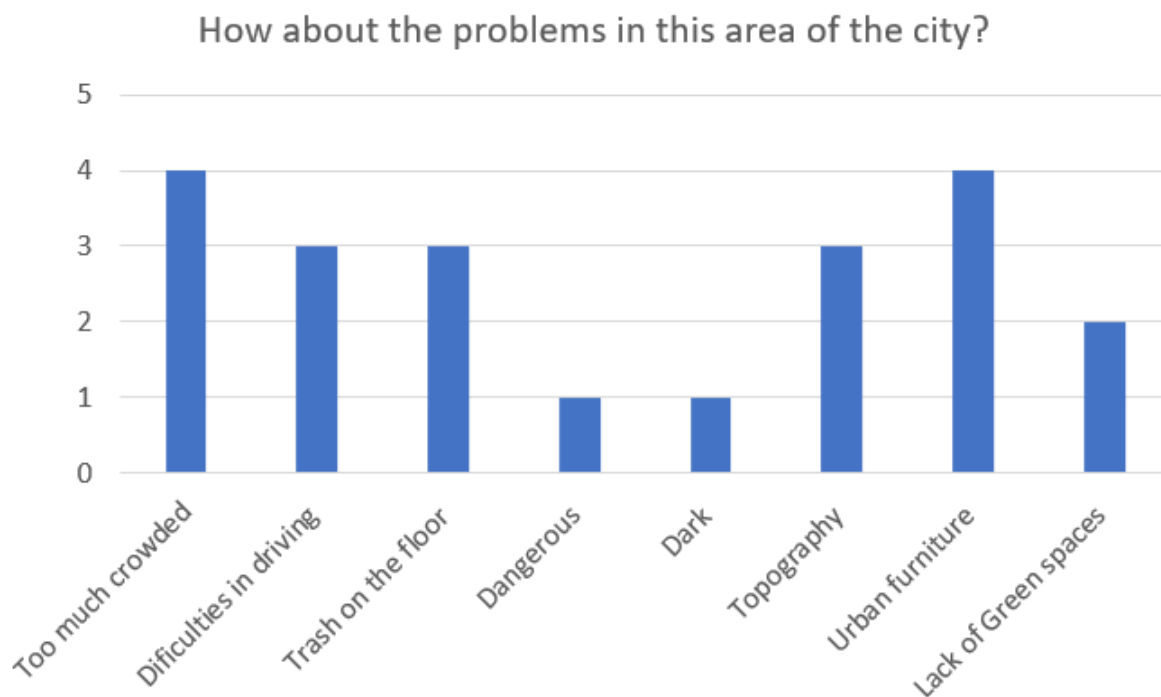


Figure 41 – Questionnaire results (2)

Source: Author of this dissertation

The next question (Figure 42) was to evaluate the outdoor areas, namely the public spaces and the buildings regarding its design characteristics. The main aspect presented during the questionnaire was the sidewalks and the crosswalks, as much as their feelings toward the new buildings and its design. Most of the people reacted to rating it positively between good and excellent, while a few of them said that the municipality could improve it.

### How would you evaluate the outdoor spaces and the buildings regarding its design?

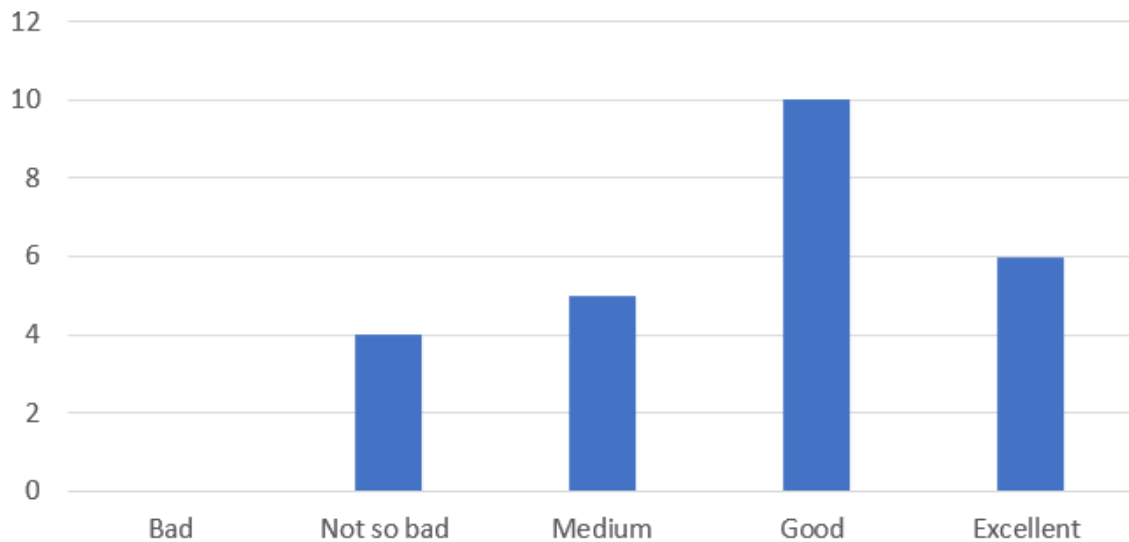


Figure 42 – Questionnaire results (3)

Source: Author of this dissertation

Following the subject, the next question (Figure 43) was regarding the local population and their feelings about the traffic volume and the noise from all the activities that happen in the region. When confronted about it, most of them said that they feel that it's not bad, and it doesn't bother their daily activities, rating it as a medium or good, while a few of them said that as the place is very crowded, sometimes the noise is too much loud and it happens to bother their daily activities.

### How would you evaluate the traffic volume and the noise in the area?

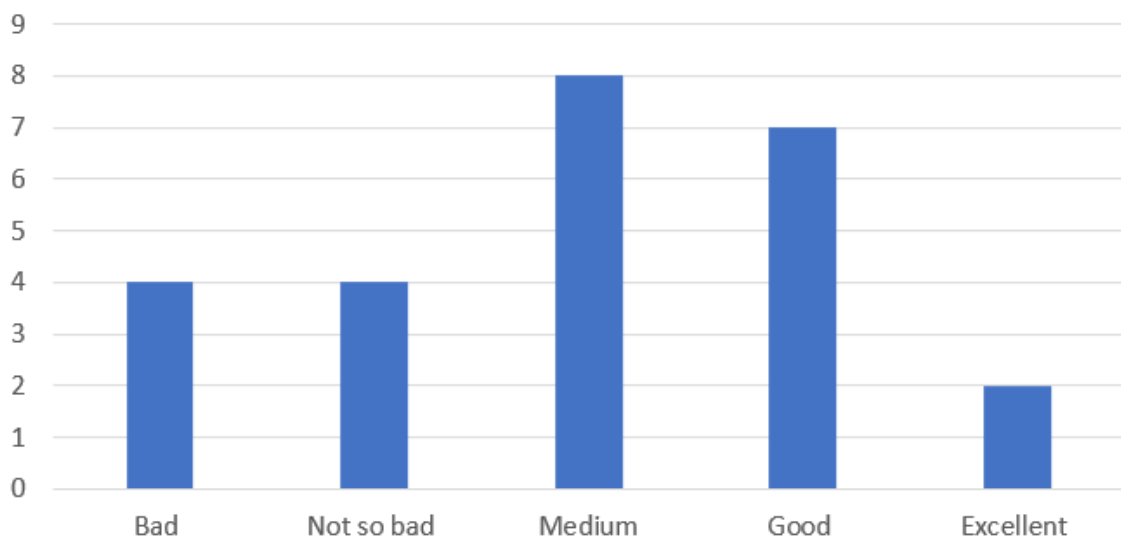


Figure 43 – Questionnaire results (4)

Source: Author of this dissertation

Regarding the existing green spaces and their qualities, people were also divided, the majority of them said that they are good and present a good standard, rating it as medium or good, some even saying that they are excellent (Figure 44). While others classified the same spaces as not so good, by the fact that it lacks urban furniture or that most of them are crowded. This question is important to understand the relationship of the local community with these spaces and to comprehend the possible reasons why some people are not using these places.

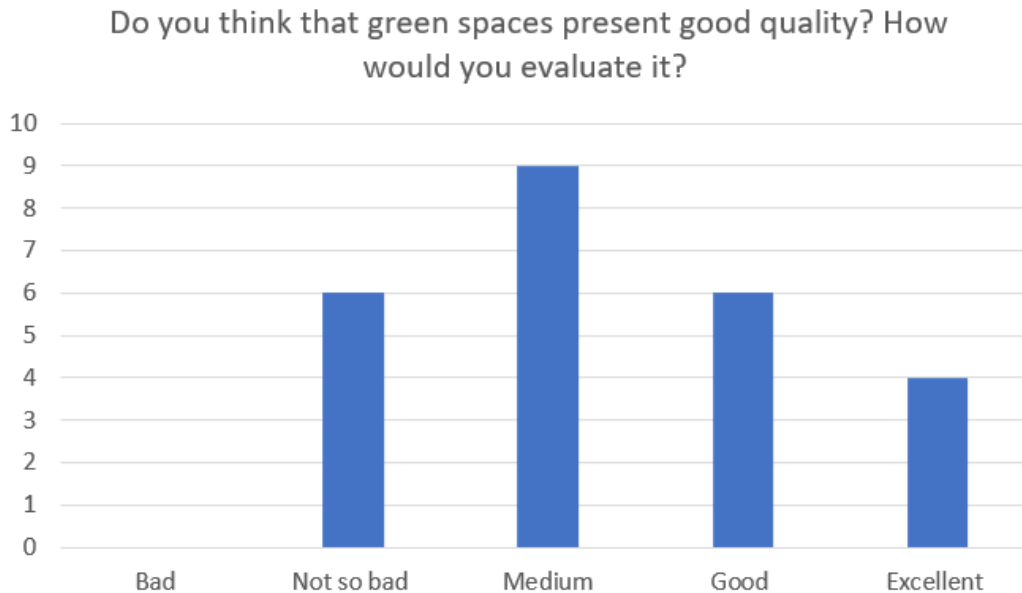


Figure 44 – Questionnaire results (5)

Source: Author of this dissertation

Another important factor tackled by the questionnaire was the public illumination and how people feel regarding it (Figure 45). Most of the individuals rated it from medium to excellent. Only a few ones described as not good enough. This aspect is important as it reinforces their safety while being outside during the night.

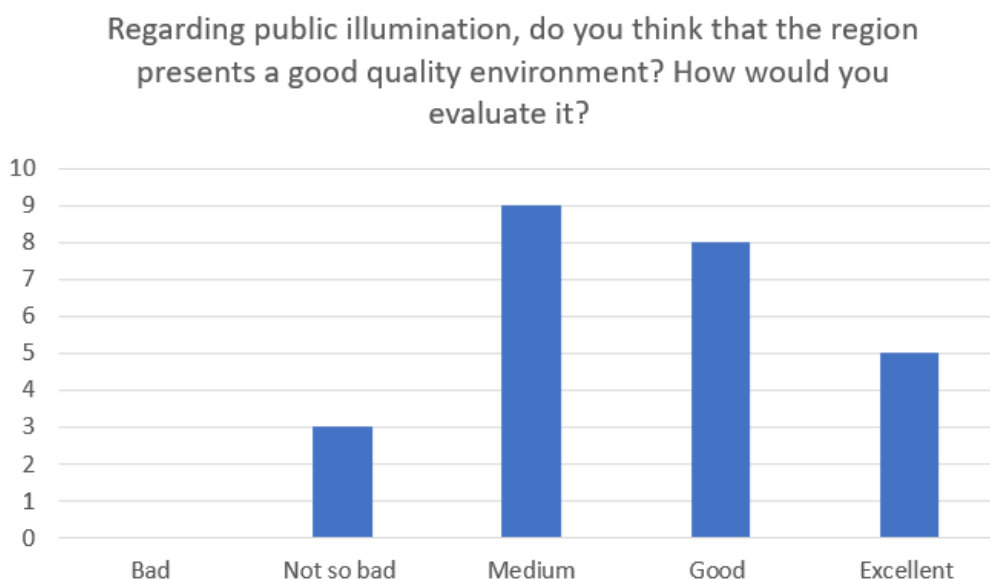


Figure 45 – Questionnaire results (6)

Source: Author of this dissertation

An important theme was the accessibility as it directly affects the elderly and the other people that may have some disabilities (Figure 46). As it was stated before, the region lacks from a good quality of accessibility which would integrate better the local community to improve their life quality and their independence, allowing the elderly to do their daily activities without the help from anyone. Most of them rated it from bad to medium, as many of the sidewalks or even the stairs and the streets lack the minimum items that would easier the daily life. There is no alternative solution for the steep topography, creating a problem for the local community.

How could you evaluate the accessibility of this part of the city? Do you think that it's well designed in order to satisfy the needs of everyone?

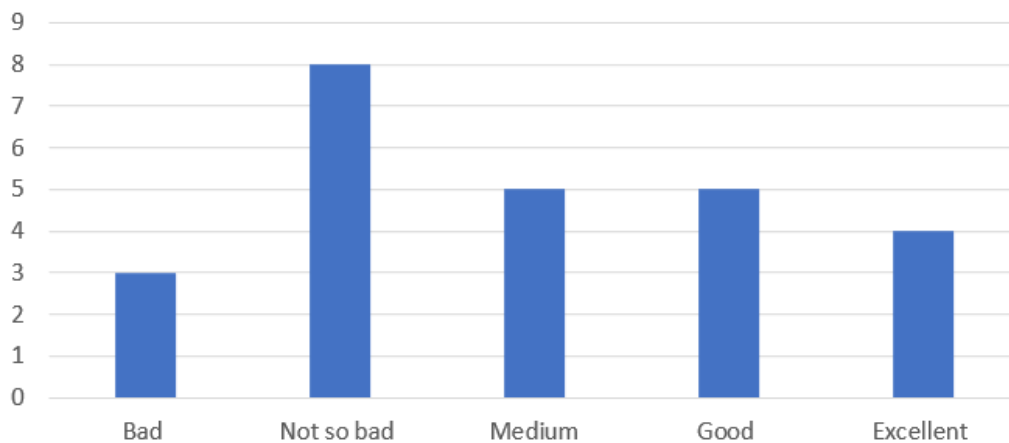


Figure 46 – Questionnaire results (7)

Source: Author of this dissertation

Feeling safe in the streets is one of the most important aspects of the daily life of anyone, in the case of the region in study, the majority of the individuals tend to feel safe, as it's a place that has not big problems regarding safety (Figure 47). The majority of people rated the area of study as a medium to excellent in terms of safety. While only a few individuals rated as an unsafe place.

Do you feel safe while having a daily walking in the region?  
How would you evaluate it?

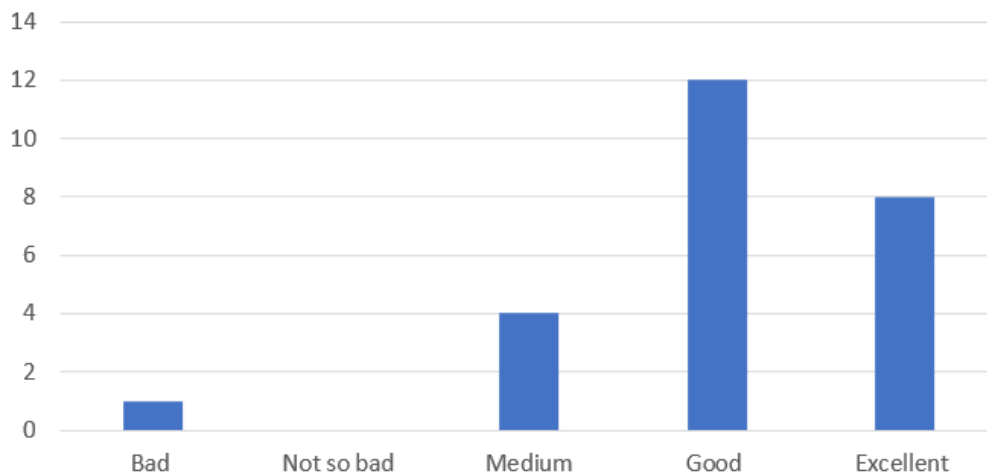


Figure 47 – Questionnaire results (8)

Source: Author of this dissertation

One of the problems enumerated by the interviewed people is the lack of urban furniture as much as the quality of the already existent ones. Most of the individuals were divided while talking about it, some of them rated it as medium to good quality, while a few other rated it as not so bad. Some of them observed that one of the problems is that the ones that already exist are good but as the place is a crowded one, it is quite challenging to use them. This question (Figure 48) is important to understand how people are using urban furniture and how to create a line of thought to reach a new approach to improve the current situation.

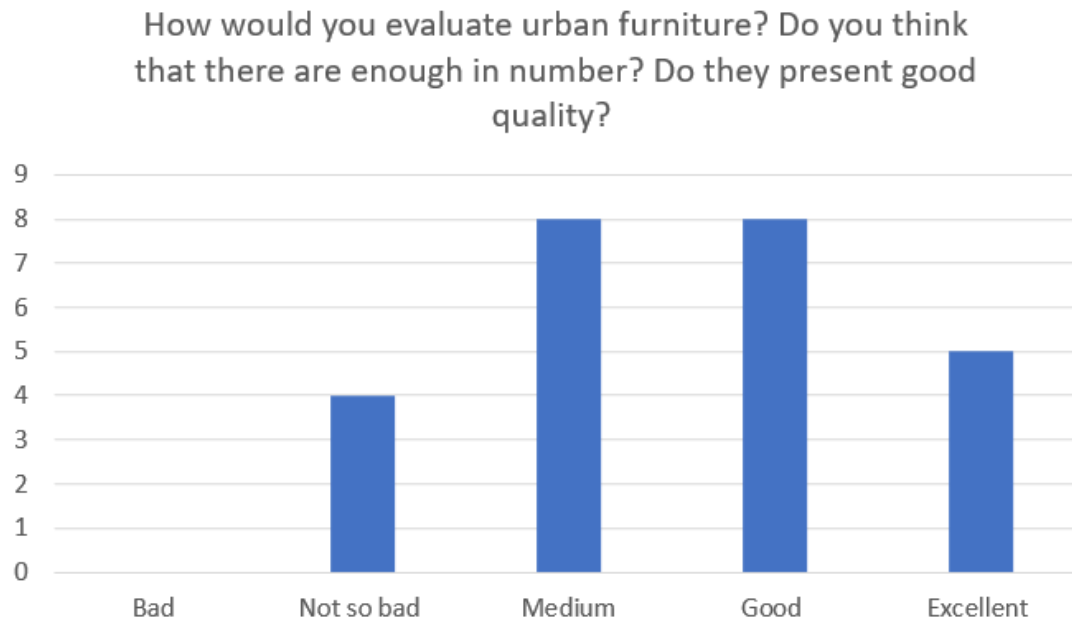


Figure 48 – Questionnaire results (9)

Source: Author of this dissertation

Understanding how public transport may affect the life of the people is also another very important part of the task, as it shows how this population may move to other spots in the city and what is the level of difficulty that they've got to use it. Many of the elderlies depend on public transport for diverse reasons, as some of the individuals are not able to drive anymore or some of them are not able to afford to have a car. The routes should be efficient, as they are the main vehicle of transport of these people, so in this case, the companies alongside the municipality must be able to create logical paths to supply the demand. The price should be fair, and the population should feel that they are paying enough for the service that they have got. In the case of the inclusion, the public transport companies should have the thought in mind that many of the elderlies have some disabilities which may turn into a difficult scenario if the public transport's information is not well written and clear enough for the elderlies to understand it. The next chapter continues to discuss the questionnaire and the outcome from the interviews, as it's important to understand better the needs of these people.

# 9

## DISCUSSION

As it was possible to see in the last chapter, the questionnaire showed many aspects and difficulties in the daily life of the local community. These aspects are important to understand the current situation of this population. Also, as a conclusion of the questionnaire, other aspects were touched while the interviews took place.

In the case of this interview, as it can be seen in the figures below, most of the people believe that they are paying enough for the public transport as much as they believe that it has the right frequency and the information is clear, many of these individuals are used to take the public transport ever since a long time before.

Do you believe that price of public transport is fair enough for the elderly?

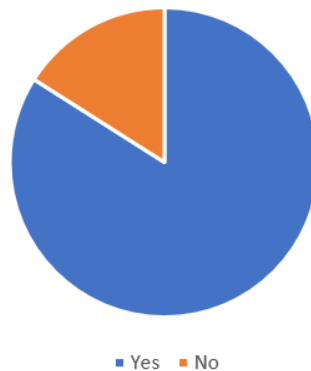


Figure 49 – Questionnaire results (10)

Source: Author of this dissertation

Do you find easy to get information about public transport?

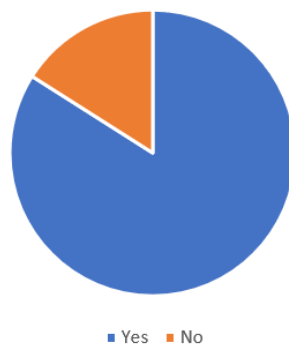


Figure 50 – Questionnaire results (11)

Source: Author of this dissertation

The frequency of public transport is good enough?

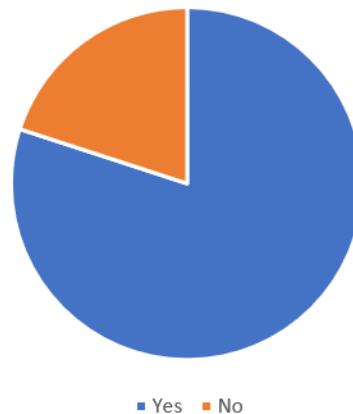


Figure 51 – Questionnaire results (12)

Source: Author of this dissertation

In regarding the rental prices most of the elderlies were clear enough to present their point of view, as the studied area has become a place of tourists and everything has changed so far, modifying a situation that has been static for such a long time. The rents and the real estate have changed alongside it. In terms of affordability, it is possible to state that the elderlies in the majority are not able to afford the newly renovated houses (Figure 52). The tourists have regulated the prices higher than the residents would be able to pay for it. In terms of excellence, a bigger part of them believe that they have got a good relationship between price and quality when compared to the other graphic, but again, as the prices have raised in comparison with the years before, the majority of the elderlies believes that they don't represent a good correlation of price and quality (Figure 53). Another important factor is that most of the houses are old buildings and for that reason, the majority of the places where these people live are old houses, and some of them were not even renovated or if they have been, it was a long time ago.

Regarding the rental prices in this area of the city, do you think that the local ones can afford to live there?



Figure 52 – Questionnaire results (13)

Source: Author of this dissertation

Do you think that the real estate in this part of the city presents a good relation between price and quality?

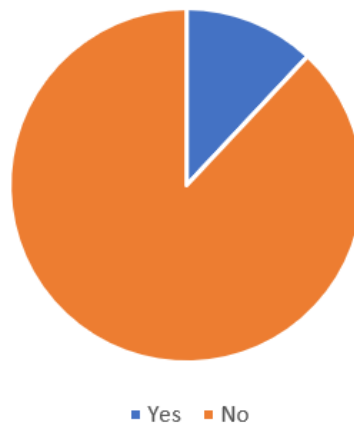


Figure 53 – Questionnaire results (14)

Source: Author of this dissertation

Even though tourism has changed a lot of the area lately, most of the people believe that there is no huge problem between the local ones and individuals from outside the area, including tourists. (Figure 54). Most of the local people are well-known for being friendly and to treat foreigners in the best way, that is another factor why the city is famous worldwide for being a good destiny for visitors.

Do you feel that there's a good relationship between the local people and the tourists or neighbours from other regions of the city?

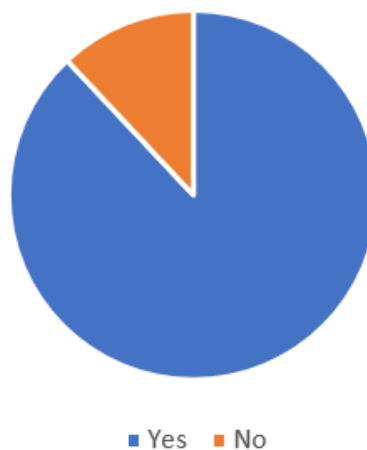


Figure 54 – Questionnaire results (15)

Source: Author of this dissertation

Most of the elderlies do not know about any institution or entity that helps them to integrate themselves with the rest of the community (Figure 55). These places are very important as they can help to break social barriers in most of the cases to improve the quality of life of the residents and to fight against isolation and loneliness. The ones that know about places like these, enumerated three



associations, the GAS Porto, the Santa Casa da Misericórdia and Centro Social da Vitória. Only one of them is in the area of study, namely the Centro Social da Vitória, all the other ones are in the surroundings, but they also act in the studied area.

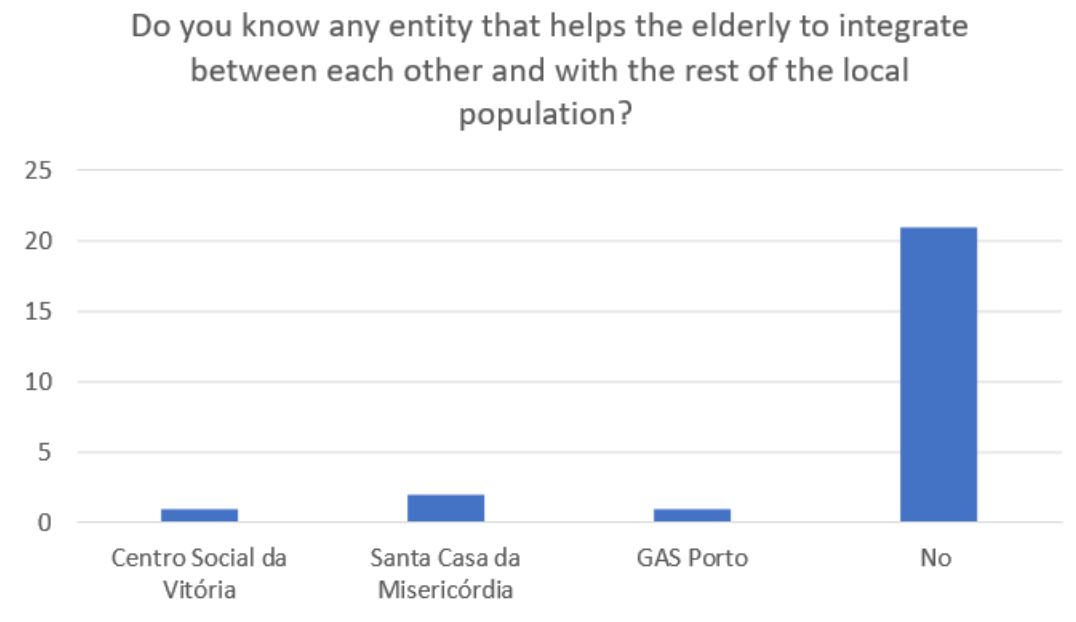


Figure 55 – Questionnaire results (16)

Source: Author of this dissertation

As a reflection that the majority of the interviewed people couldn't enumerate entities acting in the region to help the elderly to integrate themselves with the rest of the community, most of them have also never been to any event promoting the integration of the elderly with the rest of the population as well (Figure 56). These events may be failing to attract the public for the lack of publicity, or they are simply missing the right approach.

**Have you ever been to any event regarding integration between the local population?**



Figure 56 – Questionnaire results (17)

Source: Author of this dissertation

The health care system of the region is also important as it helps the elderly to achieve longevity and to have a better quality of life, helping them being independent. Most of the people evaluated it as of good excellence as it can be seen in the figure below, some even saying that it's excellent, while others said that it's of medium quality and some things should change to improve it.

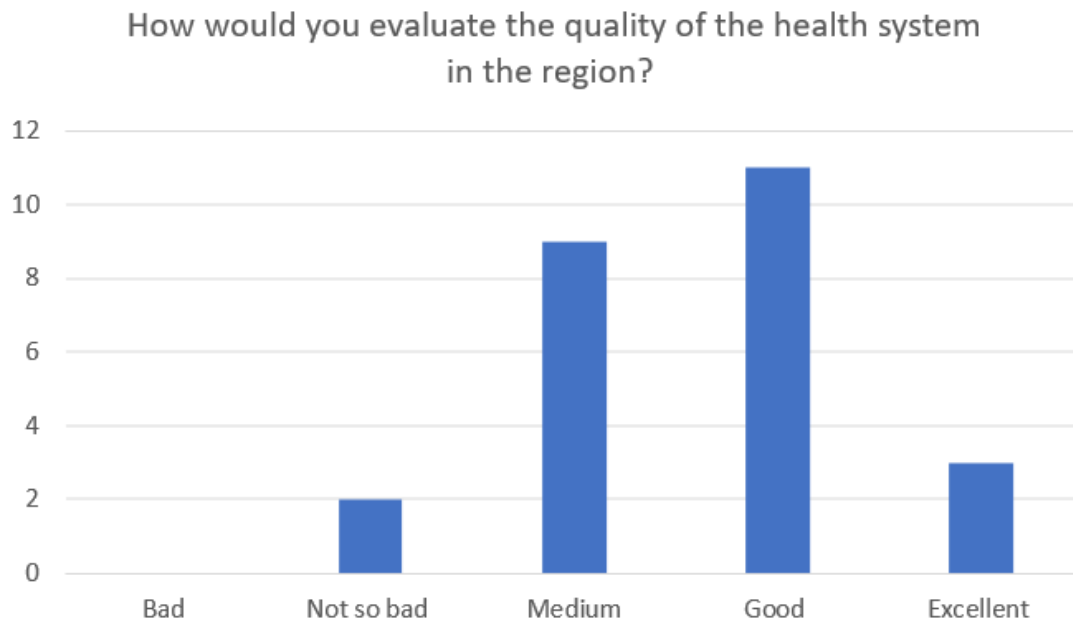


Figure 57 – Questionnaire results (18)

Source: Author of this dissertation

Another important factor is how the labour market treats the elderly, as most of these people earn small pensions that are not able to guarantee a good quality of life. When confronted with this question, the majority believes that they are not well treated and that age is a factor of importance, pointing for a scenario of ageism (Figure 58). Only a smaller part of them led to a scenario that they are well treated and have the same rights as everybody else.

**Do you feel that the labour market embraces well the elderly?**

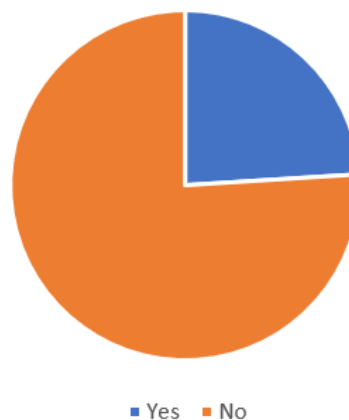


Figure 58 – Questionnaire results (19)

Source: Author of this dissertation

The graphics in the last pages served as a way to comprehend different aspects of this neighbourhood, not only in terms of physical aspects but also sociologic ones regarding the comfort of these people. Features such as their relationship with the public transport, the real state, the relationship between the neighbours and other entities, as much as their satisfaction with the health care system and the labour market, are important to be used as part of any package of measures carried by the policymakers. In this way, it will be an effective effort to create a better environment in this region of the city.

# 10

## FINAL CONSIDERATIONS

As a consequence of the last century events of the urbanization and the ageing population of many countries and regions in the world, it's important to rethink the way the governments organize themselves, and how these marginalized groups feel about the way they are treated in the urban space. The urbanization brought a new scenario to most of these individuals, the cities became more populated. Later on, thanks to the advances of modern medicine, people started to live more and alongside came the ageing population. All of this makes one thinks about the existing role of the urban planner in this environment. It is from this thought that comes the importance of the current debate presented in the previous chapters of this dissertation. The policymakers must advocate and help people to raise their voices and to be the main agents to change this world for better.

A package of policies is only efficient when it has the participation of the whole community. It is important that people feel part of the process instead of just a passive character that would simply observe the developments. Surveys, such as the one that was taken into consideration in this dissertation help the urban planners to get to know the local population and to understand how it feels to live in these regions. As a result of it, they can understand how these individuals are prepared to face a changing perspective. It is important to take in charge all the features of the daily life of these people when applying a survey. Only in this way, it will be possible to present a solution that uses different stakeholders focused on creating an AAL environment. Another important step is to get to know the area, one can only establish measures and develop them with the understanding of the region, as much as the knowledge of the legislation.

Another important aspect was to understand the national context of the elderly population in Portugal. With this thought, it was possible to analyse and to compare if the current situation of the studied area goes in congruence with the national context or if it is a very specific situation. Cases of study are also relevant as they can reveal how different parts of the world are leading with the same problems.

As in the case of the city of Porto, most specifically in the studied area, the survey that was applied and the current bibliography helped to illustrate important concepts about the legislation and other aspects. In this way, it will possible to draw a line of thought and to purpose a development package of measures to improve people's quality of life and to ensure that these individuals will be able to age in place. It reinforces the importance of a type of urbanism that is more human and focuses on people, creating a better world for everyone.

The strategy and the methodology applied in this dissertation was very important to create and to define a view for further changes in the city. The urban design and the quality of life should not be apart, they must work alongside each other to develop a better society. With the outcome of this dissertation, it is possible to develop a compact package of actions and policies to apply them in the area of the study, creating a better scenario to the local population. In the preview chapters, it was possible to understand how the local population react to their current urban environment.

As a complement to all that was mentioned before, the current research can serve as a base for future scientific investigation regarding the AAL in Portugal, most precisely in the city of Porto. It may lead to more specific discussions regarding themes that were discussed through the last pages or a bigger scenario where the whole city could transform itself into a more pleasant and comfortable environment for the elderly, and consequently for everyone.

## 11

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