# MOBI-AGE: Promoting urban mobility in ageing populations

# Contents

# 1. Project description

- **Project title:** "MOBI-AGE - Promoting urban mobility in ageing populations"
- **Main scientific area:** Sustainable Transport Systems
- **Secondary scientific area:** Sustainability and data management in urban systems
- **Starting date:** 01-09-2018 (duration- 12 months)

# 2. Institutions and their roles

- **Principal contractor:** Universidade de Coimbra
- **Participating institution:** Faculdade de Engenharia da Universidade do Porto
- **Research unit:** Centro de Investigação do Território, Transportes e Ambiente (CITTA/FE/UP)
- **Host institution:** Universidade de Coimbra

# 3. Abstract- Background

This exploratory project aims to **contribute to the promotion of sustainable mobility for the aged population.** This population, with some restrictions in terms of personal mobility, do not always have easy access to urban spaces and to the components of the transport system. If up to now the quantitative of this population could be considered balanced with that of the younger population, it is now expanding throughout Europe, with the number of people over 65 years old exceeding the number of people under 18 in many countries. The demographic pyramid in Europe shows the distribution of the 503 million men and women in the European Union (based on the EU27 countries in 2012) as a "constrictive pyramid", which is typical of societies with low fertility and mortality rates and with relatively older populations.
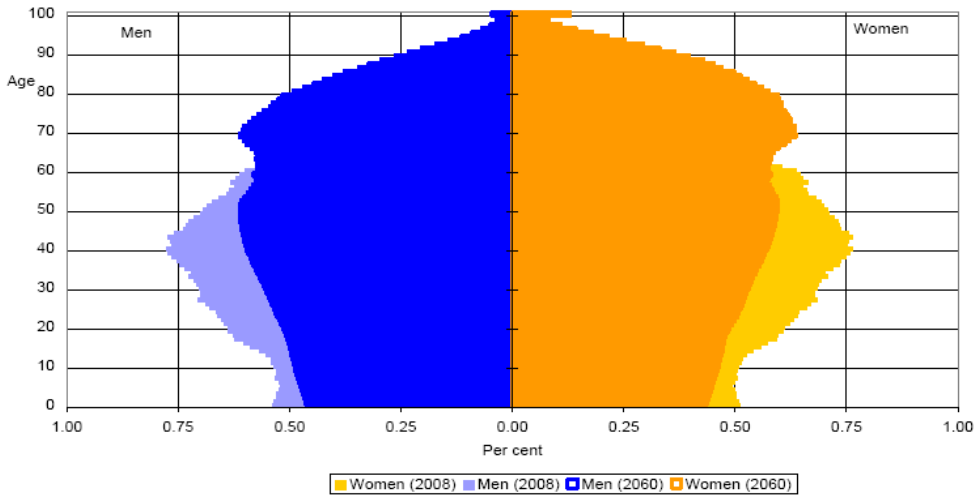
Source: Eurostat, EUROPOP2008 convergence scenario
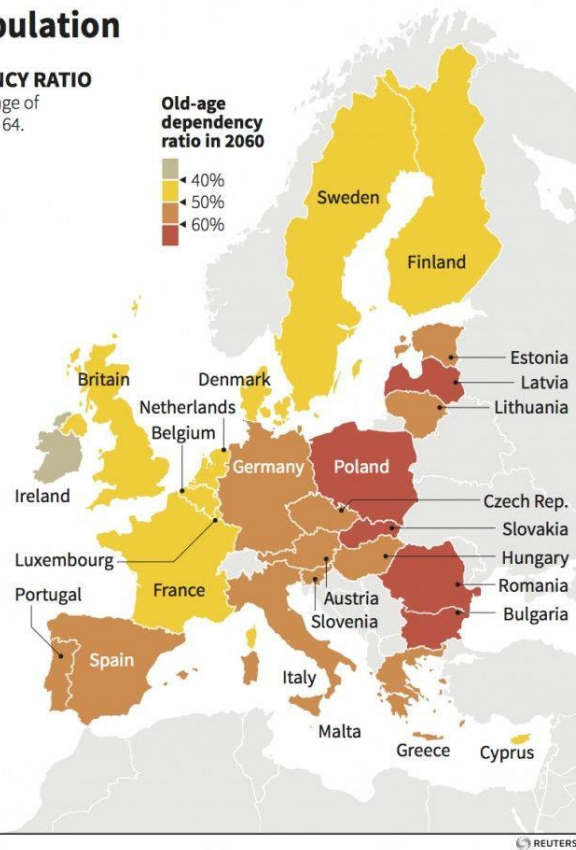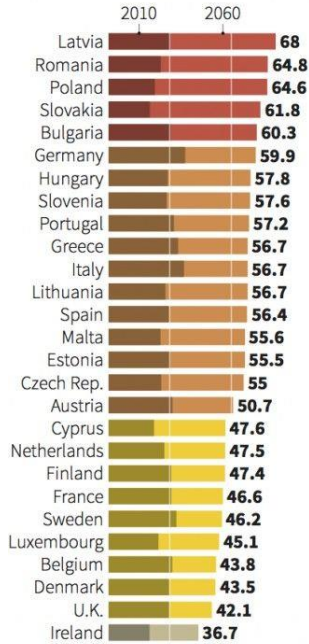
*Figure 1- Population pyramids, EU, 2008, 2060 (Source: Eurostat, EUROPOP2008 convergence scenario)*

The population aged 15-64 years is 335 million (66%), while about one fifth of the total population is over 65 years of age (100 million - 20%). There are only 78 million children aged 0-14 years old (15%).



*Figure 2- Projected old-age dependency ratio (Source: Eurostat)*

**Urban centers concentrate a good part of the population aged** in cities, that inhabit older buildings as well. By definition and in most of these cities, these areas are also areas where historical monuments and other factors of tourist attraction are located. **Senior tourism is also a consequence of the general ageing of the population** and has been increasing. This panorama makes the urban centers, especially the historical ones, as places where a greater number of elderly people are concentrated in comparison to other zones of the city, residents and visitors. It has been observed that **neither the urban public space nor the transport system are adequate**, with optimal conditions, to the mobility needs of these groups. In this way, this exploratory project focuses:

1) First and foremost, on the **bibliographical review on the adequacy of the urban space at the level of urban design and infrastructures** as regards the routes and on the pedestrian and bicycle accesses, both to the buildings and access points of the transport system;
2) On the other hand, the **literature on the mobility and accessibility of the elderly in the transport system** will also be reviewed.

Using some information from this review, two case studies (selected areas of urban rehabilitation zones - historical centers) will be studied:
- One in **Coimbra**;
- One in **Oporto**.

These two case studies will be studied in relation to:
- The characteristics of their resident elderly population;
- The areas of residence;
- Characteristics of the public space including touristic attractions;

These studies have the aim of identifying needs and failures. These processes will go beyond desk work, and will also have the objective of creating social innovation, by **holding participatory and dynamic collaboration sessions with this population**, assessing more precisely what their needs and aspirations are. A **methodology for the diagnosis and classification of historical central spaces**, particularly those that are the target of urban rehabilitation operations, will be elaborated from the bibliographical review and the evaluation work of the case studies, as to their suitability in terms of mobility inside the zones considered and between those zones and other zones of the city, for the older population, whether resident or visitor. **This methodology should inform the future development of interactive information platforms**, aimed at end-users of the

space and not only for visitors, but also for residents, which will allow them **to find solutions to their travel needs easily**.

## 4. Literature Review

The ageing of population in societies, especially in developed countries, is an important issue that cannot be studied as a problem, but rather as an opportunity. This change in the structure of population has strong impacts in the way cities, their urban spaces and transportation systems should be conceived and designed in order to accommodate and respond to the needs of older people. A key strategy to facilitate and promote more inclusive environments is to make our world more age-friendly. As stated by the World Health Organization, "An age-friendly world enables people of all ages to actively participate in community activities and treats everyone with respect, regardless of their age. It is a place that makes it easy for older people to stay connected to people that are important to them" (WHO, 2002). From the literature review, we also highlight physical access and the social network as two of the most important factors in the relationship between public space and health, particularly for elderly. However, research into specific forms of involvement of older adults with public space - including where, when and how - is limited, suggesting the specific preference search for public places such as retail stores and services, restaurants and cafes (Grant, 2003; Morais et al., 2010) cultural institutions, including public spaces in the city center, such as parks and squares (Valdemarsson et al., 2005, Michael et al., 2006).

Factors that make a public space suitable for elderly needs are numerous: adequate provision of housing and goods and daily services in neighborhoods, access to nursing benefits, suitable indoor and outdoor places of meeting, the ability to move independently and in particular a solid social network (Martinoni et al, 2009).

The definition of a method of evaluation of parameters associated with both the quality of life and active ageing will enable upstream establish behavioral patterns of healthy lifestyles, active and participatory, and that regulate the need to search for outdoor living spaces (instead of being inside their houses in some periods of the day) through the process ageing (Alves et alt, 2011). In fact, public spaces assume great importance in residents and visitor's daily life.

Regarding elderly, a physically active lifestyle requires a relationship of movement with surroundings - walking, making a key contribution to Ageing Healthy (Victor, 2010) as opposed to normal ageing. The reality is that 'access to public spaces' promotes the

improvement of individual health, contradicting: cardiovascular diseases (Diez Roux, 2003), depression (Berke et al., 2007, Kennedy et al., 2003), as well as functional capacity. The way in which public places promote the activity has been explored by studies in which the analysis changes from the individual level to the environmental characteristics, such as green spaces and neighborhoods (Frank et al., 2004). Public spaces as places of ageing, impel the act of leaving indoor spaces, being an important health promotion by the activity of older adults (Peace et al., 2006), and may be associated with the concept of "UrbAgeing".

Studies on elders living in cities demonstrate that design and availability of public spaces like shopping areas, pedestrian infrastructure, neighborhoods attractiveness, gardens and appealing elements, are the key elements associated with the increased levels of individual activity (Michael et al., 2006). Researchers found that one of the strongest environmental factors associated with better levels of physical activity results from local walking opportunities (Booth et al., 2000). Regarding common conditions of mobility, distance between destinations, walking difficulty, pavements in poor condition, lack of places to rest and insecurity or fear and lack of facilities, constitute barriers to access and mobility (Turel et al., 2010).
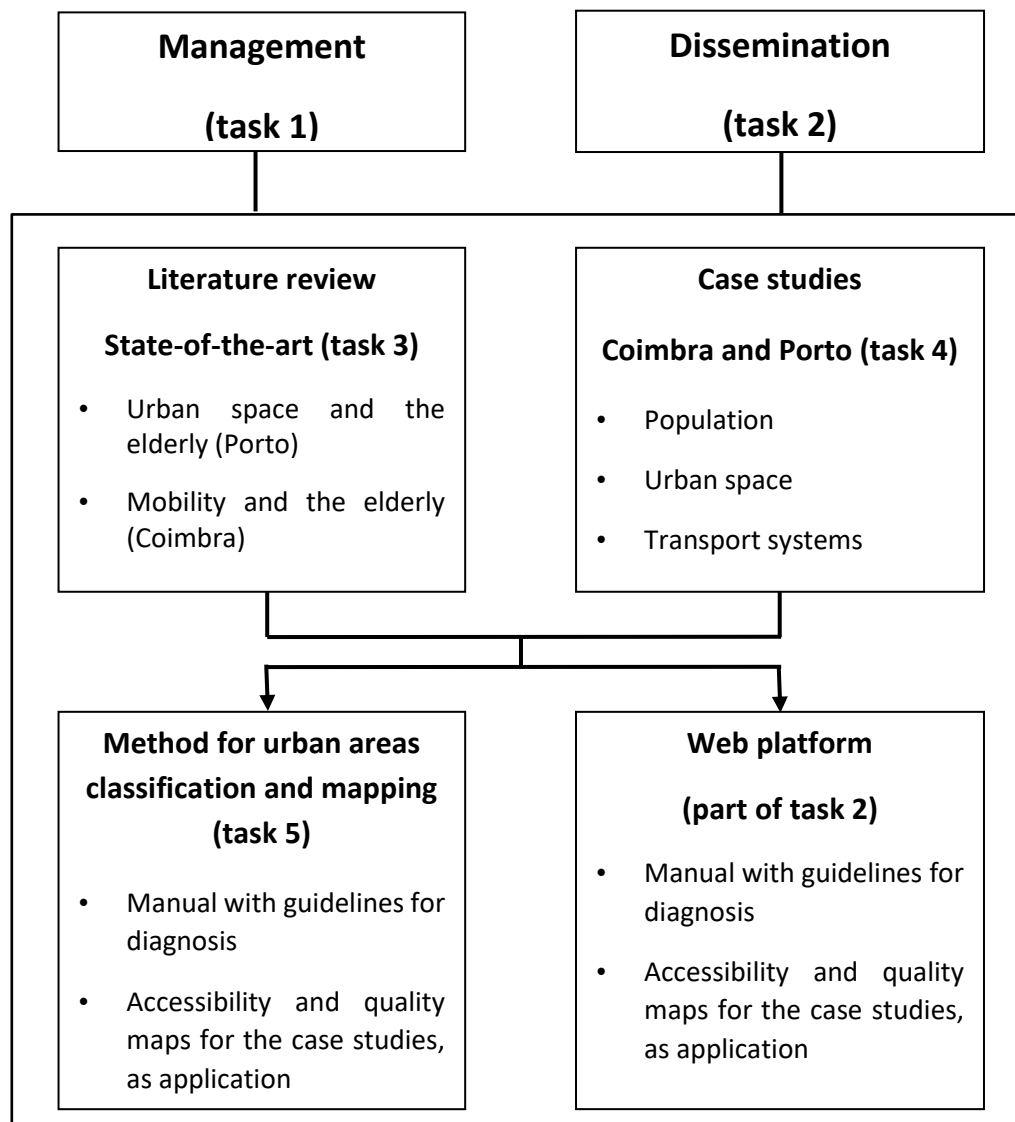
Moreover, transport mobility gains a special focus, namely in central urban zones. In these zones, although public transport systems have dense networks, they do not serve the population with older age, because the public space is not prepared to their needs to access a public transport line, or the lines that cross the zone might be not suited to their needs to access to others zones. This set of characteristic launched the concern of social integration for this group, which is getting bigger all around Europe. Older people - but also less autonomous or vulnerable groups - show distinct mobility patterns (from the common user of the system) as stated in several scientific documents (like in Haustein 2012). However, these differences are not considered in global transport policies (Lucas and Jones 2012; Harms, Bertolini, and te Brömmelstroet 2014). There is a need to develop better ways to make mobility and accessibility of these special groups more visible to decision-makers, as well as provide innovative means of transport solutions to address these needs. Moreover, there is also the need to improve autonomy and health of this group with global gains for society namely in terms of social inclusion and expenses in caring systems. In that way, to guarantee full access and easiness of mobility in urban zones for these users requires, as stated above, not only adapted transport systems but also adapted public spaces. According to Eatman and All (2016), 'living longer independently may be facilitated by an attractive and safe residential area, which stimulates physical activity'. Therefore, it is fundamental to study the association between zone characteristics and disabilities and whether this association is mediated by transport-related physical activity. This is true for the residents of these zones but it is

also fundamental for the visitors, who usually like to use the holidays as an opportunity to increase physical activity.

## 5. Plan and Methods

### 5.1 Global aspects

| Management (task 1) | Dissemination (task 2) |
|---|---|
| **Literature review** **State-of-the-art (task 3)** <br>• Urban space and the elderly (Porto) <br>• Mobility and the elderly (Coimbra) | **Case studies** **Coimbra and Porto (task 4)** <br>• Population <br>• Urban space <br>• Transport systems |
| **Method for urban areas classification and mapping (task 5)** <br>• Manual with guidelines for diagnosis <br>• Accessibility and quality maps for the case studies, as application | **Web platform** **(part of task 2)** <br>• Manual with guidelines for diagnosis <br>• Accessibility and quality maps for the case studies, as application |

Besides the common tasks of project **management (task 1)** and **dissemination (task 2)**, the project will be centered in three main tasks:

1) **State-of-the-art** with literature concerning the 'urban space and the elderly' and literature concerning the 'mobility and the elderly' (**task 3**);
2) A full elderly-driven approach with the **study of the populations, of the urban space and of the transport systems** to be tackle in the case studies (Coimbra and Porto central historical zones), also including **workshops with the population** (**task 4**);
3) Finally, it considers a **method for urban areas classification**, the so called MOBI-AGE evaluation methodology with definition of criteria for classification of areas adapted to elderly. The method developed will have as main outcome the production of a manual with guidelines for diagnosis and classification of these type of areas elsewhere (**task 5**).

This work will inform the future mapping (after the exploratory project) that includes the design of a **web-platform** with information's about the urban system (urban space design, transport facilities, activities) and information about special needs concerning all types of movements inside and in connection with the outside area, taking into account older people needs.

## 5.2    Work organization and description

Besides this global highlight on the project nature, below it is possible to find some clarifications on the 'know-how' approach in terms of plan and methods.

This is an exploratory study conducted from a line of research in urban development, related to all aspects of the mobility of the elders. It has connections with both the infrastructures and services in transport systems (mainly to be developed by Coimbra - UC) and with the adaptability of urban spaces (mainly to be developed by Porto - FEUP) to these new needs. In this way, the work plan will focus on the need to respond first to a careful review of the literature, to be extensively developed starting with the short literature presented in the previous section (task 3).

Besides the identification of the factors and conditions that are important for the quality of both the public space and the transport systems, as stated in the literature review and previous experiences, planning should respond correctly and efficiently to this challenge,

by engaging those involved in this issue, i.e. the elderly, in the conception or correction of urban spaces and the interfaces with appropriate modes of transportation. In this way one of the tasks in this project (Task 4) will be devoted to obtain from the population the information needed. In the follow-up, the case studies chosen (in the cities of Porto and Coimbra) will be evaluated and the results from literature will met the special characteristics of these areas and end-user's special needs.

To make that possible, a data collection on a selected area of the cities of Porto and Coimbra will be made, identifying: the urban characteristics of the spaces and of its activities; the transport system and infrastructures characteristics; the demographic characteristics of the older population; analyses of the elderly general needs, considering their limitations, public space limitations and transport systems limitations and regarding their mobility in public spaces and towards the areas they want to travel to; the groups involved (residents and visitors); the gaps identified by the researchers and by the population. Moreover, some workshops with the populations in these areas will be developed in order to have the adequate feedback from the end users of theses spaces, both inhabitants and visitors of an older age, which is an innovation in the process of gaps identification. This project intends to develop an innovative methodology based on a 'Citizens-centred approach' based on Harvard methodology (Dusitnanond, 2007) together with the 'Peer Instruction method' (Fisher and Mazur, 1997) in the diagnosis of urban spaces and their adequacy to the elderly, by identifying both barriers and facilitators. This collaborative learning is based on the view that knowledge is a social construct. This methodology should inform the future development of interactive information platforms, aimed at the end users of the space to optimize their travel needs, not only for visitors, but also for residents. This will be the main objective of Task 5 as previously mentioned.

As stated in literature review, research on these topics has been supported by several authors from different fields of knowledge, mainly crossing debates on planning, urban design and mobility, with the needs and limitations from aged people (from sociology to gerontology). Although the topic has been widely discussed, most of the approaches are still very top-down oriented. This team experience is crucial to build a new cutting-edge approach.

In fact, some lines of research carried out by the research team, in recent years, will be crucial for the development and success of the project:

1) On planning and ageing comprised in an international conference in 2012 (Santos Cruz, et. al, 2012);

2) On the development of a tool for decision making on the evaluation of public space, by checking urban design quality in relation to health/biophysical condition for users (Mendes & Alves, 2013);

3) On integrating the Oporto Excellence Centre on Active and Healthy Ageing, a process conducted by the University of Porto Rectorate (Reitoria da Universidade do Porto) also involving the Porto Municipality and a consortium of seven institutional members (research centers, social and civic institutions, NGO's, etc.).

Coimbra University developed several studies on sustainable mobility, namely in modelling active modes, through FTC project SOMOMUT (Soft Modes Modelling for Urban Transport (PTDC/ECM-URB/1407/2012) and some papers published on bike sharing demand and implementation (Frade & Ribeiro, 2015). More recently the PI prepared and Horizon 2020 project under the call M.G. 8.4. ('Improving accessibility, inclusive mobility and equity: new tools and business models for public transport in prioritised areas') much focused on the mobility and accessibility issues for the most vulnerable groups, namely the elderly in rural zones or dense urban zones. Some researchers in Finland and Denmark (Aalto and DTU) devoted to this matter and part of this new consortium will be called as external experts in this subject to participate in the final workshop. This work in progress opened a full line of research for the Porto and Coimbra groups (both part of the CITTA centre) absorbing the intensive scientific production in this subject for the last decade.

Based on literature review, case studies approach and team knowledge, a methodology will be elaborated, with criteria and procedures for urban areas classification and urban areas future mapping (task 5), available in an interactive online platform.

**This future interactive online platform will contain useful information on the adequacy and quality of urban spaces, as well as, preferential paths, tracks, interfaces, services, etc.** The idea is to initiate a process that can be gradually expanded in the future according to the needs and wishes of the elderly; with interactivity i.e. they should be active observers, engaged contributors, and strict evaluators when moving around urban spaces.

Task 5 will feed up future studies and eventually a second phase of this project, related with the setting of a future interactive online platform above mentioned, user-friendly, allowing elderly to use the space and to move safely and efficiently. Therefore, it is important to know previously what is the objective of the information extracted from the task 5 and for what type of maps.

The **map types** considered, to be available in that platform for the chosen areas in Porto & Coimbra - special central urban rehabilitation areas - will be mainly of three types:

1) **Age-friendly paths & transportation systems**, that comprises a comprehensive understanding of the potential paths & transportation systems for the elderly to be studied and classified in a scale of age-friendliness. A list of types of obstacles and/or difficulties will be identified and described, supporting the classification of the paths & transportation systems;

2) **Age-friendly public-social-cultural services & facilities**, - with all residential areas, cultural institutions, public services and facilities for population over 65 years old; meaning that all potential places where cultural activities, public services, events and gatherings are located will be identified. This map will have a corresponding list with description of all spots & places;

3) **Age-friendly environments & places**, that comprises a comprehensive understanding of the potential urban spaces used by the elderly; meaning that urban spaces will be studied and classified in a scale of age-friendliness. A list of types of obstacles and/or difficulties will be identified and described, supporting the classification of the environments.

Resuming, the information collected and the methodology produced in this project will be the main input for the future building of these maps, that will be conceived for special central urban rehabilitation areas as pilot areas in the city centres of the two cities.

## 5.3    Tasks- detailed descriptions

**Task 1- "Project Management"**

This task relates with the global project management. Although some of the aspects it contains are spread across other tasks management, it has the global responsibility of keeping all the tasks accomplished in such a short period of time, so it needs a rather detailed procedure. This procedure is expressed in the following sub-tasks.

*Sub-Task 1.1. Project coordination, quality and risk management*

This sub-task will be centered in the project global coordination, risk assessment and quality assurance. This task is fundamental to access at each step how this project

outcome can be directly manageable in future studies and projects. The effort putted in this study must be oriented towards the objectives and the methods defined.

*Sub-Task 1.2. Administrative, legal and financial issues*

This sub-task will be centered in administrative, legal and financial issues. The process of contacts with the population and the development of collaborative workshops stated in Task 4, must be carefully addressed according to the actors & stakeholders involved and must be adapted to their schedules and administrative and legal issues.

*Sub-Task 1.3. Case studies global coordination*

This sub-task will be centered in the case studies global coordination. This process is fundamental and apart from the processes in task 1.1. and 1.2., since the structure planning, the development and the result of the workshops must be constantly shaped to the methodology to be presented in task 5.

**Task 2- "Comunication and Dissemination"**

This task will be crucial for this exploratory project objetives: t lauch intensivly the dissemination and the debate on the subjetc of eldelrly ransport mobility in urban spaces. It conceived in the following tasks:

*Sub-Task 2.1. Information to be disseminate in media and workshops*

Due to the exploratory nature of this project, it is important to elaborate an intensive dissemination since the beginning, to guarantee a full understanding of its objectives and the accomplishment of its objectives and method. In that way that will allow the collection of reactions and opinions that will be extremely important to the development of future stages of this project. The moment it is announced its approval, a dissemination in the cities involved media and academia will be developed.

*Sub-Task 2.2. Scientific papers dissemination*

This sub-task will be centered in scientific papers dissemination. Two scientific papers will be developed during this project duration. One related with public spaces adaptation to

elderly, other related with the mobility issues regarding the same population. This is a way to guarantee full dissemination of results in the scientifc community.

*Sub-Task 2.3. Final results dissemination/Final workshop*

This sub-task will be centered in final results dissemination and final workshop. The results of the exploratory project will be presented in a final public workshop. These final results include the population aspirations and needs, the criteria and the method for area classification and the indications on how this information can be used in future mapping.

**Task 3- "State-of-the-art"**

This task will be devoted to literature review using the specialized knowledge of the two universities involved:

*Sub-Task 3.1. - FEUP*

This sub-task will be centered in literature review concerning the 'urban space and the elderly'. Some research in CITTA-Porto has already been done in recent years related to this topic. The main aim here is twofold. First, to focus on recent and innovative approaches to engage the elderly in evaluating the urban spaces, by understanding how to achieve more participative processes - identifying the main difficulties or obstacles in this engagement, the key actors and stakeholders, and in all, the most adequate approaches to the different groups of elderly (from reduced mobility to easy mobility; from the residents to the visitors or tourists). Second, to review on criteria used in the evaluation of urban spaces, on principles for the re-qualification of urban spaces, and on good practice guides with principles for creating age-friendly environments.

*Sub-Task 3.2. - UC - Coimbra*

This sub-task will be centered in literature review concerning 'mobility and the elderly'.

Review of the literature on the adaptability of public spaces to the mobility of the elderly, considering the elderly residents in the area and their needs, as well as the visitors. Some research considering soft mobility in the urban space is being developed in CITTA-Coimbra in recent years (namely though the project SoMoMUT (soft Modes modelling for Urban trips). This project was concerned with the production of a tool to evaluate the

adaptability of the urban space (between a certain origin and a destinations choose by the user and considering its personal characteristics). Based on this experience and on the growing volume of literature related with urban transport mobility of the elderly, this literature review will identify the main characteristics of a transport system that is aged-user friendly. Not only at the level of active modes but also at the level of public transport, including the infrastructures subject. Although the car is a variable in the system it will be left aside as much as possible, since elderly mobility must promote social inclusion, be efficient and contribute to the environmental protection.

**Task 4- "Elderly-driven approach: understandin..."**

This is a crucial task, driven by literature review and by the case studies populations and information it provides.

*Sub-Task 4.1.*

This sub-task will be centered in the study of the populations for the case studies.

In order to be able to establish an evaluation methodology of urban spaces, an initial preparatory phase is needed to understand the population and to collect information.

Thus, it is essential to study the elderly population; in theory, by defining different groups of elderly people, residents and visitors, but essentially according to their physical limitations in moving around the city. The objective is to establish different types from the more active and no limitations (easy mobility), till the less active and more limitations or disabilities (reduced mobility), needing for example, wheel-chairs. On the other hand, the elderly will be divided in two main categories: the residents and the visitors or tourists. Each of this category has different needs and use the urban spaces in different ways. Also, the study will already envision the case studies, in the cities of Porto and Coimbra, with a characterization of the real older population, both residents and visitors, according to their levels of agility.

*Sub-Task 4.2.*

This sub-task will be centered in the workshops with the populations selected.

Firstly, direct auscultation of the population and other stakeholders (meeting presidents, local associations,...). Different exploratory and participant-led approaches will be

developed and applied to have a direct auscultation and collaboration of the population. The main purpose is to include older adults as active observers and evaluators of the existing situation. After a selection of groups of representative elderly people, one approach is the organization of several 'go along' talks - walk-talks, cycling-talks, and transport-talks – in order to further understand the barriers and facilitators that are identified in situ. These activities should be documented with photographs, videos, track maps, etc. From the go-along talks it will be possible to produce diagnostic maps.

Secondly, another approach is the organization of collaborative learning workshops with other diverse actors (the elderly, but also other actors involved, like municipal planners, local associations, geriatric care takers, people working in day care centers, etc).

This phase should allow the understanding of how urban environments should be designed and shaped, building on participants' knowledge. Very elderly people, and anyone with some form of disability, have been among those experiencing reluctance or difficulty in being engaged in participatory processes. This is one of the challenges the project intends to overcome, to engage the elderly as active 'place-makers' and 'place-shapers', and by elderly assuming even those that are often excluded, in developing solutions to real-world problems.

In this particular case is the result of experiencing and confronting different levels of difficulty when moving around urban spaces.

**Task 5- "MOBI-AGE evaluation methodology: desi..."**

This task is also crucial and it is here that the methodology to be built will be finished.

*Sub-Task 5.1.*

Designing the methodology - This sub-task will be centered in the conception of the methodology, first with definition of criteria for the evaluation and classification of areas adapted to the elderly, and second in the overall development of the methodology. From the tasks 3 and 4 - literature review and the elderly-driven approach - it will be possible to clearly define the criteria for evaluating if urban spaces are creating age-friendly environments.

This methodology should include the definition of performance indicators and border values to classify the different spaces, giving it a "seal" of quality - 'excellency as age-friendly urban spaces'.

i.  Development of a decision support system, based on multi-criteria analysis, based on different evaluation indicators: attractiveness (spaces with shading, supporting urban furniture, barriers...); Comfort (inclines, stairs...); Security (traffic lights to support crossings with adequate time ...); Air quality (as an element of call integration). The development of new tools for direct use by users would be referred to a phase (or not admitting point 2 or a new task.

ii. Development of the decision support platform on the best alternative circuit, given the different physical conditions of the elderly (classified by groups) - Here we will use some know-how of the SOMOMUT project and make this connection.

The methodology will be designed in order to be easily adapted to a future online interactive platform. Thus, criteria and indicators should be clearly defined, with practical /illustrative examples for better understanding.

*Sub-Task 5.2.*

Applying the methodology - This sub-task will be centered in the application to the case studies, after the definition of criteria and method. The case studies should be understood as illustrative cases to validate the application of the methodology. The intention in the future is to expand the study areas and to apply in other contexts. This application should provide results of the adequacy of urban environments to the elderly, either as spaces to rest and stay, or as spaces to cross. The application will be targeting the residents and visitors, which means different needs and uses, different paths and spots.

The application to the case studies will validate the method of classification of the spaces that can allow the representation of diverse maps: age-friendly paths & transportation systems, age friendly services and facilities, and age-friendly environments and spaces.

## 6. Description of the Management Structure

The management of this project **will be led by the team of the University of Coimbra**, but at all times **in partnership with the University of Porto**. This collaboration has already started optimally at this stage of preparation of the project, with both teams contributing in an interactive and constant way to the preparation of the proposal, a model that is expected to be extensible for the development of the activities foreseen in this project in an optimized way. **Coimbra assumes the role of general coordinator and specialist in**

**issues related to mobility and accessibility of vulnerable groups of users, in particular with regard to public transport and active modes**, while the **Oporto team assumes as a specialist in the area of adaptation of urban spaces to movements and activities that correspond to the needs and aspirations of the elderly**. This team will have the collaboration of two fellows, one in Porto and the other in Coimbra, who work at the level of bibliographic revision in the areas of specialty that form this project, respectively ´public and elderly spaces´ and ´mobility / accessibility and elderly´ according to task 3. They will also work on each of the case studies in task 4. However, in order to create homogenization in the case study approach criteria, there will be a face-to-face work meeting in the third month (Global Meeting and preparation of the workshops) as soon as the review is almost complete. The workshops to be held both in Coimbra and Porto should always contain the participation of both teams. At the end of the workshops, the teams should reconvene in person to a working meeting for the evaluation of the results and for the definition of guidelines for the elaboration of the methodology. In addition to the fellows, trips within the country and the realization of the workshops, the budget contemplates also work equipment for the scholarships and trips and accommodation for the consultants to consider. The skype meetings should happen regularly to establishments of agreement in what is being developed by the two teams. The overall perspective of this management is that the project may result in a consolidated and validated methodology in situ and with the population for the diagnosis of urban rehabilitation zones in the city centers as to their suitability to the mobility and accessibility needs of the elderly, both residents and visitors. As indicated in Task 1, this follow-up of the development of the case studies will be done step by step to ensure compliance with the methodological development objectives promised in task 5. Within this framework, project management will assume the fulfillment of scientific production and dissemination expressed in task 2. While scientific production can be managed bipartite (each university produces its article), the dissemination in the media must be agreed for the production of identical project dissemination materials.

## 7. Research team

- **Responsible Researcher**

- Anabela Salgueiro Narciso Ribeiro

- **Remaining team:**

- Ana Maria César Bastos Silva

- Fernando Manuel Brandão Alves

- Sara Maria dos Santos Rodrigues da Cruz

- Inês Daniela Cardoso Ferreira Frade

- Inês Rovisco Pereira Faria da Cunha

## 8.  Scientific activity spreading actions

The actions of dissemination of the scientific activity are essential in the exploratory projects since they contribute to the preparation of the following phases. In this way, it is foreseen the wide **dissemination of the objectives of the project** as soon as it starts, **in the media and with the teams that are developing similar projects, as well as with city councils and other public entities**. These actions will continue throughout the project, and the results of each phase will be communicated, especially in the moments indicated as milestones. The wide dissemination of the beginning of the first milestone will be fundamental (meeting for the preparation of the workshops) because it will allow to gather the population to be summoned in a more participatory way. **The results of these workshops will be widely publicized in the media**. Subsequently, after the delivery of the last report, **the team will promote the results of the exploratory project to be news at national level**. In addition to these actions, **the elaboration of scientific articles** will run in parallel and **the presentation of them in national and international meetings** will be fundamental to these spreading actions. **Some actions in secondary schools and universities will also me promoted**.

## 9.  Support

- MIT AgeLab
- Joseph F. Coughlin (founder and Director of the AgeLab at the Massachusetts Institute of Technology- MIT)