



Innovative policies for improving citizens' health and wellbeing  
addressing indoor and outdoor lighting

## **Deliverable D2.1**

### **Establishing ULLs in selected target districts**

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## TABLE OF CHANGES

Annex	New section included as requested by the reviewers of the PR1, detailing the stakeholder engagements occurred by M18
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## 1 Introduction

Central to the evidence building phase of ENLIGHTENme is the establishment of Urban Lighting Labs (ULLs) in the three target city districts. As indicated in the Description of Action, Deliverable 2.1 includes:

*Establishment of Urban Lighting Labs in each of the three targeted districts, including programme of meetings and workshops, and organizational structure to sustain ULLs over the installation period. Recruitment of relevant stakeholders and community groups, secure participation of municipalities. List of the foreseen activities.*

The concept of an urban lab is to provide a structure and local identity for ENLIGHTENme activities, serving several interlinked functions in the overall project:

- qualitative social research into the lives and experiences of older citizens and their carers which can support evidence-based design and best practice guidelines for urban lighting;
- community engagement with a wide range of stakeholders to support co-design workshops leading to outdoor lighting installations and to help recruit participants for WP3 activities;
- a base for community consultation and qualitative social research assessment during the public lighting installation period.

Substantively, the umbrella term 'ULL' covers a range of activities – interviews, observation studies, design workshops, public consultations, night walks and more (see Section 5: ULL design) – that allow for research, engagement and co-design supporting conclusions about effective and generalizable urban lighting policies and guidelines. Because of the selection of cities and districts, localisation of research and design through ULLs also promotes a strong comparative dimension to the work.

## 2 Description of Activities

Deliverable 2.1 demonstrates the results of task 2.1, mainly focused on the establishment of the ULLs. This includes the selection of ULL sites, and the design, implementation and launching of ULLs that would be effective and sustainable over the course of the outdoor lighting installation period. Although Task 2.1 was scheduled to start at M12 some preparatory activities have been performed in the framework of WP1 for the establishment of the ULLs. Indeed, the selection of specific district is strongly related to the work carried out within the task 1.4 in which a short list of the most vulnerable districts in the three cities was structured according to the results of indicators and index calculations, as detailed in the next paragraph. The short lists have been the starting points for the establishment of the ULLs. Thus, this deliverable is largely focused on M8-M16 as a period of establishment to support a programme of activities from M17-M39. The activities at the centre of D2.1 will be presented under several headings representing the phases of this work: In the period leading up to the active ULL design and launch, the focus was on (1) the selection of specific districts for ULLs and of sites for lighting interventions. This overlapped with (2) setting up city teams and negotiation of local arrangements (such as data storage and analysis strategies, organizational roles, etc). City teams and scoping visits by the lead LSE researchers then formed the basis for (3) developing a 'roadmap' strategy that specified core elements of the ULL design and programme. Finally, we were able to conduct (4) baseline qualitative fieldwork and began to establish local networks sufficient to hold public ULL launch events and our first co-design workshops.

### 3 Target District Selection

Selection of a target district in each city (Amsterdam, Bologna, Tartu) required a multi-stage process that could address a range of criteria: Deliverable 1.4 gathered relevant information regarding the socioeconomic characteristics, the urban fabric and lighting systems and the health status of the population in each city by using a common and homogenous set of data and information. This was an iterative process that included both data provided by the cities and criteria for assessing the data from the standpoint of socio-economic and lighting design requirements and statistical and clinical study requirements. Beneficiaries from social research and medicine were therefore able to participate in organizing the ranking criteria through which D1.4 analysed its material. Data and assessment criteria were then processed into indices that could rank districts within each city, particularly in terms of overall vulnerability and variability, given the project's overall concern with health and well-being inequalities amongst elderly populations at district level. D1.4 was then able to provide a shortlist of candidate districts in each city that could be assessed in WP2 to identify the target districts.

Crucially for WP2, 'site selection' actually involved two selection choices that needed to be coordinated and compatible: (1) within the constraints of D1.4 rankings, selection of a city district that was suitable for establishing a ULL and could fulfil project objectives; and (2) selection of a specific site within that district that would be suitable for a one year lighting installation and could form the focus of a portion of ULL activities. The latter requirement additionally involved technical lighting audits of candidate sites, conducted under the direction of LSE, in liaison with municipal lighting officials in each city to ensure that design options took full account of existing municipal planning and existing projects, guidelines, and technical and procurement constraints (such as control systems, interfaces and equipment).

For WP2, the aims of establishing ULLs and of designing lighting installations involved selection criteria additional to D1.4 data rankings of relative vulnerability. These required background research, scoping visits and identification of and discussions with stakeholders:

- *City priorities:* in ENLIGHTENme, ULLs are based on collaborative partnerships between LSE and city teams (Section 4), that allow the matching of project requirements with city policy priorities, existing programmes and existing street lighting and urban infrastructure projects that formed contexts and constraints on ENLIGHTENme's installations. This was necessary to ensure that lighting installations would get full city backing, including potential expansion beyond what the ENLIGHTENme budget will allow. Additionally, this was essential to enrol city knowledge, networks and enthusiasm behind the ENLIGHTENme initiative. Finally, there were major differences within and between cities as to the range of participatory processes and networks to which the cities could link, with considerable significance for the ability to establish ULLs.
- *Community networks and support:* ULLs need to be established in districts with good levels of local initiative and social care networks, allowing access to and cooperation with elderly citizens and their carers. This concern also correlated with availability of

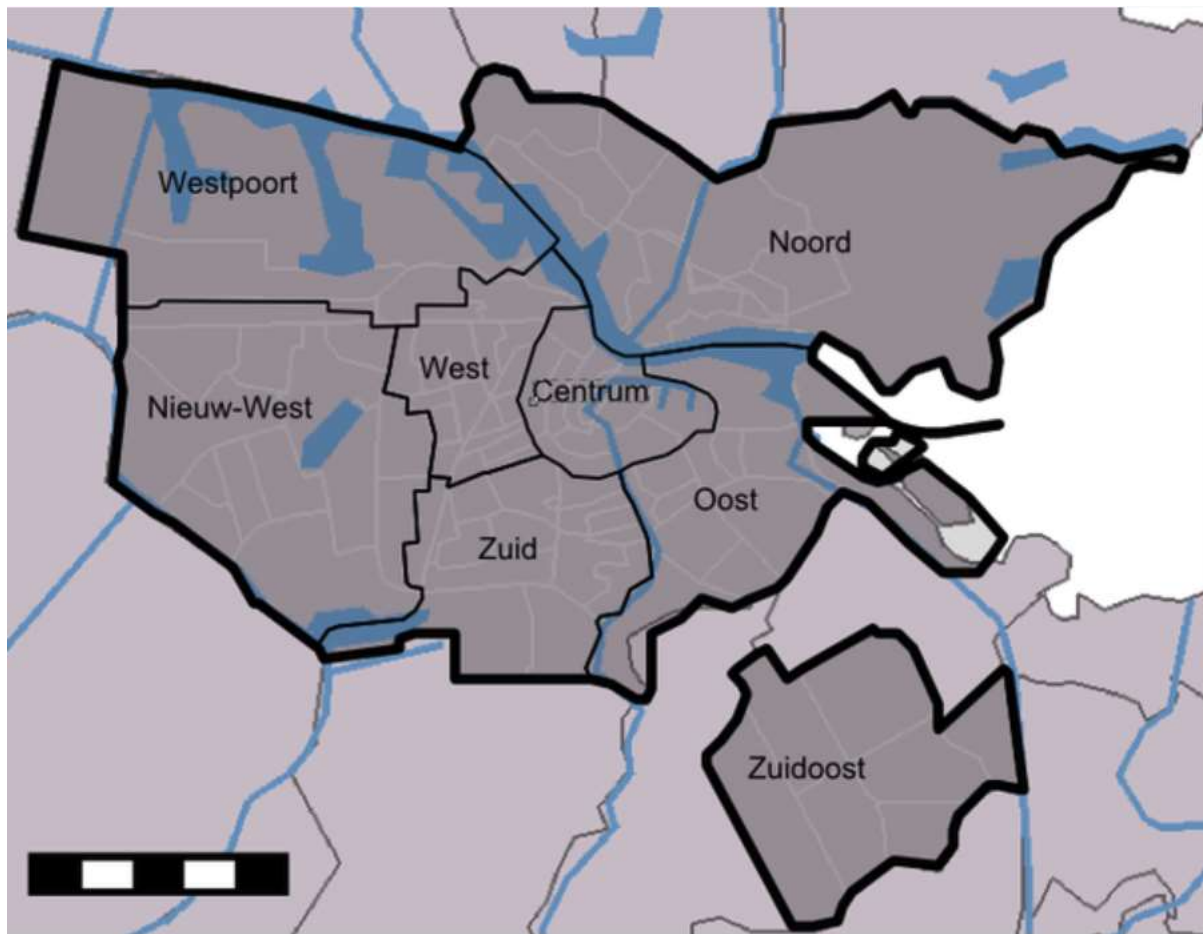
local practical facilities such as meeting venues, communications, civic society activities and organizations. Additionally, ULLs and lighting installations needed to be sited in districts that would allow exploration of locally relevant and typical issues concerning elderly populations, particularly in public space.

- *Spatial and design considerations*: selected districts also needed to contain areas suitable for lighting installations according with the budget allocated for it; to be of practical and public significance for the local elderly; likely to be highly visible and impactful because of their location and use by wider populations; linked to sufficiently mixed social uses as to attract significant traffic and allow study of a range of relevant issues (eg, mix of retail, leisure facilities, residence and transport). Site selection also needed to ensure that lighting on sites had not been recently designed or installed by cities. Finally, site selection had to ensure – based on technical lighting analyses and local observation – that (given budgetary, technical and regulatory constraints) ENLIGHTENme lighting interventions in a candidate site could make sufficient impact (in relation to contextual infrastructure) to secure investigable results.

The selection process required ongoing consultations with beneficiaries (including city partners) and local stakeholders, and site visits and baseline research by the LSE/Configuring Light team as WP leaders. The process therefore overlapped with the following phases: Establishing City Teams and Baseline Fieldwork, and it also dictated the pace of ULL design: Roadmapping.

What follows are short descriptions of the three districts and lighting installation sites that were selected.

## 3.1 Amsterdam



*Amsterdam city districts*

### 3.1.1 Overview of selected area: Wildeman, Nieuw-West

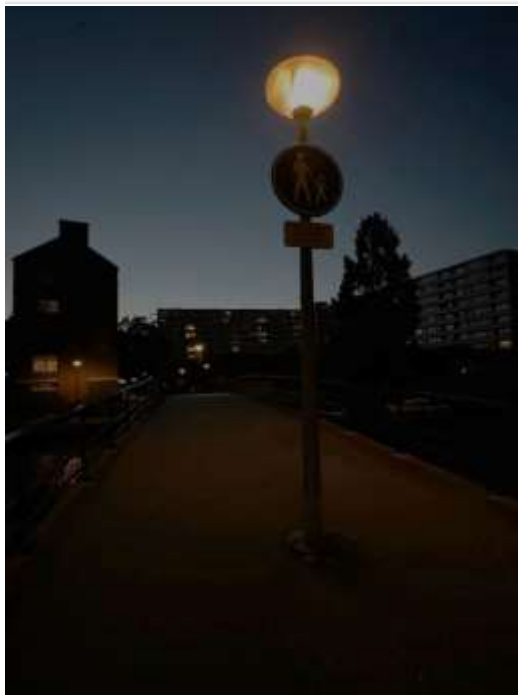
The selected district for Amsterdam is Nieuw-West, with a population of 160.124 inhabitants. It is a modernist postwar development constructed on the principle of garden cities, and is therefore comparable to our districts in Bologna and Tartu in terms of urban morphology (5-9 storey apartment blocks surrounded by green spaces) but with considerably more commercial and business use. It was part of the extension of the city to the west, including land reclamation involved in the building of Schiphol airport – the name of the district is literally ‘new West’ and it lies about 9.5 km from city centre.

The pilot area is situated in the sub-district of Wildeman, a low income and multi-ethnic neighbourhood with a population of around 5,000, 19% of whom are over 65. Crucially, at the centre of Wildeman are several large apartment blocks specifically designated for the over-55s, so there are concentrations of the elderly adjacent to our field and lighting site. Crucially, while the majority of the elderly are ethnic Dutch, the neighbourhood itself has majority immigrant populations, largely Turkish and Moroccan populations who originally came as guestworkers, and immigrants from former colonies such as Indonesia and Surinam. More recently, there have been high levels of middle class in-migration, including young families, young professionals and students.



This makes for a neighbourhood of considerable complexity which is the target of a wide range of state interventions and development plans and programmes, as well as high levels of community organization. As a site for ULLs and lighting interventions, Wildeman actually presents the prospect of studying multiple and ethnically distinct patterns of ageing in relation to light and well-being.

### 3.1.2 Intervention site: The pedestrian bridge over the Osdorgeracht



The challenge for selecting an intervention site in Wildeman was the high level of existing and ongoing redevelopment activity. The ENLIGHTENme intervention needed to fit in with existing plans yet be visible and make a public impact sufficient to investigate the effects of the intervention. The most suitable site is a pedestrian bridge that connects residential areas of Wildeman with the main commercial district of

Osdorpplein by crossing the Osdorpergracht (canal). This bridge is universally recognised by residents and visitors, is used on a routine, even daily, basis by all active elements of the population (across age, ethnicity, gender, etc), and is – in terms of material fabric – regarded as unloved, dirty, unaesthetic, merely functional. It does not even have a name or bridge number. Indeed, concerns that this is a route for drug dealers on scooters has led to the introduction of metal barriers that slow down entry and exit to the bridge, which do not make for an attractive feature. The wheelchair ramps on both sides of the bridge are likewise untidy. From a social perspective, the bridge is important as it connects the Station Wildeman neighbourhood with a major pedestrianised shopping area, frequented by older citizens. Indeed, many of the old white Dutch residents gather in the shopping precinct to play music on a loudspeaker and dance. The busy road that the bridge directly leads to connects to a very dirty, run-down passageway into the shopping precinct that would also benefit from new lighting.

The map, above, indicates in red the bridge in question. In addition, the city of Amsterdam is interested in extending the lighting strategy from the pedestrian bridge northwards to a local development site (also shown in red). Station Wildeman – the ULL community base.—is also undergoing redevelopment and has entered into discussions as to how to incorporate ENLIGHTENme findings into their lighting and public realm strategy.



*Main lighting intervention site with examples of existing lighting.*

In terms of a lighting intervention, the bridge and adjacent areas are due for upgrade and many areas fall under various redevelopment programmes. The lighting in general comprises very poor legacy technology, from fluorescent to poor colour rendering LED retrofit lamps. The lighting levels are also very low and generally obstructed by tree foliage.

Wayfinding and orientation are poor, and the area is difficult to navigate by dark. The elderly have major visibility issues and the high lighting contrast and great darkness of the area do not support elderly citizens' mobility.

The bridge is the heart of the area. The lighting system on the bridge and the surrounding area is not adequate for wayfinding, multi-user presence or mobility vehicles. There are several dark spots on both ends and in the middle of the deck. The lighting poles are not adequate to properly light the bridge.



*Existing lighting of the pedestrian bridge*

## 3.2 Bologna



*Bologna city districts*

### 3.2.1 Overview of selected area: Piazza Lambrakis, Savena

The selected district for the Bologna ULL is Savena, a suburb of the city about 14 kilometres from the centre. As with the other two sites, Savena is a modernist post-war development of 5-9 storey apartment



blocks surrounded by open spaces. It is mostly residential with some commercial property around Piazza Lambrakis, the site chosen for lighting intervention.

In terms of demographic, social and economic indicators, most areas in the neighbourhood score middle-high to high values on the demographic fragility index supplied by the Municipality of Bologna. The Savena neighbourhood has a population of around 60,000 people, with an age average of 48,7 (well above the city's average of 46,9). Average per-capita income is slightly below the average, as is the percentage of graduates and the employment rate. On the other hand, the percentage of families with per-capita income below threshold is lower than the city's average.

### 3.2.2 Intervention site: Piazza Lambrakis



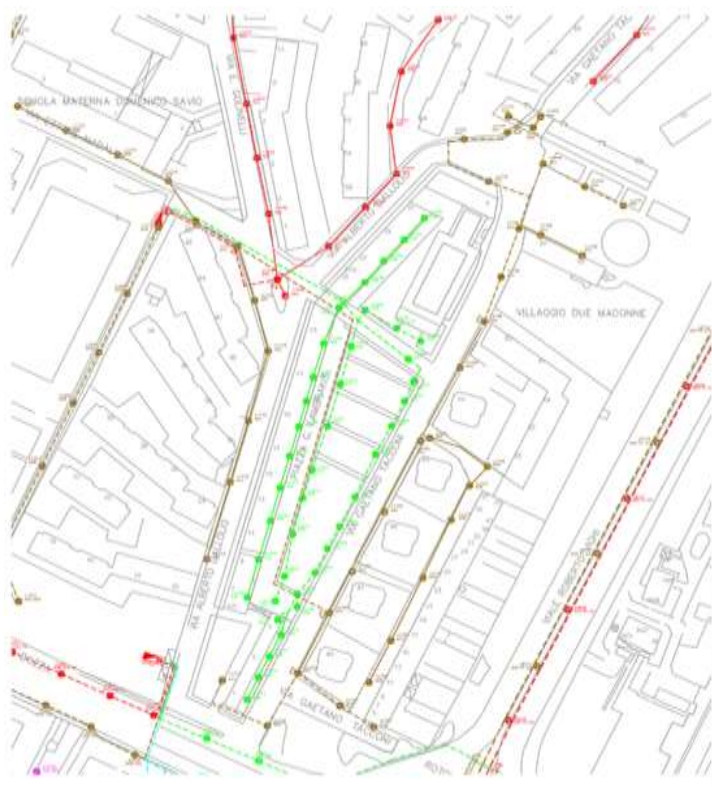
*Views of Piazza Lambrakis*

Within Savena, the area selected for the ULL and lighting intervention is Piazza Lambrakis and adjacent areas. The area in which Lambrakis square is located ('Due Madonne') had a population of 3,100

inhabitants at the end of 2020. The rectangle-shaped area is located at the north east of the neighbourhood, clearly bounded by large roads. As for the district as a whole, the Due Madonne area is a vulnerable area with high foreign population turnover, and percentage of single-parent families and health fragility above the city's average.

As a focus for a ULL and lighting intervention, Piazza Lambrakis is a rich social setting, that is busy with people and activities throughout the day and into the evening, and is both well used and highly valued by a wide range of residents (of all ages, genders, classes). It is also supported by diverse stakeholders and users: retailers, the Church of Parrocchia di Nostra Signora della Fiducia and theatre at the north end of the Piazza, and pharmacy and newsagent at the southern end. There is good retail collected in the pedestrian arcade on one side which includes a newsagent, florist, and two cafes. The area is quite defined and contained therefore easier to interact with residents. In the evenings, especially during warmer weather, the residents congregate on benches in the square to chat and play games. Our first phase of research and engagement demonstrated the presence of considerable numbers of active older citizens, many of whom have been in the neighbourhood for decades, who are well networked, enthusiastically involved in the life of the square and eager to be engaged in ULL activities.

From a lighting point of view: the square needs to be upgraded to LED but there are as yet no plans for development. This will allow the project to proceed with few constraints and predominantly in response to ULL activities. The City of Bologna confirmed their interest in upgrading the square, and willingness to regard the project as a more permanent implementation. The arcade lighting, now not part of the public lighting, could be adopted by the City of Bologna to be an integral part of the pilot. Lighting mounted on trees should be avoided as this is not usually permitted by the municipality. Adjacent streets and entrances to streets have been identified as possibly part of the pilot, depending on budget.



**Intervention area: map of existing lighting in Piazza Grigoris Lambrakis**

Piazza Lambrakis has been chosen for social and economic dynamics, but also for the existing legacy technology in need of replacement by the City of Bologna. The contrast in terms of lighting levels, and colour temperature is creating an obviously not designed and not planned urban space in need of renovation, both in terms of aesthetics and in terms of energy efficiency.

Piazza Lambrakis existing lighting is composed by three different main elements:

1. Pedestrian style columns in the square
2. Arcade ceiling-mounted lighting
3. Street lighting in all adjacent streets (Via Tacconi and Via Dallolio)



Piazza Lambrakis is lit with pedestrian-style columns. These are still legacy technology, being low pressure sodium. The lighting level is high and generally the area feels safe, but does not support any activities the citizens are using the square for (play, book club, table games, street market, ...)



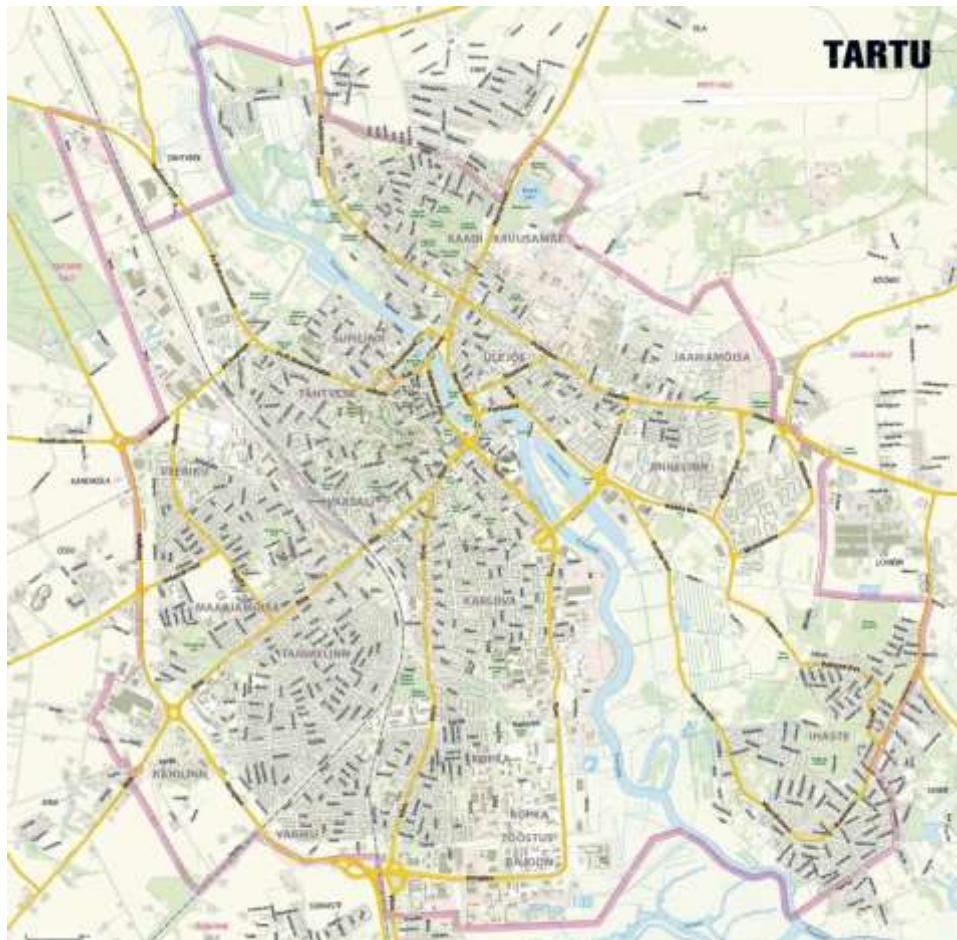
The arcade ceiling-mounted lighting consists in ceiling-mounted plastic bulkheads with fluorescent sources. This old technology is inadequate and not atmospheric. Citizens complain about being dark and not safe. The lack of activities and lit shopfronts is also problematic.



Via Tacconi / Via Dallolio have new street lighting. The recent retrofit with LED is one of the items citizens are complaining the most. The City of Bologna got complaints about low level lighting and very glary and cold white colour of light.



### 3.3 Tartu



*Tartu city districts*

#### 3.3.1 Overview of selected area: Annelinn

Tartu Urban Region is the second major economic hub in Estonia but with a long-term reputation as a culture and intellectual centre of the country largely due its venerable university. The term-time influx of thousands of students has increased demand for housing, despite overall declining city population, and is also part of a generally skewed demographic distribution.

Annelinn is the selected target district, with a population of 24.551 inhabitants. It typifies the majority of the housing stock in Estonia and the city in that it originates from the socialist years, having been built up in the 1970s and 1980s. It is the only fully master-planned Large Housing Estate (LHE) in the city. In Tartu approximately sixty percent of residents live in LHE dwellings, adding to that some further percentage of households which occupy single apartment buildings in the urban space (in-fills in the inner city rather than master-planned LHEs at the edges of the cities). The privatisation of formerly state-owned housing was launched in the early 1990s in Estonia and, by the end of the decade, almost all residential units belonged to private homeowners. Since then, the generous public subsidies that were needed to maintain the buildings and public spaces has been withdrawn. Former public tenants, without specific

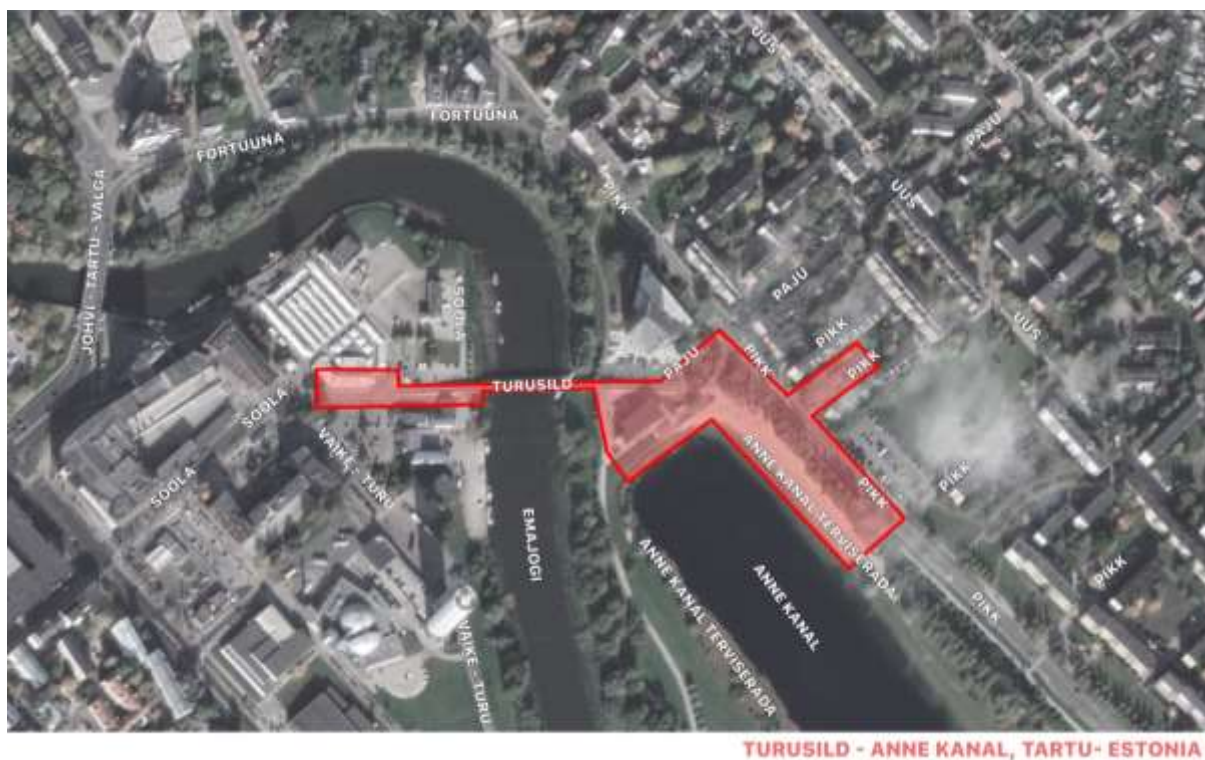
Almost a third of the population of Tartu today lives in Annelinn. The huge demand for student accommodation in the city naturally provides a demand for apartments in Annelinn, making the process



of 'studentification' and that of aging parallel trends. Annelinn is a Modernist housing estate, combining Russian and Estonian speakers: in Annelinn the figure is 29% for Russian-speakers. LHEs in Estonian cities tend to be those districts that have lost their former good (socialist-era) reputation as residential destinations. Today LHEs face selective inwards and outwards-migration. For example, newly arriving immigrants from Russian-speaking countries mostly find their first place of residence in LHEs (Leetmaa, 2017), while Estonians with a higher socio-economic status more often leave those same LHEs (Mägi et al, 2016). This makes LHEs even more Russian-dominated districts over the course of time. In Tartu, where the proportion of Russian-speakers is smaller, the life worlds of these two language groups are somewhat connected and seem to live harmoniously, with few ethnic divisions and problems.

In addition, some larger areas of public expenditure and investment have recently been made. In Tartu's Annelinn district one new, large public children's playground has been built, in 2014. Investments have been made in order to improve the green areas in these districts (such as forming a riverbank recreation area, or a beach along the Anne Canal), including the new pedestrian/cycling routes. Gradually the city intends to renew street lighting by replacing old street lamps with new, energy-efficient LED-lamps. Annelinn has always been very well connected to the city centre and other parts of the city by means of public transport. In this sector, the city's governmental authority has always maintained a relatively high level of service quality when compared to some other, less well-connected districts of the city. In subsequent years it is hoped that more investment will be directed towards connectivity within the district.

### 3.3.2 Intervention site: Turusild Bridge and Anne Kanal Rand





Site selection – both for ULL and lighting installation – was difficult in Annelinn. The modernist housing development contains no concentrations of public civic life and few amenities in the large green spaces

surrounding the apartment blocks. Similarly, the architecture, the climate and local culture do not provide the social forms that make for gathering, activity and public pedestrian traffic. It was therefore difficult to find a strong link between a civic activity cluster and a physical location where a lighting intervention would make an observable impact that could be effectively studied.

The intervention area finally selected is a multiple use space that is both highly visible and is extensively and routinely used by all elements of the Annelinn population, including active elderly citizens. Because of its strategic and historic status, the area also evokes rich associations and therefore good participation in co-design discussions and investigations of ageing issues in Annelinn.

The site is located along the Anne Kanal, a man-made body of water that is widely used for swimming (summer and winter) and for ice-based activities in winter. At one end, the Turusild pedestrian bridge, constructed in 2003, crosses the Emajogi river to connect Annelinn first to the extensive public markets on the other side, and more generally to Karlova District, the city commercial centre, and to the city heritage centre. As a result, Turusild bridge is the main pedestrian and bicycle link between Annelinn and the city. Additionally, the site along the Anne Kanal was developed as a multiple usage site, known as Anne Kanal Rand ('the beach'): the main amenities are a sauna, winter swimming area, a sandy beach/lido, children's playground, exercise/sports grounds, a river shore path that circles the canal, and a popular kiosk, as well as benches and paths.

The lighting for the case study area in Tartu, is again legacy technology in need of an update. There is a great difference between the lighting condition of Annelinn and the adjacent city centre.



The case study area is a path leading from the central shopping area to Annelinn, including a street, a public market, a bridge, a beach along the lake and a pedestrian path.

The lighting varies in terms of technology, lighting levels and fixture typology. Some of the fixtures are really old and still mounted on wood or concrete columns. The area of the beach is particularly old and not maintained.



Street lighting is generally up to date with LED fixtures. The existing lighting is merely functional and lacks completely of atmosphere, sense of place and doesn't highlight the context. Furthermore, the lighting does not support all the activities that are happening in the area and does not take into considerations the conflicts between pedestrians, cyclists and car traffic. The lighting on the bridge is brutal and the lighting level high in comparison to the context. The lighting conditions in Tartu varies sensibly from summer to winter due to the large amount of ice and snow at the ground level increasing massively the reflection and therefore the luminance of the area.



*Illustrations of existing lighting conditions in the installation area.*

## 4 Establishing City Teams

Deliverable 2.1 reports the design and implementation of organizational structures that can support social research, community engagement and co-design throughout the lighting installation phase and post-implementation research. These entities rely on COBO, FIU, AMST and TARTU CITY, which themselves comprise diverse collaborating departments and divisions, as well as needing to work with city stakeholders who are not ENLIGHTENme beneficiaries. The lighting installation aspect of ULL work additionally required integration of local streetlighting/infrastructure officials, NERI and LSE lighting design and technology team .

The overall structure of arrangements between ENLIGHTENme, LSE and COBO, FIU, AMST and TARTU CITY is similar in all three cities: Each ULL is backed by a city team that involves:

- a project manager or coordinator who liaises with LSE regularly to manage specific events (eg, workshops and public meetings); to connect the ULL, including lighting design and installation, to city departments; to jointly with LSE support the work of the research assistant.
- a research assistant (or equivalent) able to conduct social research, networking and community engagement as part of the city team.
- Regular Zoom meetings of the team or face to face site visits by the LSE team to coordinate ULL activities.
- The organization of the teams also involved data control and ethics issues with GDPR implications that have been dealt with in accord with ENLIGHTENme Data Management Plan (Del. 5.1) which provides details about the final arrangements.

The three ULLs share this basic structure but also require some bespoke arrangements in relation to specific local conditions. Some of these are detailed further as they affect ULL design and plans, below, but as concerns city teams there are a few significant differences that impact ULL development:

- *Amsterdam*: Nieuw West in general, and Wildeman specifically, are the focus of a wide range of public development programmes and local initiatives. The complexity of active stakeholders is compounded by large ethnic populations with their own organizations and networks. ULL structure and development involves building long term connections and maintaining communications with other initiatives. An example is the close connection between the ULL and a local community initiative – Station Wildeman – which is a kind of community hub for social enterprises, several of which are also directly involved in this ULL.
- *Bologna*: City team structure is largely driven by a collaboration with both COBO – contributing welfare, community well-being and public works expertise – and FIU, which contributes community engagement and participation expertise.
- *Tartu*: Because of a relative lack of civil society activity and organization in Tartu, city team development has focused on establishing the involvement of a range of city programmes, including social care and educational and library services, with stakeholders often joining in city team meetings and zooms.

## 5 ULL Design – Roadmapping

The aim of Task 2.1 has been to design and establish entities – ULLs – that could deliver the requirements of WP2 (research, engagement and co-design) effectively and sustainably over the course of the preparation and installation of public lighting up to the post-implementation research at the end of the installation period. At the same time, a ULL needs to be a localised entity. The ENLIGHTENme cities involve different organizational, political and regulatory regimes; different socio-economic conditions for older people and their carers; different spatial and urban design and planning arrangements; and different patterns and cultures of aging between and indeed within each city.

Designing ULLs was therefore seen as a ‘roadmapping’ exercise which needed to bring together general principles and local adaptations. The general parameters have been firstly presented to the cities as they appear in the ‘Roadmap’ document, which is included as Appendix 2 at the end of this document. The Roadmap document was the result of several months’ engagement with the diverse localities and their city teams, and it has been (and will be) through many iterations.

### 5.1 Roadmap

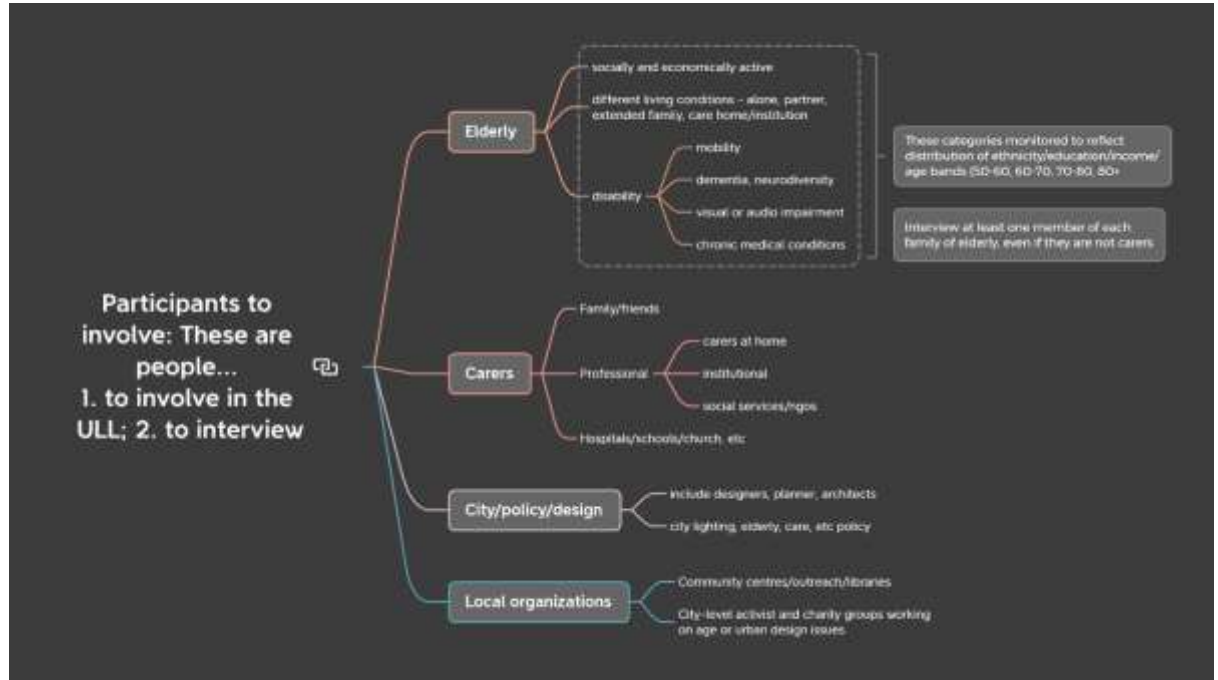
The central design challenges in establishing ULLs were best addressed by evolving a document through consultation with the city teams. The main objective and features of the roadmap are the following:

- The document should serve to clarify the concept of ULLs to the city teams and stakeholders, in order to guarantee a fruitful and joint work and to make the shifting and vague term more consistent.
- The roadmap serves to make ULL design consistent across cities but, at the same time, adapted to what is feasible in each one. A minimum level of comparability has to be guaranteed while allowing shared methods and themes to be pursued according to locally relevant questions, language, networks and concerns.
- The Roadmap aims to provide general guidance on themes, research methods and workshop activities to help city teams better understand the overall idea of a ULL rather than to prescribe specific structures.
- The roadmap needs to provide a sequencing of ULL phases and activities to keep the three ULLs roughly in step with each other while acknowledging that there would be uneven development in various phases. At the same time, it had to ensure that all city teams remain on track for key milestones (eg, delivery of lighting designs and post-implementation research).

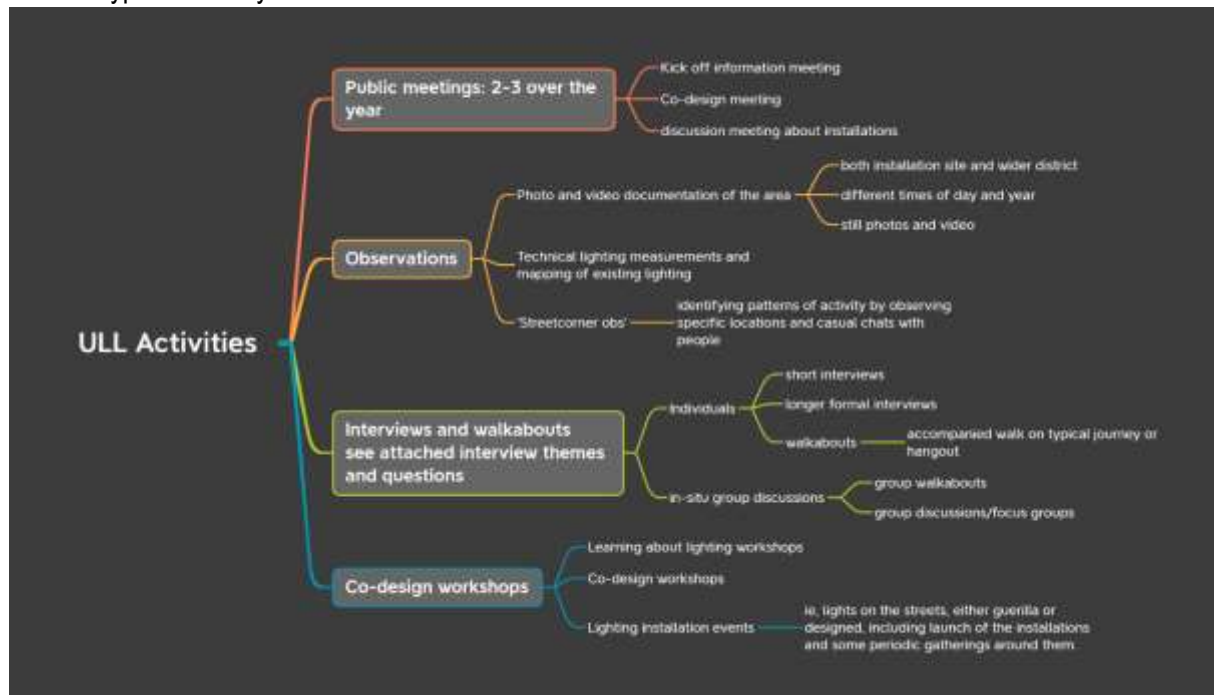
The roadmap document, therefore, was designed to establish clear baseline concepts that could be agreed between the cities but differentially and appropriately adapted in each. Much of this was developed through weekly city team zoom meetings, and a couple of joint meetings between two or more of the city teams. The Roadmap is considered a living document and therefore is subject to changes and revisions throughout ULLs’ lifetime..

The full Roadmap document is attached to this document as Appendix 2. It specifies the following points :

- A statement of the aims and objectives of ULLs, including a shared mission statement applicable to all three cities. This provides a shared understanding of the basic ULL concept employed in this project.
- A map of stakeholders that need to be involved in the ULL, whether as research informants and/or as participants in the ULL network and activities:



- A map of the range of ULL activities that need to be conducted, designed in ways appropriate to the conditions in each city, followed by discussions of the aims and structures of each type of activity:



- Themes and questions (for further discussion of this aspect, see Section 6). The methodology for ULLs does not involve standardised questionnaires or other measuring devices. It is ethnographic in character, aiming at exploring the needs, experiences and practices of older citizens in their own terms and in the contexts of their wider lives and activities. It is therefore inappropriate to specify in advance an interview protocol or observational checklist. Nonetheless, city teams needed starting points for their investigations and engagement, and ENLIGHTENme as a whole required some way of placing the three bodies of data within a single analytical frame. The Roadmap therefore suggests appropriate starting lines of enquiry, specified as both themes and as specific questions to be used in interviews (and a sketch of a typical interview with an older citizen).
- A timeline mapping out key phases and milestones that structure the work of all the ULLs. This indicates what kinds of research, engagement and activities will be required in the key phases of the ULLs:
  - 1. The period up to the launch of the ULLs in May-June 2022;
  - 2. Research and co-design leading to the finalizing of lighting designs in November 2022;
  - 3. Research and activities leading up to the switching on of lighting installations in April 2023;
  - 4. Activities to maintain ULL continuity during the one year installation period, April 2023-March 2024;
  - 5. Post-implementation research in March-June 2024
- Details of ethical responsibilities and ethics procedures, including GDPR arrangements.

Because this document was evolved through consultation during the process of designing the ULLs in each city, it has functioned well as a realistic checkpoint against which teams can gauge the development of their ULL and consider different research, engagement and co-design options. In future, we also expect it to provide a shared backdrop to meetings between the three city teams to develop joint assessments and analysis of ULL material over the course of the lighting installations.

## 5.2 Localizing the Roadmap

As noted, there is an appropriate and predicable variation between the actual forms and trajectories of ULLs in the three cities. Two main dimensions of the city contexts of the ULLs are most significant in generating this variation, and are likely to continue to influence development of ULLs:

### 5.2.1 Local structures and cultures of ageing

Although there are significant spatial and social similarities between the three districts, they nonetheless pose different contexts for establishing ULLs. In research terms, these will yield rich findings; in terms of ULL design, they point to very different conditions for developing the ULLs:

- Amsterdam:
  - The population (including elderly) is ethnically divided between ethnic (white) Dutch; Turkish guest workers; Moroccan guest workers; ex-colonial Indonesian and Surinamese; and a Chinese population. Each poses different issues of access and participation, are internally



organized differently, and do not generally work either with each other or with official bodies due to historical issues of trust and benefit. There is little likelihood that these different communities would participate jointly in a ULL. The city team has been creative in finding appropriate ways to engage different communities in ULL activities.

- At the same time there is an extremely high level of civil society activity and organization (particularly compared to Bologna and Tartu), and a strong culture of volunteer activity. There are strong opportunities for networking with community groups so long as this is done on the right terms (joining existing activities rather than attempting to draw people into a new 'entity' such as a ULL; presenting ULL workshops as interesting additions to other events).
- Although social isolation of the elderly is a factor in all three cities, elderly citizens in some of the ethnic communities in Amsterdam represent an extreme in lack of participation in social activity. ULL activities, including research, have needed to focus on understanding the elderly through younger generations and family networks rather than directly; and seeking access through home visits rather than ULL events.
- Bologna:
  - Bologna corresponds most closely to the 'ideal type' of a ULL: an identifiable entity/network in which people participate in various ways. Despite a recent influx of both immigrants and gentrifiers to Savena, the older population is predominantly ethnic Italian, and long-term residents have a confident sense of ownership of their area. They were happy to participate in ULL activities, including interviews, and express and act on a strong commitment to their specific locality (ie, Piazza Lambrakis).
  - Membership of formal civil society organizations is minimal or not evident; however informal participation by older citizens in the life and affairs of the Piazza is considerable, and includes a connection to people of all ages.
  - Many of the older citizens are very well socially networked so that communication is easy and efficient, and fits into the general 'publicness' of life on the Piazza.
- Tartu:
  - Sociality in Tartu is characterised by minimal social networking between individuals outside family, particularly post-retirement. Hence there is little in the way of civil society organizations or networks, high levels of social isolation and little basis for ULLs as high participation networks. ULL focus is rather on activities in existing structures.
  - The city team has made good use of available local institutions – day care centres, regular activities for the elderly (walking clubs) and libraries – on which to piggy-back ULL events and access elderly populations.
  - Older Estonians place a huge value on activity and remaining active but this is defined as physical exercise and hobbies rather than formal (Amsterdam) or informal (Bologna) civic sociality. It is harder to integrate the idea of a ULL within local values.
  - The more positive differences concern the readiness of elder Tartu citizens to engage in interviews (rather than public events); and the degree to which the value of activity connects them to the improvement of the area, particularly our lighting installation site.
  - Annelinn has a very large ethnic Russian population, some of whose elders do not speak Estonian. It has also recently begun to receive significant numbers of Syrian and now Ukrainian refugees. The focus for ULL programme is less on joint formal participation than ensuring provision of activities of interest to the different populations.

In sum, these differences point clearly to analysable points of comparison between the cities but has also prompted different strategies for designing ULLs as vehicles for engagement and research.

### 5.2.2 Spatial morphology of selected lighting installation sites

Although the lighting installation sites have many formal similarities, they need to be addressed differently because of the local structures of ageing. This impacts the forms that the ULLs have and will take:

- Amsterdam:
  - the chosen site is a pedestrian bridge that connects the residential area of Wildeman to a shopping precinct that is used daily by elderly citizens. However, unlike the other two city lighting sites, it is almost exclusively a throughway, not a destination (the bridge does not even have a name). Although used by everyone, it does not have a high salience in their experience of the area. Participation in ULLs is therefore based more on about ageing, ethnicity and activity in the neighbourhood as a whole than about the nature of that site itself.
- Bologna:
  - the lighting installation site is a well-defined and much valued square with a strong, long-term identity that is at the centre of residents' understanding of community and neighbourhood. Moreover as a well-used square – combining various kinds of socializing, wayfinding and through-travel, retail and leisure activities, childcare and family activities, an active church and a theatre – Piazza Lambrakis is a destination, symbol and passageway all in one. The engagement and value of the atmosphere of this place has an intensity not found in the other two cities, requiring different kinds of questioning and sensitivity in ULL research, engagement and design work, while also prompting very engage participation. .
- Tartu:
  - like the pedestrian bridge in Amsterdam, the Tartu site is a universal throughway that connects a residential area to a commercial district, and is therefore used by 'everyone' on a daily basis. Like Bologna, however, it also contains features (beach, sauna, swimming, exercise facilities) that make it a destination; it also invokes imagery, identity and memories of place over time. ULL activities get a good participatory response specifically on the basis of this site selection; the challenge however, is bringing together with the ULL very different bases for caring about the place and participating in its redesign. Finally, the nature of the site sharply raises issues of how Annelinn connects (spatially, socially, politically, etc) to the rest of the city in ways that this ULL has to address.

## 6 Baseline Fieldwork and Launch Events

Site selection, city team organization and development of the ULL Roadmap allowed a period of research fieldwork and community networking that led to the launch of all three ULLs during the period May-June 2022. Hence as of end of June 2022, in each city, ULLs have been established as a sustainable framework for carrying on research and engagement over the required timescale (till June 2024). There are clear organizational structures; there is a public presence and identity that can be built on through the programme of activities outline below; basic networks of interested stakeholders have been

established and sufficient fieldwork has been carried out to identify further challenges and relationships that need to be established.

This is best detailed in terms of each city. In each case, we detail the stakeholders that have been engaged through fieldwork and ULL activities and the stakeholders that the ULLs plan to engage further:

### **Amsterdam: ULL launched 23 June 2022**

- *Fieldwork and networking activities:*
  - Two fieldwork visits by LSE team to work with city team and research assistant
    - 28 February- 5 March 2022
    - 20 June-2 July 2022
    - Ongoing city team fieldwork, under LSE supervision during April-May 2022
  - City team and researcher established extensive local networks, established connections with project leaders of local development initiatives; mapping and scoping interviews with main local stakeholders as mapped out in the Roadmap document.
- *Launch activities:*
  - Public meeting at Station Wildeman 23 June to introduce ULL
  - First co-design workshop at Station Wildeman 24 June with local residents.
  - Networking events with city development staff during 23 June-1 July.
  - Night walk with city team.
- *Stakeholders engaged through ULL launch activities and networking:*
  - Publicly active elderly citizens, accessed through activity groups (walking, crafts, swimming, volunteering).
  - Community groups such as Station Wildeman (social enterprise hub), the Beach (community arts network), community activists (housing campaigns, anti-trash activities, community gardens)
  - Non-active/isolated older citizens, accessed via official and volunteer care services
  - Ethnicity-based organizations that involve older citizens, such as mosques, Turkish and Moroccan cultural/educational centres, ethnic women's groups
  - Development and public realm officials and consultants, city staff
- *Stakeholders that will be actively contacted, in addition to the above:*
  - Non-active and isolated older ethnic citizens.
  - Additional ethnic groups (Moluccans, Surinamese, Chinese and recent refugees).
  - Younger generations of different ethnic groups to understand age and familial dynamics.
  - Social services, schools and police.

### **Bologna: ULL launched 13 May 2022**

- *Fieldwork and networking activities:*
  - Two fieldwork visits by LSE team to work with FIU
    - 14-19 February 2022
    - 12-14 May 2022
  - FIU researchers carried out interviews and visual documentation of Piazza Lambrakis and established local networks with older residents.
- *Launch activities:*

- Public meeting to launch ULL 13 May 2022, attended by city staff, local stakeholders, older citizens and carers
- Workshop with residents and stakeholders in Savona, attended by 34 people who were older citizens, carers, families living in the area
- Virtual night walk through the area
- Language of Light presentation and demonstration
- *Stakeholders engaged through ULL launch activities and networking:*
  - Active elderly citizens – enthusiastic participation across ages and gender
  - Local retailers and service providers
- *Stakeholders that will be actively contacted, in addition to the above:*
  - Non-active older citizens
  - Family members and young people (particularly given dependence of this elderly community on family support)
  - Care services, schools and police
  - Diverse ethnicity and newcomers to the neighbourhood ('gentrifiers' and students)

### **Tartu: ULL launched 19 May 2022**

- *Fieldwork and networking activities:*
  - LSE team visits to Tartu to work intensively with city team and with research assistant:
    - 7-11 March 2022
    - 17-28 May 2022
  - City team researcher conducting ongoing research and networking activities under LSE supervision; extensive documentation of use of the intervention site
- *Launch activities:*
  - Public meeting and first ULL workshop on 19 May attended by City staff and local stakeholders. Other activities:
    - Virtual night walk through the area
    - Language of Light presentation and demonstration
    - Two co-design workshops, one with professional services (19 May) and one with older citizens in care centre (23 May)
- *Stakeholders engaged through ULL launch activities and networking:*
- - Active older people engaged through activity groups (walking groups) and day centres, covering a good range of ages and socio-economic conditions.
  - Non-active older people accessed via care services.
  - Family and young people concerned with older citizens
  - City institutions – public realm professionals (lighting, landscaping, public amenities), social services, education and libraries
  - Users of our lighting installation site – users of beach, sauna, exercise facilities, ice sports, etc
- *Stakeholders that will be actively contacted, in addition to the above:*
  - Retail and leisure industries
  - Gardening and allotment owners
  - Ethnic Russian community and incoming refugees

## 7 Next steps and future activities

Having been launched, the ULLs will now aim at synchronised mileposts, as discussed under section 5.1. Again in keeping with the approach already discussed, each city team has developed a programme of activities appropriate to its own local conditions for meeting these mileposts. The following activities will be carried out in all three cities:

### 7.1 Activities

#### OCTOBER 2022

- Public meetings and co-design workshops in October 2022
  - Prior to public meetings, additional co-design workshops: there are several models for co-design workshops that each ULL is adapting working with different local stakeholders (mood boarding exercises, mapping exercises, guided walks)
  - On completion of draft lighting designs, each city will hold a ULL public meeting and co-design workshop to discuss the designs

#### NOVEMBER 2022- APRIL 2023

- Research and activities leading up to the switching on of lighting installations in April 2023
  - Each ULL is drawing up plans to maintain networks and interest during this quiet period. ULLs will a. carry on with social research activities; and b. use social media and local communications channels to keep participants and stakeholders informed. During this period ULLs will also serve as the basis for recruiting a panel of households to work on the co-design of indoor lighting.
  - During this period, ULLs will also support recruitment of participants to Task 3.1.
- Lighting design activities to finalise and install the 3 pilot projects
  - Delivery of final layouts, lighting specification and budget
  - Coordination with the cities for on-site work
  - Coordination with NERI

#### APRIL 2023 – JUNE 2024

- Activities to maintain ULL continuity during the one year installation period, April 2023-March 2024;
  - the switching on of the lighting installations will provide very visible public events to focus community engagement and research into the immediate impact of the lighting. City teams will use a two week period around the 'switch on' to carry out individual interviews, group discussions and site walkabouts.
  - Programme of workshops and lighting events. These will use the responsive nature of the lighting technology to involve participants in experiencing different design options.
- Post-implementation research in March-June 2024
  - Interviews with residents to assess impacts of lighting installation, including programme of night walks and discussion groups.

## 7.2 Analyses

It is therefore worth concluding with a brief statement of *analytical strategy* going forward. Following the public events that established the ULLs, and on the basis of fieldwork conducted so far, all three city teams have begun to draft preliminary findings to feed into the co-design process and to determine future research and engagement directions for both individual cities and for the work package as a whole. These preliminary findings will be discussed in meetings of the three cities and then added to the Roadmap document.

The primary concern, in terms of ULL design and strategy, is to ensure that each city team is able to study age, health/wellbeing and lighting in terms of the issues and citizen concerns of *their* city while at the same time allowing for comparisons and dialogues between the target districts so that we are able to generate generalizable results that can feed into the production of guidelines for best practice (WP4).

We have adopted a strategy that is common in ethnographic and action research approaches similar to this aspect of ENLIGHTENme: We have identified a range of over-arching themes (subject to revision over time) that are essential to investigating ageing, lighting and health/wellbeing in all three sites. These are all topics that would naturally arise and would be self-evidently important and meaningful to all ULL participants in any city. At the same time we would expect each of these themes to take very different forms, be articulated through different discourses, have different significance weightings and so on in each site. That is to say, the aim is to identify and develop differences and contrasts between the sites while containing discussion within thematic frameworks that allow for coherent comparative analysis. This can provide a basis for coding strategies, linking overarching analytical themes to site specificities. This strategy has a dual function: it can help guide the research and engagement activities of each ULL by linking future research to commonly agreed priorities; and it can support joint analysis and drawing of generalizable findings across the ULLs. The ultimate aim is to generate significant inputs for defining guidelines for urban policies that are more sensitive to good lighting planning and design.

The themes that have emerged from baseline research and initial workshops are as follows (again, to be revised as the ULLs develop):

- *Activity and active aging* –
  - what are the meanings and value of ‘activity’ for different people in each city? How do different ideals of activity and active ageing connect to public space? What are drivers of inactivity? How is age-related activity organized (routines and habits, policies, organizations)?
- *Social connection and isolation* –
  - What kinds of enduring and active relationships do different older citizens have (at different stages/conditions of ageing; at different frequencies of interaction; at different radii of connect such as family, neighbour, state)? What are the drivers and costs of different sorts of isolation?
- *Values and devaluation* –
  - What social status and value do older people have? What stereotypes of ageing are in play? How does the value of being old interact with other social roles (citizen, consumer, user of public space)?

- *Care and provision* –
  - What are the sources and qualities of care and carers (family, neighbourhood, state, market)? What are the necessary and desired forms and qualities of care for the elderly (eg, in housing, health, material provision, public space)?
- *Identity and difference - Family and strangers* –
  - How does ageing in *this* place connect to narratives and histories of belonging, identity, ethnicity, safety and security? Who makes up this neighbourhood?
- *Mobility and movement - getting around* –
  - What impacts people's ability to get around in their daily business at different conditions of ageing? (eg, energy, wayfinding, ambience, safety and security, physical barriers, motivations, etc)

Derived from our fieldwork so far, from public meetings and workshops and from consultations with stakeholders across the three cities, these themes will provide a framework for further research and engagement, including seeking out new stakeholders, and for drawing together a rich and situated knowledge of ageing in three cities with public lighting interventions.



## **8 ANNEX: ULL stakeholder engagements**

This appendix details ULL activities in each city up to 31 August. The General Project Review Consolidated Report requests more detail of stakeholder 'meetings'. However, detailing only formal meetings would misrepresent the methodology and actions of this deliverable. Hence, this annex details the full range of research and engagement activities up to and including the launch of the ULLs. Deliverables 2.2 and 2.3 will detail additional research and engagement activities that were conducted as part of co-design work, and will indicate the key 'takeaways' from the research and engagement, detailing how research and engagement activities fed into the lighting design approaches and decisions. The ways in which 'stakeholder consultations influenced the choice of solutions' cannot be detailed until the solutions have been developed, which has been subsequent to the end of this reporting period. Also please note that section 7.2 indicates the analytical strategy by which 'takeaways' from this process are being extracted to feed into D2.2 and D2.3.

As has been stressed throughout, and in the original D2.1 and technical report, the ULL approach, whose establishment was detailed in this deliverable, fundamentally combines qualitative and ethnographic social research with community engagement and consultation. The two are interconnected: research interviews are often tools for design insight and consultation, while, conversely, workshop events generally provide sociological data on the lives and issues of older people. Formal meetings are only one component of that work; moreover, very few of the engagements with stakeholders are formal meetings of the sort that involve minutes and agendas. In our appendix we will try to give a fuller picture of the range, number and outcomes of engagements with stakeholders in a manner that accurately reflects the methodology.

This appendix therefore provides details of the full range of research and engagement in each city that made up ULL preparation and activity. Where this involved formal meetings, details have been provided of structure, attendance and outcomes. This is accompanied by details of other engagements with stakeholders.

### **8.1 Amsterdam**

As discussed in the Deliverable, Amsterdam presents a different and more complex context for ULL development than the other two cities. Firstly there are multiple ethnic divisions representing different patterns of ageing and different social networks, with little overlap. Secondly, the area is characterised by a long history of governmental and political interventions and organizations, with existing networks and institutions. With the exception of the two launch events detailed below, ULL activity has largely taken the form of adding discussions and workshops to existing forums and organizations.

#### **1. Projects Fair (3 March)**

Networking event at Station Wildeman for wide range of community action groups active in the area. ENLIGHTENme ULL had a stall with publicity material and was able to meet potential partners and collaborators

#### **2. Networking event (23 June)**



Meeting with a range of local stakeholders to present ENLIGHTENme aims and coordinate activities. 30 participants included city and neighbourhood design teams, resident activist groups, community centre directors.

Discussion covered complexity of local initiatives that ENLIGHTENme will have to work with, education on range of networking mechanisms in the area, discussion of range of urban design projects currently being planned or implemented.

### **3. Public Meeting (23 June)**

Station Wildeman community centre. 15 participants, including local community activists and residents, Station Wildeman staff.

#### **Agenda:**

Welcome from Station Wildeman

Presentation of aims and activities of ENLIGHTENme

Presentation of public lighting installation plans

Discussion of local redevelopment initiatives and relationship of ENLIGHTENme to other projects.

#### **Minutes/summary:**

Following presentations, discussion largely focused on the complexity of the range of initiatives in the neighbourhood and problems of communication and coordination.

Detailed discussion of the installation site based on local knowledge and its place in wider development initiatives

#### **Main Takeaways:**

- Installation is strategically good choice
- Need to integrate ENLIGHTENme with existing local initiative forums

### **4. Workshop (24 June)**

Station Wildeman community centre. 18 older people, ENLIGHTENme team, Station Wildeman staff.

**Agenda:** The workshop was organized in standard project format:

Presentation: introduction of ENLIGHTENme and ULL project. Focus on ageing issues and importance of lighting. Virtual nightwalk around Wildeman: slide show of night photography covering the installation site in order to raise awareness of lighting issues.

Workshop: Participants divided into 3 groups, each with facilitator. Each group was provided with about 150 'reference images' – photos of different lighting effects, street furniture and public realm design chosen to reflect a range of effects and provision that could be applied to our installation site. Each group was asked to consider different aspects of the installation site (the bridge and pathways), and select images that they felt would be suitable for the different areas, deciding as a group, through discussion. The results were placed on boards with notes giving reasons for the group's choices.

#### **Minutes/summary:**

Workshop was taped and photographed and notes taken by workshop facilitators uploaded to our database.

#### **Main takeaways:**

- Strong focus on litter, maintenance, pavements and obstacles in elderly journeys through the site
- Need more micro-analysis for physical path based on walkabouts
- Strong focus on lack of night-time activity.



## **5. Night walk with city team (1 July)**

Participants from city team working with ENLIGHTENme, including lighting experts and community project participants.

1 hour walk along lighting installation site to familiarise project partners and networks with project methodology and aims and to get detailed understandings of specific features of the installation site

### **Main takeaways:**

- More focus on interaction of lighting with pavements, cycle barriers and other obstacles
- Detailed tracking of specific routes taken by older pedestrians in relation to specific tasks and routines. To be pursued through individual interviews and walkabouts
- Need more attention to ways in which different ethnic groups use public space

## **6. Meetings with community groups**

ULL research and engagement activities in Wildeman needed to be structured in relation to two features of the area:

- Enormous number and complexity of local initiatives, and meeting fatigue. It was counterproductive to add new meetings specific to ENLIGHTENme ULL. Instead, the ULL has been included in the agendas of meetings of other local groups. During the D2.1 period, the most important have been
  - Meetings of WeShare, a forum for a wide range of Wildeman organizations and initiatives. This is a monthly meeting, and ENLIGHTENme has received regular feedback and discussion in these meetings.
  - Presentations to several ad hoc meetings of local activist groups.
  - Meetings with several local design teams including: 1. the initiative to redevelop a park in our installation site; 2. The design team redeveloping the area around Station Wildeman itself.
- Wildeman comprises numerous ethnic groups which do not participate in the same networks and meetings. Participation of all groups in joint ULL meetings is not practicable in general.
  - White ethnic Dutch have been engaged by joining existing activities for the elderly: 1. Participation in a weekly elderly walking group has provided weekly discussion for insight into elderly concerns, activities, lifestyle and routines. 2. Participation in a weekly elderly swimming club has provided weekly discussion of similar themes, and exploration of issues of active ageing.
  - The researcher participates in a number of regular and frequent organizations or forums that involve elderly ethnic residents: 1. A weekly woman's group that spans several ethnicities and focuses on cooking together, allowing for extensive weekly discussions; 2. Participation in weekly meetings and communal dinners at the 'city farm' in Wildeman, which has allowed engagement with a range of ethnic elders; 3. Weekly volunteering with a foodbank that delivers meals to elderly citizens in their homes, allowing for discussion and interviews as well as access to the expert knowledges of other volunteers in this programme.

## **7. Observations and walkabouts**

Approximately 50 hours of observation, photo-documentation and walkabouts in the installation site, including:



- Observation of the pedestrian bridge at various times of day and week, accompanied by about 25 short 'cold interview
- Five detailed accompanied walks through the extent of the installation site in order to understand at a micro-level the specific routes taken by elderly residents with different levels of mobility, and to identify impediments at a micro-level (pavements, curb stones, cycle barriers, etc)
- Approximately 8 hours of observation in the installation site with a community liaison officer with wide contacts amongst local elderly, allowing for expert interviews with users of the site, particularly the bridge.

## 8. Interviews

As in most ethnographically-oriented research of this sort, 'interviews' range from formal 1-2 hour conversations to numerous short conversations with the same informant over a number of different meetings. Because of the features described above, this was more the case in Amsterdam than in the other two cities: there was resistance to formal interviews, but openness to engaging in less formal circumstances, often in the context of other activities. On the this basis, the estimate of interview engagements over the course of D2.1 is 30 elderly stakeholders.

### 8.2 Bologna

As discussed in D2.1, the Bologna research site is characterised by low levels of participation in organized civic associations but very high levels of social engagement, interest and networking. Formal meetings and workshops are documented below but do not entirely represent the character of ULL activity, either in terms of research or engagement.

#### 1. Public Meeting (13 May)

Due Madonne Center, via Carlo Carli, Bologna. In attendance: ENLIGHTNme team, project partners, 52 residents and stakeholders

##### Agenda

1. Welcome from District President Marzia Benassi and Simona Tondelli
2. Introduction to ENLIGHTNme project (framework, team and objectives)
3. The importance of light
4. Introduction to the methodology of the ULL (Elettra Bordonaro and Joanne Entwistle)
5. Introduction to the Piazza de Lambrakas where the ENLIGHTNme lighting intervention will be installed in 2023 (Elettra Bordonaro and Joanne Entwistle)
6. Q&A discussion of older residents living in the area

##### Minutes of 13 May 2022 Public Meeting

2. Under item 2 it was described how the ULL was born from the collaboration of Configuring Light group (Elettra Bordonaro, Joanne Entwistle, Don Slater), Researchers in the area (Urban Innovation Foundation, Umberto Mezzacapo and Chiara Sponza), and "Informal" researchers (residents and users of Piazza Lambrakis). EB described how the ULL will operate: through workshops and through activities, such as the one taking place later, we will explore how light effects our wellbeing.
3. Under item 4 JE described how The Urban Lighting Labs (ULL) have been created with the aim of researching and implementing innovative policies for urban lighting and studying full-scale interventions in specific areas in three study cities envisaged by the ENLIGHTNme project. She described how the workshop will operate and how we hope to gather feedback on the experience of the public realm at night by older residents. It was explained that the ULL aims to involve residents, the community and the city in

order to generate qualitative data, co-design processes and urban lighting pilot projects. JE also explained that the ULL will also be a way to conduct qualitative research and lighting research before, during and after external and internal lighting interventions and to co-design and implement internal and external lighting interventions.

4. Under item 5 there was detailed Q&A from participants. Firstly the issue of the problems with overlit public spaces, and increasing exposure of humans to too much light was pointed out by the EB. ST pointed out also that scientific communities and policy makers are ever more focused on lighting due to the exponential raising of human exposure to the electric light, thus deeply affecting the circadian rhythm, health and wellbeing of people, making them more incline to the cancer, neurodegeneration and psychiatric morbidity, especially particularly fragile people such as elderly.

## **2. Workshop (13 May) Virtual Nightwalk through Piazza Lambrakis**

**In attendance:** 40 older citizens, 15 residents living around Lambrakis, Due Madonne Center, Bologna

**Agenda:** Virtual night walk through Annelinn: This workshop aim was to illustrate the different qualities of light.

### **Minutes/summary:**

After a Welcome, Introductions, there was a small PowerPoint presentation by EB about the language of light. Through PowerPoint slides she demonstrated the power and importance of light; how we receive light with our eyes, what effects different forms of light have on surfaces, objects. Brief presentation on the parameters of light (luminance, brightness, contrast, colour rendering at night, colour temperature).

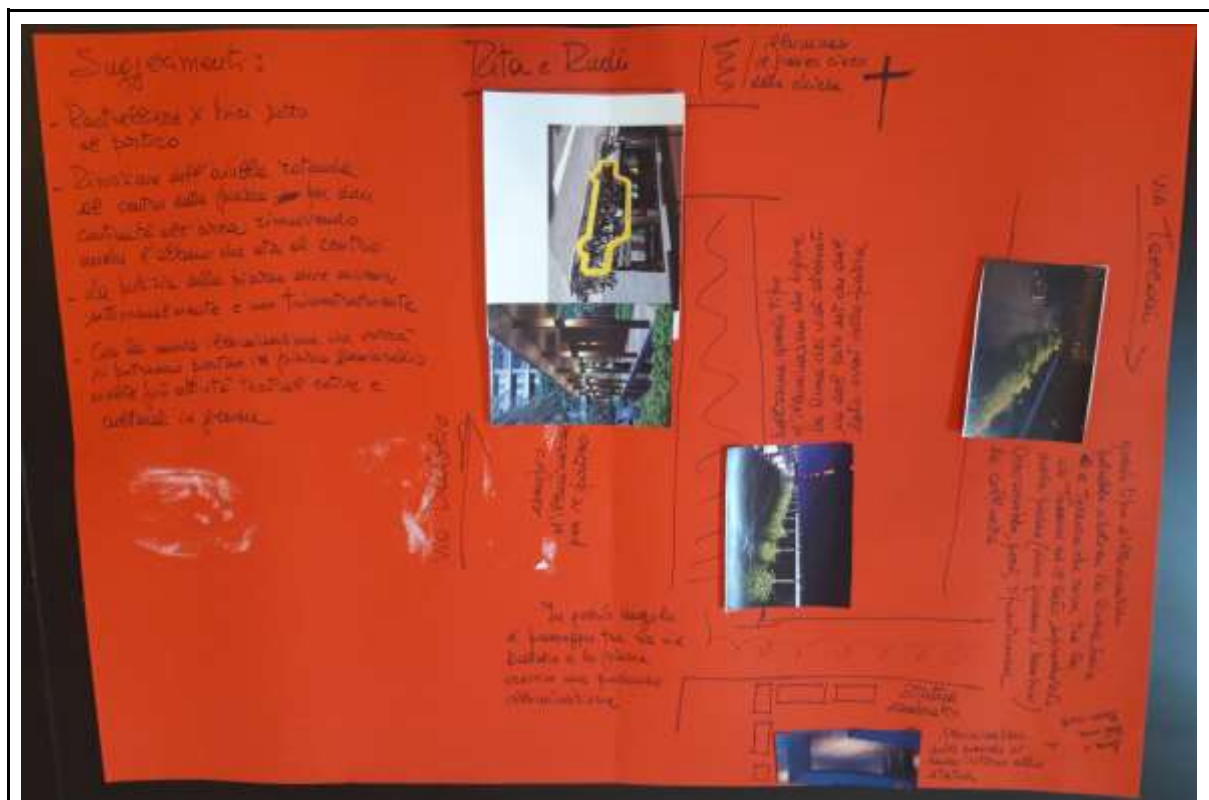
EB then took the residents on a virtual night walk around Piazza Lambrakis discussing the different problems with the lighting around the square. Some problems, such as high contrast were noted. There was also the opportunity at this workshop to play with the Responsive light module, designed by ENLIGHTENme partner, Neri. EB and Argun used this module to illustrate the differences in colour temperature and luminance that can be generated through this one module. Some questions from residents concerned how bright these lights can go and whether or not they can be used in public spaces like Lambrakis. EB explained how the light module is an illustration of the sort of intervention that will be used in the experimental lighting she will design for the Piazza.

## **3. Second Workshop – montage activity (19 May)**

**In attendance:** ENLIGHTENme team and project partners. 52 residents, around 40 residents were aged 60+ and equal mix of male and female residents.

**Format:** Participants were split in four groups and invited to draw on A2 sized and coloured paper the Lambrakis square according to their imagination and taking into account their needs and desires in terms of usability, accessibility, sociability and so on. They were given a wide range of photos showing public spaces with different types of lighting, possible uses and functions, different types of street furniture, etc.

**Summary/Minutes:** record of main discussion points in each group:

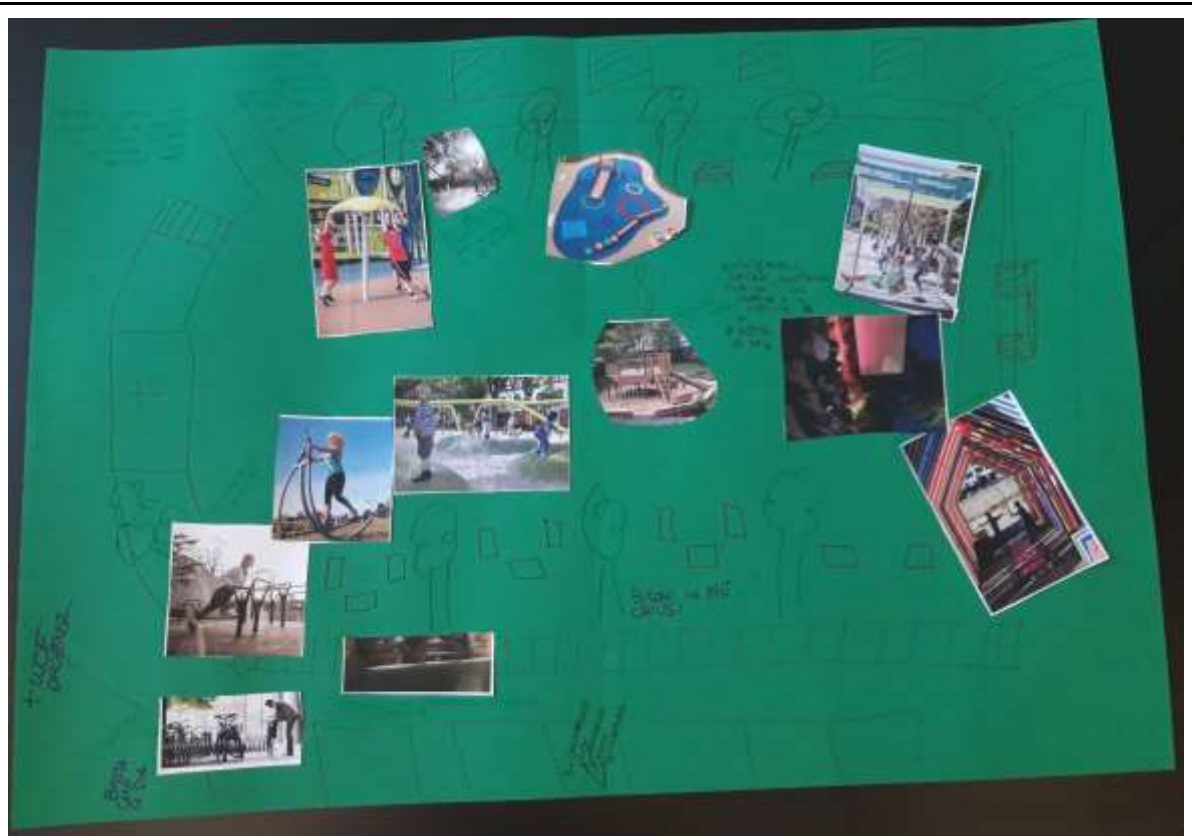


- Bike racks should be installed under the porch as a consequence of a shortage of parking spaces for bikes. An alternative could be to create space for the racks outside the porch, removing a couple of car parks
- It would be necessary to remove the round fountain/flowerbed and the tree that are in the center of the square to give continuity to the area
- The cleaning of the square must take place weekly and not quarterly
- With the new lighting that will come, many more summer theatrical and cultural activities can be brought to Lambrakis square
- Lighting must also be enhanced in the passageways between via Dall'Olio and piazza Lambrakis
- The type of lighting that follows the line of an hypothetical tree-lined avenues on both the east and west sides of the square is much appreciated
- Light up the Lambrakis statue and the stone benches around the statue
- The lighting on the side of via Tacconi must be redone, as shown in a photo attached to the diagram: this type of lighting could solve the dark and earthy line that runs between via Tacconi and the raised side of the square (where children play). However, the small hill should be planted again
- To enliven the square, a corner for the Book club could be set up at the Lambrakis statue, using and illuminating the concrete benches with ad hoc lighting.
- Under the arcades, indirect lighting which is not very powerful but diffused could be

installed, by placing devices along the columns. For this to work, however, the walls and columns of the arcades must be repainted.

- Due to the feeling of insecurity it induces, the blind side of the church should be illuminated and the entrance from via dall'Olio towards the square too
- The trees with the lighting underneath are considered very beautiful, they give a very nice scenic effect, it could be done along the whole square but an agronomic consultation is needed
- It would be necessary to have a lighting system that would lower the intensity of the lights during the evening shows (projections, theater, dance, etc.) and raise it soon after. During the shows it should properly illuminate the stage

Group representative: Rita Roatti



- In the center of the square more bins and possibly closed (due to the presence of birds that turn it upside down to find food) are needed
- The part of the square towards via dall'Olio should be more illuminated and with more homogeneous light
- Before covid citizens used to organize events in the square who successfully managed to involve also elderly, especially in summertime
- The light under the benches makes mosquitoes come, that's why it should be better to switch light on in summer and off in winter

- Evening screenings, shows, music, in brief: a good reason to go out (it would be necessary to organize more evening events, especially spring and summertime) to push elderly to participate and get out of home more often)
- Bike racks are needed
- A brand new fountain should be put at the bottom of the square with water games to let children playing
- Bike racks are needed all along the square because more and more families, especially young ones, only use the bike to get around. In any case there is a shortage of racks
- The protection of children is an important issue as in the passable streets surrounding Lambrakis square cars sometimes go very fast (for example children sometimes run away from the side of via Tacconi, so green barriers must be put in place for them)
- Gymnastic equipment for adults, located in the southwest corner of Lambrakis (towards the church), could be a way to attract and make people stay in the square, apart from the health issue which is very important as well. A gymnastic teacher would already be available
- Games for children in the center of the square should be made available
- Via Dallolio is very dark, it would require more lighting and a little warmer
- The square should be turned into a multifunctional space, where there could be games for children and gymnastic equipment for the elderly
- It's necessary to remove the broken fountain which overturns and releases water that floods the square and, mixed with dust, carries mosquitoes

Group representative: Silvia Branca



- Group representative: Sandro & c.



- That part on the right side of the church has never been used, more lighting, cleaning and order is advisable
- The tree at the center of the square must be cut as soon as possible
- Farmers Market “Campi aperti” could be a way to make the square more sparkling
- A green barrier/illuminated hedge should be put all along the right side (via Tacconi)
- Bike racks are needed
- A corner with gymno equipment would be much appreciated
- A book corner at the beginning of the square, or somewhere else, could be a way to make the square being more attractive
- Fountain may be kept especially in terms of structure, nevertheless the design should be changed, renew it and lighting it
- the side of the square nearby the church should be kept clean and illuminated in order to let people enjoy it; near the connection with portico a bar with small tables would make this area more enjoyable
- on the left side of Lambrakis among the trees there’s a lot of dirt, dogs shit, no grass, totally unhygienic, so that an anti-trauma carpet for children is needed, this way they would enjoy themselves much more
- Square cleaning happens rarely
- the southern part of the square, that part closer to via Emilia, could be a place for projection, nothing usually happen here, also because most of the activities, event and so

on are concentrated in the middle and on the opposite side of the square

- The fountain split the square in two, once there used to be red fishes and water but nowadays it fragments the square, it must be removed to give continuity to the square
- A rowing machine and a Calisthenics equipment to practice outdoor sport should be installed in the square
- Cleaning has to be done more often because square is particularly dirt in spring and summer

Group representative: Bassam Kheriti

#### 4. Engagement with local social networks

ULL activity in Piazza Lambrakis is characterised by regular (daily or weekly) engagement with specific informal groups that assemble in the area. These provide relationships with local informants, involving longer term contact and discussions. The main groups that have regularly worked with us are:

- A group of 5-10 older men who gather every evening in the square for 1-2 hours, as they have for about 30 years. Regular discussions with this group cover local social networks and events, their own uses of the location and observations of others, suggestions for improvements and design ideas, discussions of ENLIGHTENme project and progress of the interventions.
- A group of 10+ men who meet daily, after work, at one of the two cafes in the square from 15.00-18.00.
- Women picking up children from school meet daily at the second café in the square, with leisure to discuss everyday routines and events in the area;
- Daily conversations at the local grocery shop which is run by a central community leader and informant;
- Active members of the local parish church

#### 5. Interviews

During the period covered by the Deliverable, there were 21 formal interviews conducted with elderly locals. These are of course in addition to the less quantifiable informal conversations over the course of research.

#### 6. Observation:

Approximately 15 days observation and photo documentation, covering change in seasons, weather conditions, times of day and days of week.

### 8.3 Tartu

As in the other two cities, Tartu ULL engagement has involved a mix of formal meetings and the range of qualitative research methods. Because of the low level of civic engagement (both formal and informal), there has been a larger proportion of formal interviews, though a few institutions (community centres, library and a walking group for the elderly) have allowed more developed engagement.

#### 1. Public meeting (19 May 2022)

City staff and local stakeholders. 30 participants.

## AGENDA:

1. Welcome and introduction to the team
2. Introduction to the ENLIGHTENme project and its overall objectives
3. Introduction to the ULL in Annelinn
4. Introduction to the methodology of the ULL
5. Introduction of the Beach/Pedestrian Bridge where the ENLIGHTENme lighting intervention will be installed in 2023
6. Q&A and discussion of the activities of older residents in Annelinn

## Minutes:

1. Welcome and introduction to the ENLIGHTENme project: Don Slater welcomed participants and introduced the CL team working on the ENLIGHTENme project. DS also outlined the main objectives of the ULL in Tartu as citizen co-design.
2. Discussion of methodology. DS explained how the ULL will gather data and the other forms of social research taking place in the area. He described how the ULLs will be a mixture of discussions and active workshops using a variety of materials as prompts (virtual nightwalks, group workshops using photo-elicitation and collage activities). DS also explained how the team will also carry out participant observation (at some older citizen events) and interviews with older people and their carers/family. He explained that the focus was on older citizens (60 +) and their relationship to lighting and design and the impact of lighting on their health and well-being but this will also involve talking to others in the community who support older people, such as carers and family members.
3. Discussion of the ways in which public lighting support older citizens also took place. DS, on behalf of the CL team, explained some of the parameters of lighting and other aspects of public realm design that are important (benches, nature, for example)
4. Outline of the methodology – CL discussed with the participants the format of their methodological approach, especially focusing on interviews, observation and documentation, discussions, how we work with older citizens in design workshops (using images, interactive materials) and how we encourage older citizens, their carers, families, local institutions to engage in these activities to enable them to articulate their experiences of public realm lighting and other design
5. The Pedestrian bridge near the Beach was introduced and discussed as a good place for the ULL lighting installation as it features as a meeting point for older people.
6. Discussion of some of the workshops and events where the team can access older people – carers and social worker informed the CL team of the various community groups, such as the walking group in Annelinn and agreed to let the CL team observe this group and participate in the walk.
7. Meeting closed

### 1. Public Lighting Workshop (19 May 2022)

**In attendance:** 30 people, mix of city staff in social services, lighting, etc and older Annelinn stakeholders

**Format:** Participants divided between 3 tables, each with facilitator. Each table was provided with about 150 'reference images' – photos of different lighting effects, street furniture and public realm design chosen to reflect a range of effects and provision that could be applied to our installation site. Each group was asked to consider three aspects of the installation site (the bridge, the beach and the pathway area), select images that they felt would be suitable for the different areas, deciding as a group, through discussion. The results were placed on boards with notes giving reasons for the group's choices.

**Summary:** Example of Workshop activity:

#### Group 2:

BRIDGE	BEACH	PATH
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Piret proposes some activities by the road, not all of activities should be at the beach. Elderly person finds image with activities and asks if it could be one of them, but another lady says, that better place



for activities is beach area, e.g., winging, skating, swimming. Both Piret and another lady agrees that grown ups also like swinging. Everyone agrees.

Another lady is concerned if we have covered safety topic. Says that image with the lighted railing seems safe. Human scale lighting, not anonymous 10m lighting pole. Elderly person agrees.

Piret likes use of different colors, another lady says, that it is also part as “city as our home”. Piret argues, that we can use it by the road, to make it more interesting and creates better mood.

I asked elderly person how she feel now while crossing the bridge, she says that she is so used to it, that it’s difficult to say anything, but always can be better. Discussion that people who sees something for the first time sees things differently that people who are used to it.

## 2. Workshop with older citizens at day centre in Annelinn (22 May)

**In attendance:** 21 residents, 4 carers, ENLIGHTENme team

As this was an informal meeting with the aim of beginning the collection of data from older citizens, there was no formal Agenda or minute taking.

**Presentation/Introduction:** Virtual night walk through Annelinn: This workshop aim was to illustrate the different qualities of light. DS talked about the lighting conditions and took the participants along the main pathways and areas in the Annelinn estate b night using night photographs of Annelinn (can use the PPT slides ).

- Welcome, Introductions
  - PowerPoint short presentation by DS on behalf of the CL team
  - Aims of the ENLIGHTENme: DS gave a short overview of the aims of the project
  - What is light: using illustrative slides, DS demonstrated the power and importance of light; how we receive light with our eyes, what effects different forms of light have on surfaces, objects.
- Brief presentation on the parameters of light (luminance, brightness, contrast, colour rendering at night, colour temperature).

**Workshop Format** (as in other workshops): Participants divided between 4 tables, each with facilitator. Each table was provided with about 150 ‘reference images’ – photos of different lighting effects, street furniture and public realm design chosen to reflect a range of effects and provision that could be applied to our installation site. Each group was asked to consider three aspects of the installation site (the bridge, the beach and the pathway area), select images that they felt would be suitable for the different areas, deciding as a group, through discussion. The results were placed on boards with notes giving reasons for the group’s choices.

**Summary:** Example of Workshop activity:

Group 1:

BRIDGE	BEACH	PATH
Good lighting (picture – behind the benches + plants)	Kids can climb	Beautiful, aesthetic
Nice borders	Not enough benches (bench with a low light – nice but young people can ruin it)	Benches with backrest (also in microdistrict between the buildings)
Safety		Marking on cycling path, (physical border)



Comfort for resting on the bridge (benches)		More fun elements (colourful dots on the ground, something similar near the Anne pond)
		Glamour, dating (picture – swing)



### Notes on Group 1:

Bridge lighting: Would be nice for dating - for young people.

Not enough benches, and need back rest.

All want bike separation - above all the visual separation.

Talked about public space in general, not separate spaces.

Lamp is nice but not practical - will be vandalised.

Like colourful path/road because it is 'happy', cheerful'

Like the light arches - it's 'beautiful' - what does that mean?

Making demands for yourself as an older person or via demand for younger people.

Red dress lady - really talking long time about love locks - for YOUNG people but also something nice for her to look at. Nice to see young people in love.

Old people as observers - nice environment to look at, people doing things.

No privacy - Annelinn is empty but everyone is watching, sounds of people/neighbours. Very thin walls, and bad ventillation so windows are open.

### 3. Workshop with older citizens at second day centre (4 June)

**In attendance:** 13 elderly participants, 2 carers

**Format:** Same format as other workshops: presentation of aims of the project, virtual nightwalk around installation site followed by dividing into groups to discuss lighting and design parameters using reference images.

**Summary** of one group: The participants were divided into three groups with their carers to consider the atmosphere in public space. This involved a montage activity with a range of different photographs (night scenes with planting, benches, iceskating, park activities) and in groups the older citizens were encouraged to choose the photos they liked and montage them onto boards and describe with marker pens what they liked in the photo. Using these Boards, the participants discussed their experience of the night. Some discussion of benches and where they need to be positioned. Some participants described how they didn't go out after dark.

One elderly participant and the team discussed railings with lighting along them. There was a discussion also of how warm like is much calmer and nicer than cold light. Workshop summary:

Railing with calm light are good, and railing can be necessary if there is danger to fall somewhere. Elderly person in the group proposes that it would be good if there are some activities, e.g., swings.

Another lady says that she likes lighting that lights trees very much, later in the end elderly person says the same. She also likes light chains, says it feels like home. Elderly person agrees.

Piret propose that place for winter swimming could be better. Local elderly says that there is already exists place for winter swimming. Piret explains that it could be improved with better lighting.

Piret proposed some activities by the road, not all of activities should be at the beach. Elderly person finds image with activities and asks if it could be one of them, but another lady says, that better place for activities is beach area, e.g., winging, skating, swimming. Both Piret and another lady agrees that grown ups also like swinging. Everyone agrees.

Another lady is concerned if we have covered safety topic. Says that image with the lighted railing seems safe. Human scale lighting, not anonymous 10m lighting pole. Elderly person agrees.

Piret likes use of different colors, another lady says, that it is also part as "city as our home". Piret argues, that we can use it by the road, to make it more interesting and creates better mood.

I asked elderly person how she feel now while crossing the bridge, she says that she is so used to it, that it's difficult to say anything, but always can be better. Discussion that people who sees something for the first time sees things differently that people who are used to it.

At the end of the workshop: the four groups presented their board to the others and discussed their main findings. These boards were photographed as evidence of the activity and for assisting the CL team in their thinking about the design of the pedestrian bridge and Beach.

Photos of the boards shown here:

### Group 1



### Group 2:

BRIDGE	BEACH	PATH
Well lit	Using different colours (light chains along the river)	Colours create a nice atmosphere
Soft light	City is my home	Safety (border lighting creates safe feeling)
Safe	Contrast free lighting	Activities beside the path
Border (fence) lighting, spiders	Opportunities for conducting different activities	Meeting places

	Activities	Light and pedestrian on the same level
	Swinging (for adults)	Calm
	Cozy tree lighting	Lighting on trees
	Intimate	
	Cute lighting	
	Winter swimming (notice when drowning)	



### Group 3:

BRIDGE	BEACH	PATH
Dim/soft light	Object that stands out	Lower/ground lighting, can see where you are stepping and does not shine directly at your face
Light under seating, trashcans beside the benches, lighting under handle	Sitting area for being together with people	Energy efficient lighting
Nice architectural design (landmark, well lit)	Common activities (movies)	Playful
	Activities (chess)	Interesting surface – but still easy to use scooter and bike
		Lit trees and plants (but not good for insects)
		Beautiful and eye-catching lighting design

### Group 4:

BRIDGE	BEACH	PATH
Lighting at the top	Sitting area/benches with light coming below – inviting and creates atmosphere	Distinctive cycling path



Low light chain (warm) – connecting, seaside vibes (water, harbour)	Lighted greenery	Lighted greenery
Distinctive in the dark, glowing cycling path	Swings for everyone!	Smooth lighting on the path (while getting from A to B), no dark spaces, corners
Lighting or art on the market building wall (different during night and day)	Cozy area for everyone, also elders - place to come and meet (cozy lighting)	
Seasonal lighting (dynamic)		
Every 1000 <sup>th</sup> crosser – lighting changes		



#### 4. Walking group workshop (25 May)

As discussed in the Deliverable, Tartu is characterised by low levels of civic participation and low interest in joining organizations despite high levels of activity amongst the elderly. Much ULL activity therefore consisted of joining existing activities in order to generate discussions for research/co-design. For example, the research assistant regularly participated in weekly older citizens' walking group in Annelinn. Some of the groups' walks passed the lighting installation site and allowed for onsite discussion of design features, uses of the area and needs for amenities. For example, on 25 May, four members of the group participated in a one hour long discussion, on site.

Topics covered: frequency of use of different aspects of the site (exercise, benches, bridge)

Detailed narratives of shopping trips into city, using the bridge

Dangers in area, above all mixed use by bikes and pedestrians

Seasonal changes in use and atmosphere of the site

Transport connections, toilet facilities

Winter and summer sport uses of the area

Inter-generational relations in this area

#### 5. MEETINGS WITH LOCAL ASSOCIATIONS AND CIVIC STAKEHOLDERS



1. 9 March – meeting with Annelinn library staff and members of the Annelinn Association (residents' group) to discuss local issues for elderly and bases for cooperation
2. 9 March – meeting with Kalda day centre staff to discuss social services provision for the elderly and develop strategies for engaging the elderly in Annelinn
3. 10 March and 18 May – meetings with Tartu social services, elderly care providers
4. 22 May – meetings with Kodukotus, the largest local provider of activities and centres for the elderly including staff and participants
5. 4 May – meeting with members of Tartu Maheaed (community gardening organization)

## **7. INTERVIEWS**

During the period covered by the Deliverable, there were 36 interviews carried, of an average length of one hour. Of these, 25 were with elderly citizens, 11 with care workers, relatives, local actors.

## **8. OBSERVATION**

During the period covered by the Deliverable, there were approximately 11 days of observation, photo documentation and short street interviews in the installation site. This is difficult to quantify but represents observation of the site across seasonal and weather variations, different times of day and week and participation in special events.