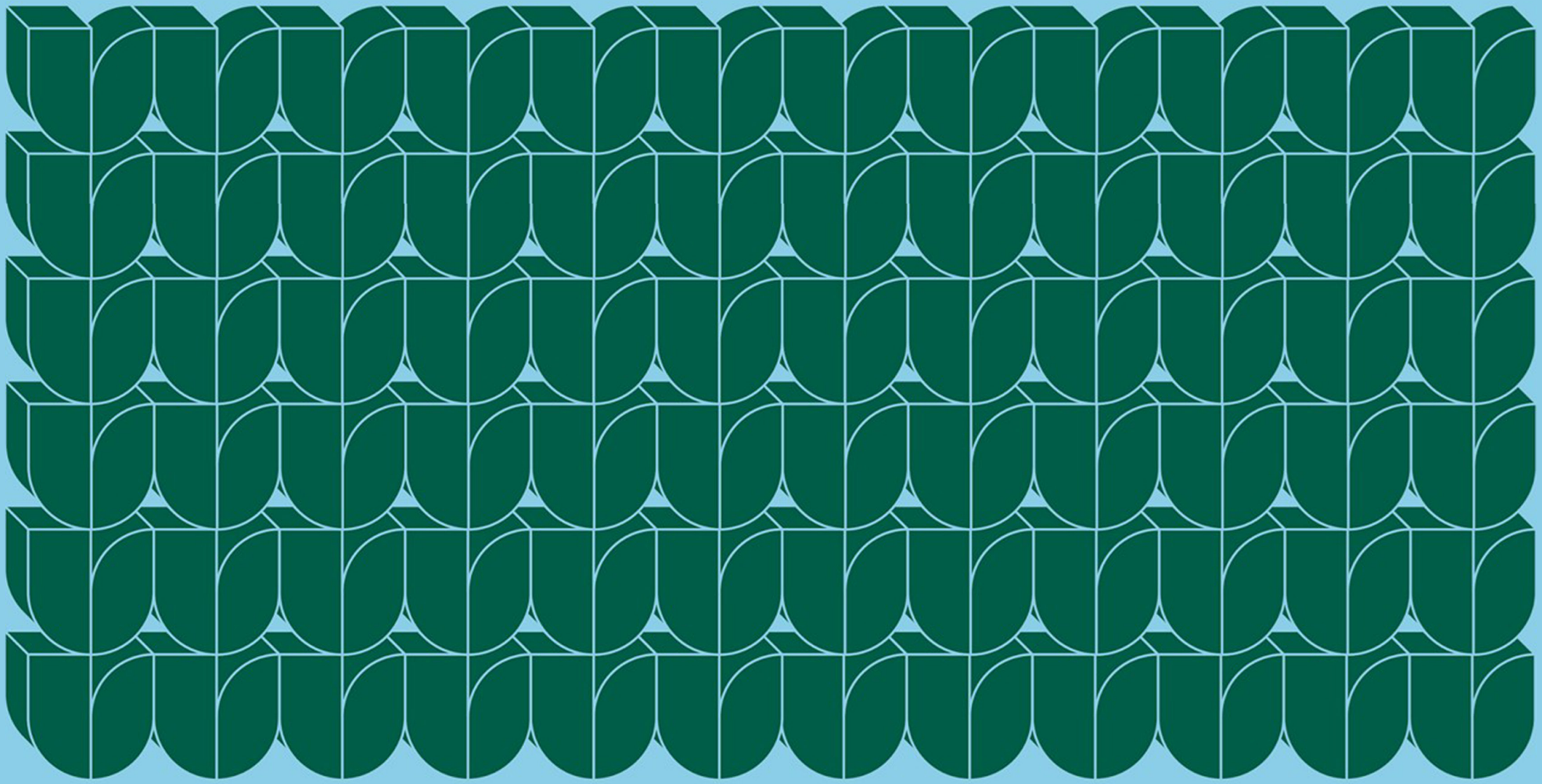

U-Care

TECHNISCHE UNIVERSITÄT BERLIN

Building Health Lab

University of Cyprus

CHALMERS

UNIVERSITÀ DEGLI STUDI FIRENZE

RISE

Co-funded by the European Union

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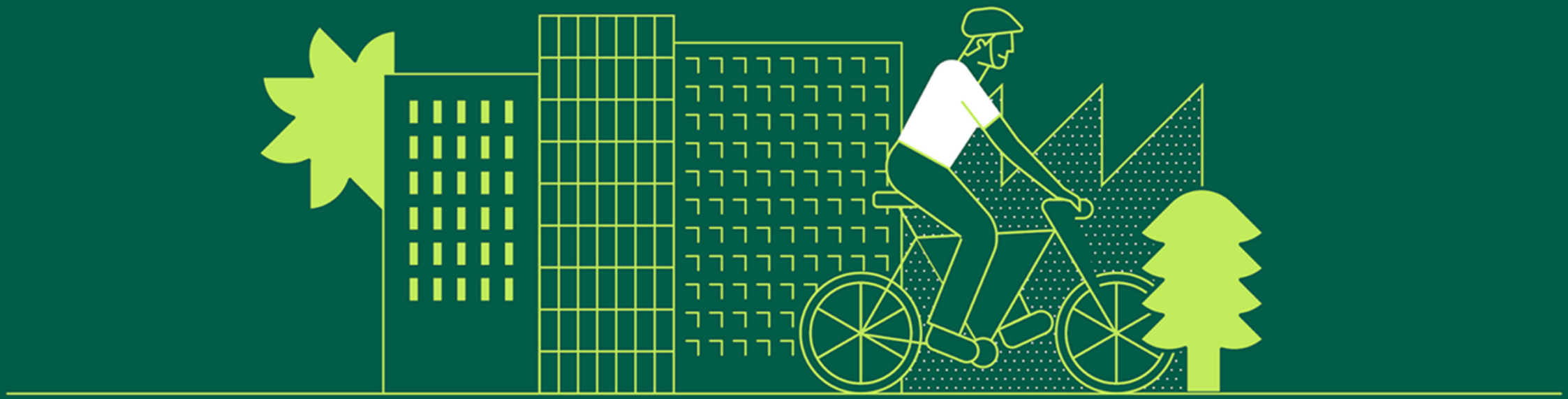
Project number: 2023-1-ES01-KA220-HED-000155347

U-Care



Combating the impacts of climate change on Urban eCosystems and heAlth across diffeRent climatic zones in Europe

SECONDO SEMINARIO TEMATICO

U-Care

Erasmus+ KA220-HED
Cooperation partnerships in higher education
Grant Agreement NO. 2023-1-DE01-KA220-HED-000161246

Scientific coordination
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Dr. I. Geddes (UCY)
Prof. G. Lindahl (Chalmers)
Prof. J. van Rijs (MVRDV, TU Berlin)
Ing. A. Donato (DIdA, UNIFI)
Ph.D. G. Hasanaj (DIdA, UNIFI)
Arch. A. Sore (DIdA, UNIFI)

Course duration
From 12th March to 28th May 2025

Participants
Minimum: 10 students
Maximum: 40 students

Teaching language
English

Introduction

The thematic seminar U-CARE, organised as part of the ERASMUS+ U-CARE research project, addresses the topic of urban area regeneration by adopting an innovative three-phase methodology, UrbanCare (developed by BHL), which provides a structured approach to analysing and transforming urban public spaces while tackling key environmental and health challenges. This methodology, which includes mixed-methods analysis and participatory design processes, helps generate regenerative design solutions capable of improving the social and environmental conditions of the urban districts selected as case studies in the partner cities involved in the research (Florence, Berlin, Nicosia, and Gothenburg).

The pilot course features a series of lectures delivered by faculty and researchers involved in the research project, inspired by the themes of evidence-based planning and design for urban health.

Educational program

Learning objectives

By the end of the UNIFI Course 1, participants will be able to:

- **Acquire and apply** new methodologies for collecting, managing, and processing data to support evidence-based urban design, specifically focusing on meeting the needs of vulnerable social groups (children, the elderly, and people with disabilities)
- **Increase** knowledge of cutting-edge technologies used to analyse the energy and environmental performance of the built environment, paying particular attention to mitigating the urban heat island effect and addressing soil permeability issues
- **Develop and evaluate** innovative design strategies to improve walkability for diverse user groups and mitigate climate change effects (e.g., heat islands, stormwater runoff) that contribute to biodiversity loss and negatively impact human health
- **Test and assess** the effectiveness of low-impact, reversible, and accessible technological solutions that enhance outdoor comfort in pedestrian routes and urban rest areas (e.g., public transport stops, respite areas, priority entrances, and crossings), including spaces within and around existing public buildings (such as schools, hospitals, and libraries)

Teaching methods

1. On-line registered lectures
2. U-CARE digital platform to access case studies data and learning materials
3. Development of project proposals
4. Collective revisions to verify the progress of the work
5. Final presentations

Course activities

The seminar aims to teach and apply the innovative UrbanCare methodology, focusing on environmental design topics for climate change mitigation and adaptation in urban areas. The main objective is to develop design strategies based on adopting technological solutions to mitigate the adverse effects of climate change on citizens health.

The planned activities include:

- Presentation of the U-CARE research project and the activities of the thematic seminar
- International U-CARE seminar to explore the topic of Urban Health with experts in the field
- Participation in the decision-making workshop with citizens and key stakeholders;
- In-depth lectures
- Exploration of the intervention area through the U-CARE digital platform
- Documentation of the results in both print and digital formats
- Development of design hypotheses
- Collective review sessions to monitor the progress of the work

Learning assessment methods

To obtain the Certificate of Participation, participants must present a project (graphic drawings and final summary report) on the chosen case study, illustrating the results achieved.

All student teaching materials will be available on the U-CARE Platform:
https://obvious-beard-888.notion.site/Combating-the-impacts-of-climate-change-on-urban-ecosystems-and-health-across-different-climatic-zon-1b26c542bea080239521eae9bc1e034f

Syllabus

N.	DATE	LOCATION	LECTURE TITLE	PROFESSORS
1°	**wed 12 march 2025** 09:30 -13:30	**San Niccolò,** 4° piano	**Opening day**	
			Presentation of the Seminar's operational program and presentation of case studies	prof. R. Romano, prof. P. Gallo, prof. N. Setola, prof. L. Marzi e arch. A. Sore (DIdA, UNIFI)
2°	**wed 19 march 2025** 09:00 -17:00	**Santa Teresa,** Aula 401	**INTERNATIONAL SEMINAR U-CARE:** **Urban Environmental & Health Research**	prof.R. Romano (DIDA, UNIFI), arch J. van Rijs (MVRDV, TU Berlin), prof. A.V. Sosa (TU Berlin, BHL), dr. I. Gedes (UCY), prof. G. Lindahl (Chalmers) e arch. A. Sore (UNIFI)
3°	**sat 22 march 2025** 09.30 -13.30	**Quartiere 4** Circolo Pensionati Isoloto	**FLORENCE U-CARE Decision Making Workshop**	
4°	**wed 26 march 2025** 15.00 -18.30	**Santa Teresa,** Aula 401	Diagnosing Urban Health Challenges Using the UrbanCare Framework	prof. A.V. Sosa (TU Berlin, BHL)
5°	**wed 02 april 2025** 15.00 -18.30	**Santa Teresa,** Aula 401	Quartieri Sani HUB: Healthy and Inclusive Neighbourhoods for the Communities of the Metropolitan City of Florence	prof. N. Setola (DIdA, UNIFI)
			The U-Care Platform—Data-Driven Urban Health Analysis	prof. A.V. Sosa (TU Berlin, BHL)
			Laboratory and Revisions	prof. R. Romano e arch. A. Sore (DIdA, UNIFI)
6°	**wed 09 april 2025** 15.00 -18.30	**Santa Teresa,** Aula 401	Spatial Inequity: concept and impacts on health	prof. A.V. Sosa (BHL, TU Berlin)
			Walkability and Accessibility	prof. L. Marzi (DIdA, UNIFI)
			Laboratory and Revisions	prof. R. Romano e arch. A. Sore (DIdA, UNIFI)
7°	**wed 16 april 2025** 15.00 -18.30	**Santa Teresa,** Aula 401	Analysis and evaluation of the Urban Microclimate	ing. A. Donato (DIdA, UNIFI)
			Urban Heat: understanding its causes, mitigating health impacts, and advancing Climate-Resilient Design	arch. A. Sore (DIdA, UNIFI)
			Laboratory and Revisions	prof. R. Romano e arch. A. Sore (DIdA, UNIFI)
8°	**wed 07 may 2025** 15.00 -18.30	**Santa Teresa,** Aula 402	Stormwater Runoff: Addressing stormwater as part of broader water-sensitive urban design	arch. A. Sore (DIdA, UNIFI)
			Laboratory and Revisions	prof. R. Romano e arch. A. Sore (DIdA, UNIFI)
9°	**wed 14 may 2025** 15.00 -18.30	**Santa Teresa,** Aula 401	Biotope Loss: Balancing climate mitigation strategies with biodiversity conservation (NbS)	phD G. Hasanaj (DIdA, UNIFI)
			Laboratory and Revisions	prof. R. Romano e arch. A. Sore (DIdA, UNIFI)
10°	**wed 21 may 2025** 15:00 -18:30	**Santa Teresa,** Aula 401	Laboratory and Revisions	prof. R. Romano e arch. A. Sore (DIdA, UNIFI)
11°	**wed 28 may 2025** 15:00 -18:30	**Santa Teresa,** Aula 402	**FINAL PRESENTATIONS/EXAME**	

Florence Case study

The U-CARE seminar focuses on Florence's District 4, specifically the urban areas of Isolotto, Legnaia, and Soffiano. These areas provide a significant context for examining current issues such as environmental quality, climate change resilience, and citizens' health.

District 4 stands out for its variety of urban spaces. The area closest to the Arno River, known as Isolotto, can be considered an emblematic example of a "garden city" and is renowned for its extensive green spaces that serve as a vital social hub. In contrast, Legnaia and Soffiano, with their high residential and infrastructural density, are urban areas facing various environmental sustainability challenges, including soil permeability levels and the heat island effect and their subsequent impacts on human health.

Based on these considerations, the exercise conducted within the UrbanCare methodology identified three different thematic contexts corresponding to distinct areas of investigation:

- Urban Margins
- Urban Connector
- School Network

Loop 1 - Urban Margins

Loop 1 examines the positive and negative aspects of the peripheral pathways in the heart of Isolotto. Developed mainly in the post-war period, Isolotto is distinguished by its numerous public and private green spaces, which alternate in varying degrees of harmony with the built environment. The route circles around this urban area, passing through a series of poorly designed and underutilised spaces with a significant lack of green and social interaction spaces.

Specifically, Loop 1 winds connects the following areas:
1. Piazza dell'Isolotto
2. Lungarno dei Pioppi
3. Via Mortuli
4. Viale Talenti - Piazza Batoni
5. Via Torcicoda
6. Il giardino pubblico Baracche verdi
7. Viale dei bambini
8. Viale delle Magnolia

The analysis of this loop aims to understand how marginal spaces influence environmental quality, identifying the factors and potential barriers that reduce accessibility and outdoor comfort, impacting the health of elderly residents aged 70-80.

Regeneration proposals should consider the current conditions and aim to improve the marginal pathways by enhancing accessibility and climate adaptation, making the neighbourhood more livable and sustainable.

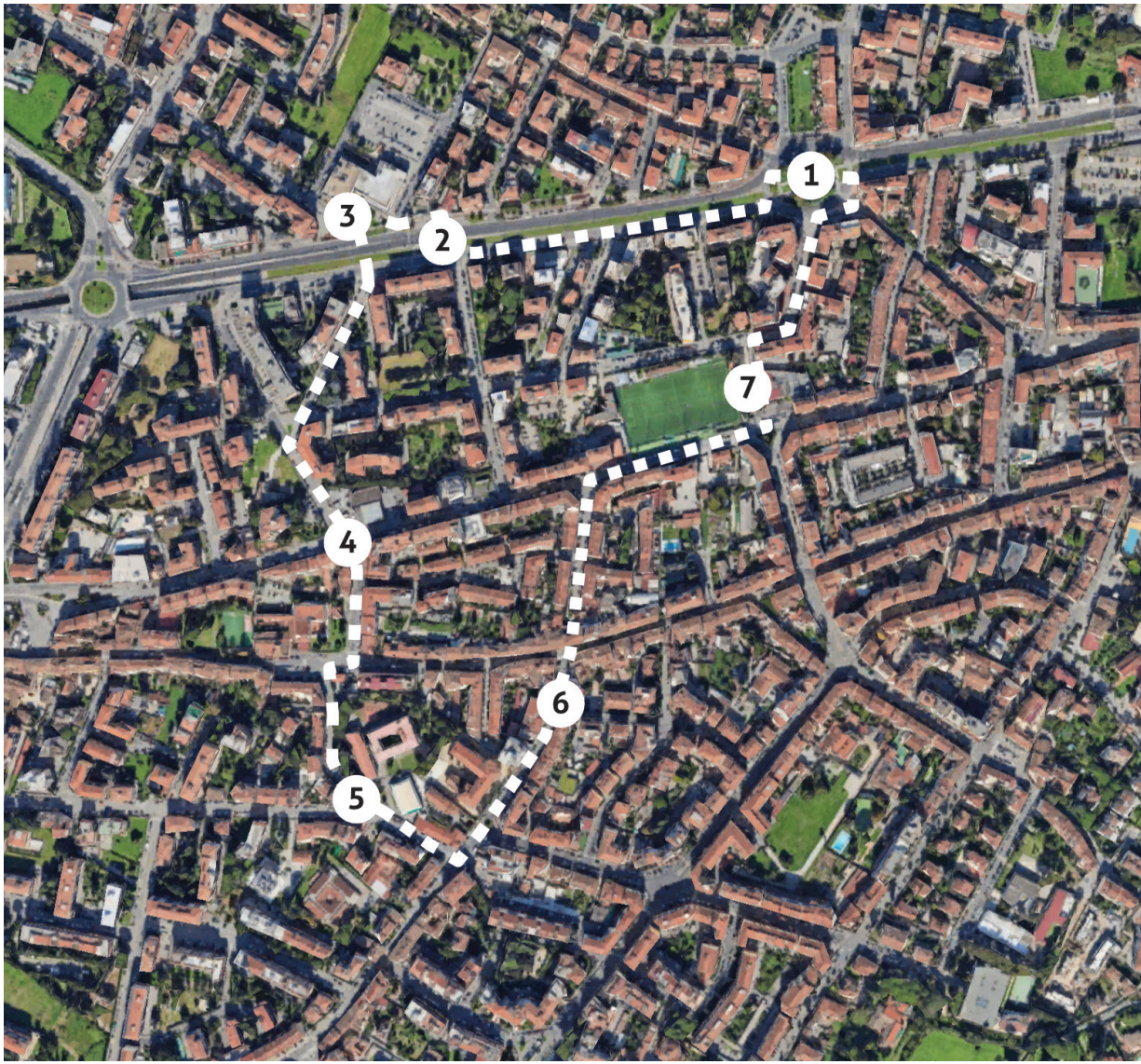
Loop 2 - Urban Connector

Loop 2 examines the pedestrian pathways that connect Legnaia, Soffiano, and Viale Talenti, which is the main traffic entrance to Florence from the west. The route begins at Viale Talenti and extends through Legnaia to Via Olivuzzo in Soffiano, connecting several urban points of interest. These include tram stops at Viale Talenti, commercial mall Coop, Mario Pucci Square—home to a football field, local pharmacies and caffees.

Specifically, Loop 2 passes through:
1. Viale Talenti - Tram stop Piazza Batoni
2. Viale Talenti - Tram stop Talenti
3. Shopping mall Coop
4. Via Antonio del Pollaiolo
5. Middle School L. Ghiberti
6. Local pharmacy
7. Piazzetta Mario Pucci

The analysis of this loop aims to understand how citizens with motoric disabilities navigate the neighbourhood and identify which elements of the urban space and microclimate hinder accessibility or worsen their perception of comfort, which in turn impacts their health.

Regeneration proposals should take into account the current conditions and aim to improve pathways and urban areas by enhancing accessibility, safety, and climate change adaptation, further increasing outdoor comfort and residents' health.



Loop 3 - School network

Loop 3 explores the pathways and outdoor spaces connecting the schools in Legnaia and Soffiano to analyse the routes that link the following educational facilities:

1. Primary School Anna Frank
2. High School Niccolo Rodolico
3. Kinergarten La Farfalla
4. Kinergarten La Koala Blu
5. High School Antonio Meucci
6. High School Galileo Galilei
7. Kinergarten Niccolini
8. Primary School Niccolini
9. Recreational and Cultural Center Boschetto
10. Primary School Maria Fiorenza Nardi

The analysis of this loop aims to understand how younger residents, aged 0-18, move through the neighbourhood and to identify which elements of urban space and microclimate limit accessibility or reduce their perception of comfort, consequently impacting their health.

The regeneration proposals should aim to improve the accessibility, safety, and environmental quality of school pathways and enhance existing outdoor spaces (school courtyards, parks, urban voids, etc.) to increase the well-being and urban comfort of young residents. The design proposals should integrate climate-resilient elements and create spaces that promote social interaction and physical activity, thereby contributing to developing a more inclusive, healthy, and stimulating urban environment for children and adolescents.

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