

VARCITIES - CASTELFRANCO VENETO Pilot - Visionary solution VS6

The Untold Stories: Co-creation of Nature-based Solutions, what did we learn?

Sara Biancifiore, PhD candidate in Sustainable Development and Climate Change - IUSS Scuola Universitaria Superiore Pavia - Politecnico di Torino - Eurac Research

Background and problem statement

Nature-based solutions (NBS) have been largely adopted in different urban contexts, being able to provide climate change mitigation and adaptation as well as other multiple benefits, like biodiversity increase, air quality improvement, disaster risk reduction and water management. European-funded projects, as well as public administrations and private companies, often apply participatory planning processes in urban regeneration, since they are considered to deliver collective benefits to the communities involved and promote climate justice. The research's objectives are to analyze the contribution of participatory processes and digital technologies to the quality of decision-making and compare the literature on the topic and the reality of the application to urban projects. Urban digital transformation and Nature-Based actions that are proposed by various Horizon Europe projects go in this direction. Nature-based solutions are, by the Europe Commission's definition: "Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience" (European Commission & Secretariat-General, 2019). NBS is considered able to address different and important societal challenges both in cities and landscape areas, such as climate change mitigation, adaptation and disaster risk reduction; to foster sustainable urbanization and biodiversity enhancement, as well as the market challenges, being able to create new jobs and contribute to the green economy shift. They can promote the achievement of the UN Sustainable Development Goals for 2030. (Wild et al. 2020) (European Environment Agency 2021) (European Commission & Secretariat-General, 2019)(Wendling et al. 2021)

Research idea

In recent years, there has been an increasing amount of literature on the topic of the multiple benefits correlated to Nature-based solutions in urban projects, starting from 2015, with a peak in the recent last years, 2021 and 2022. Nature-based solutions are often presented as an alternative to grey solutions in climate change adaptation. The idea mostly present is to monitor and analyze the correlated positive outcomes on air quality, environmental and biodiversity enhancement and social impacts, related to higher life quality. In this process, the urban design of the solutions plays an important role, especially when related to the regeneration of public space. This is why participatory planning approaches and design thinking are often suggested in the process, with the idea of both promoting positive local networks and directly involving the citizens and users. The main research idea is to point out the involvement of citizens and users in the planning process to promote a democratization of the public space and its regeneration through nature-based solutions. **Are participatory processes able to achieve people's inclusion in the planning process? Is this useful to bring the project closer to people's needs or is it just a way of gaining citizen's approval from the municipalities involved?** As pointed out also by literature papers, a critical aspect is to evaluate the contribution of participatory processes on the quality of decisions. Public consultations are often seen as a way of building public trust in the decision-making process, which is very important for the success of this kind of regeneration process and for the implementation of social-learning strategies. (Ferreira et al., 2020a; Frantzeskaki, 2019)

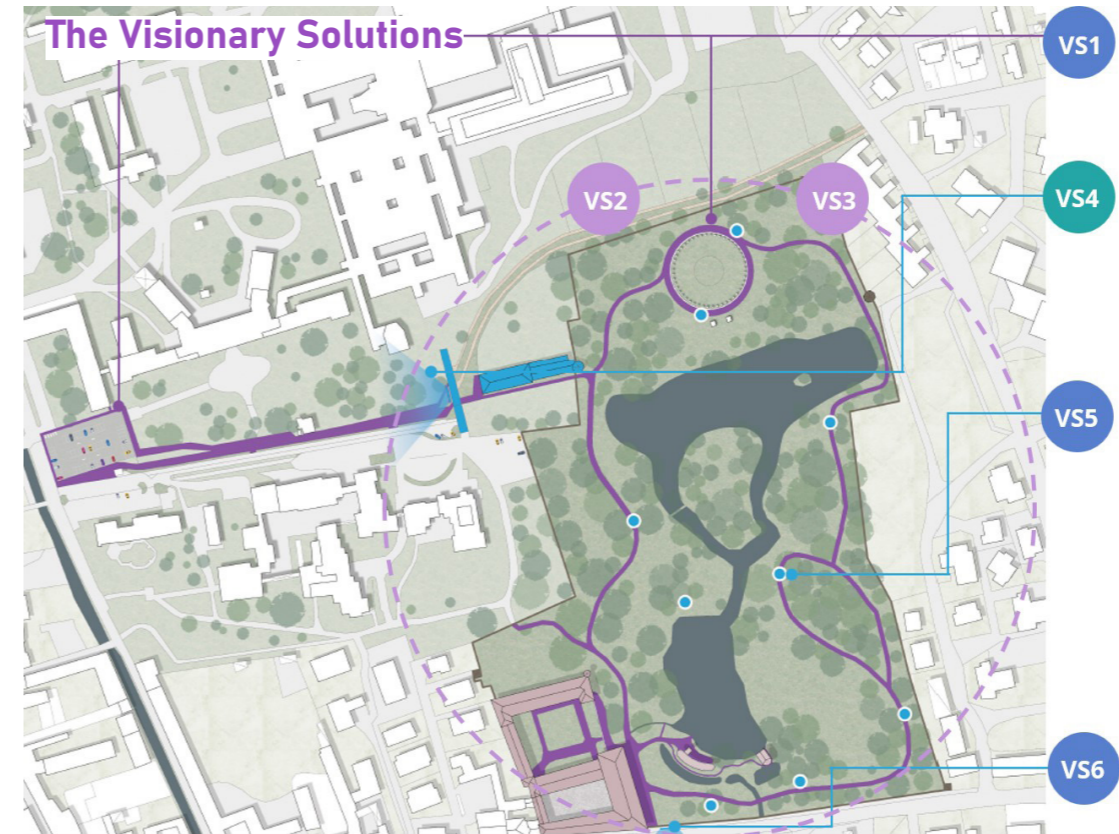
VARCITIES European Horizon 2020 project

The Varcities project is a European Horizon founded project that tries to develop new solutions, also called Visionary Solutions at the urban and city scale, combining Nature-based solutions and digital solutions. The vision is to increase the health and well-being of citizens: children, young people, middle aged, and the elderly, who are exposed to diverse climatic conditions and challenges around Europe, by exploiting nature-based solutions from a digital, social and cultural perspective. Public spaces are seen as people-centered, being able to support creativity, inclusivity, health, and increase life quality for the citizens. The project started in September 2020 and it will last until February 2025, with a consortium of 25 partners. The seven selected Pilot Cities are allocated in different European countries and climates, that are currently testing and implementing a series of innovative urban actions. **Castelfranco Veneto is a town and a municipality of Veneto, located in Northern Italy, 30 km away from Treviso, the province capital, and approximately 40 km from Venice.** The actual population is approximately around 33.300 inhabitants, and the municipality area covers a surface of around 50 sq. km, with a density of 655,2 inhabitants per square kilometer. The main economic activities of the area are manufacturing, mainly metalworking, trading, construction and tourism. **Under Varcities project**

VARCITIES project



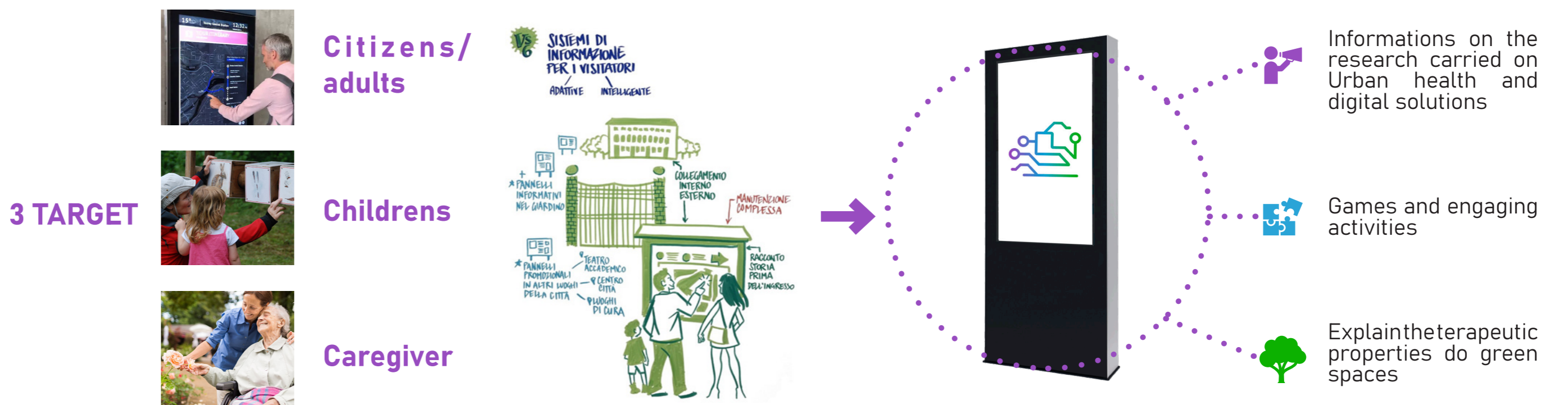
CASTELFRANCO VENETO pilot



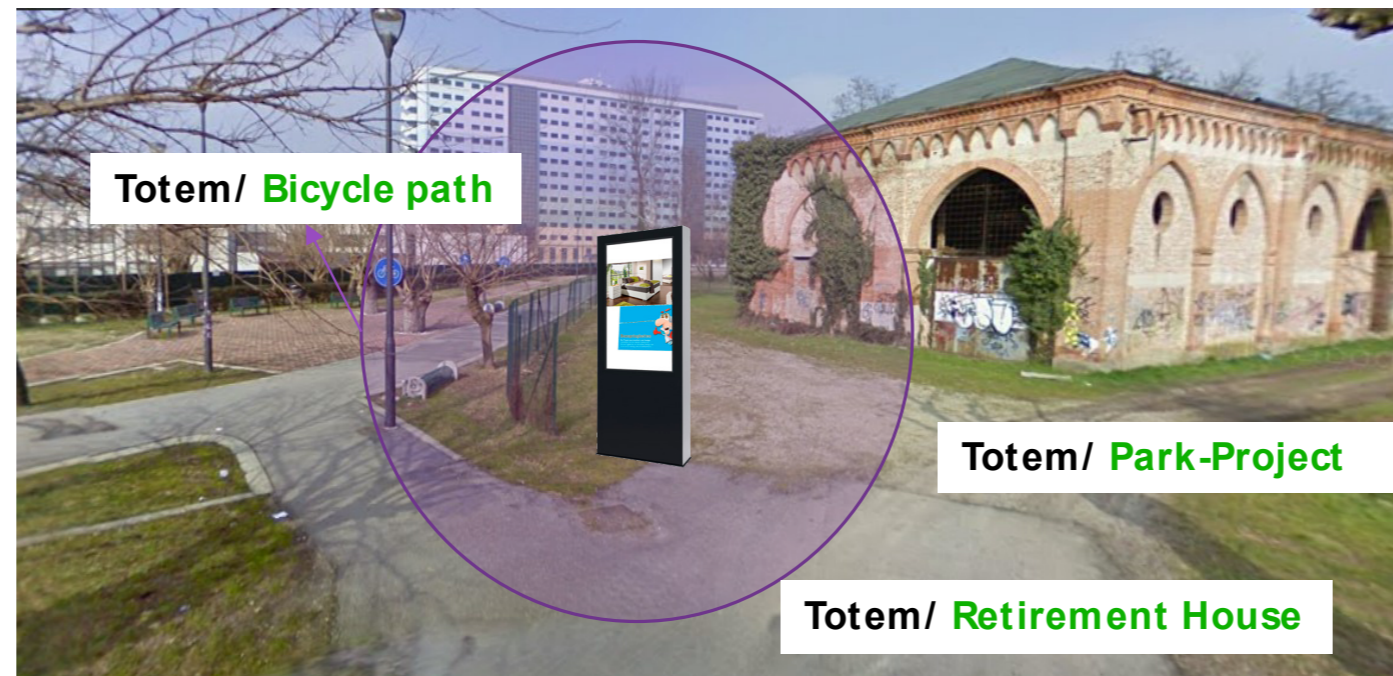
Visionary Solutions

- VS 1: The creation of garden access routes
- VS 2: The analysis and monitoring the effects of natural environments on well-being.
- VS 3: The collection and monitoring of microclimatic and environmental conditions in the different areas of the garden, forest area, open area, lake area, in order to carry out an assessment of the effect of green and blue areas on health and well-being of visitors.
- VS 4: The development of "Best-practices manual for the (re)design of green public spaces in relation to human health and wellbeing" and establish of a "Local Landscape Observatory"
- VS 5: Implementation of virtual and ICT tools
- VS6: Installation and realization of a touch screen totem

VISIONARY SOLUTION VS6 totem



Relationships with the context



TOWNHALL MEETING with the citizens

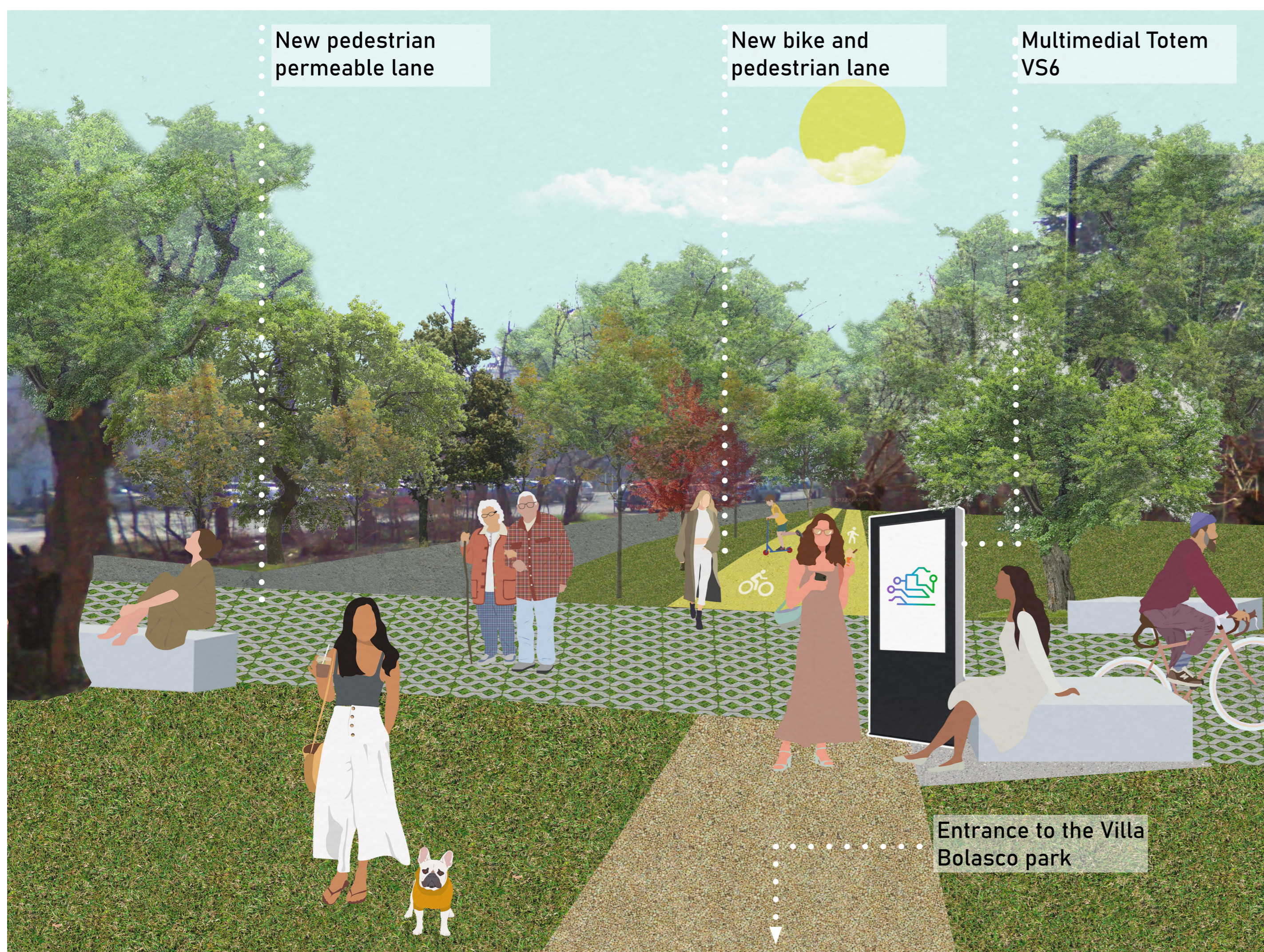


Accessibility



URBAN HEALTH Concept

Through the Totem I inform you about the benefits that the Park has and the role that greenery plays for your H&WB within urban contexts. I'll tell you how the Park can also be a teaching and discovery space for your children I convince you, caregiver, to bring your family member to the park as an alternative treatment for physical and mental well-being through the designed VSs in Villa Bolasco



six Visionary Solutions have been financed, with the objectives to create a healing garden for elderly and people suffering from Alzheimer's disease and to develop the Local Observatory on therapeutic effects of the landscape. The engagement of local stakeholders was carried starting from June 2021 with different methodologies and techniques. **The Castelfranco Veneto team has addressed the challenge through a combination co-creation initiative: public town hall meetings, feedback forms, as well as ad hoc issue-specific working groups.** Co-Creation activities:

- June 2021: First co-creation workshop in order to introduce, validate and refine the VS with the local stakeholders.
- November 2021: Second co-creation workshop with the aim of collecting feedback on the updated VS from a wide range of stakeholders.
- January 2022: Meetings among pilot experts and representatives.
- May 2022: Spring in Villa Bolasco 2022 event with two rounds of Focus groups and workshops. (Varcities, 2023)

 Varcities project developed through participatory methodologies six visionary solutions for this pilot, which are:

- VS 1: The creation of garden access routes** to ensure an improved accessibility to the target users of the garden, visitors, elderly people and people with special mobility needs, with new access road to the villa and improvement of the internal paths of the garden to allow a direct, safe and comfortable visit of the Villa Bolasco historic garden.
- VS 2: The analysis and monitoring the effects of natural environments on well-being,** behavior and physiological states in elderly and people with dementia, in order to support the design of green spaces and to foster nature-based psychological and clinical interventions.
- VS 3: The collection and monitoring of microclimatic and environmental conditions in the different areas of the garden,** forest area, open area, lake area, in order to carry out an assessment of the effect of green and blue areas on health and well-being of visitors.
- VS 4: The development of "Best-practices manual for the (re)design of green public spaces in relation to human health and wellbeing"** and establish of a "Local Landscape Observatory" with a focus also on the therapeutic effects of green and blue areas.
- VS 5: Implementation of virtual and ICT tools** (i.e., sensors, smartphones and apps) to support a rewarding experience of garden users & for the assistance of visitors with disabilities, making the garden more accessible and inclusive in the long-term for all visitors. Visitors' behavior will be monitored via sensors and Android devices, for safety reasons but also to understand the most visited parts of the park.
- VS6: Installation and realization of a touch screen totem located at the entrance of Villa Bolasco,** near the Landscape Observatory, to develop an information system for visitors of the garden. The system, by showing images, videos and sounds of the garden, and by visualizing environmental monitored data, will stimulate the curiosity of citizens and visitors, informing them on what are hidden behind the external walls and its cultural and natural value, in order to perceive the benefits provided by the nature on health and well-being. (Varcities, 2023) obtain feedbacks on the preliminary idea, elaborate it and then implement the totem's software design.