D7.5: Report on SROI analyses in the demo cases

VARCITIES | Work Package 7, Task 7.5

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SROI Glossary

All definitions are based on the "A guide on the Social Return on Investment" [1].

Social Return on Investment (SROI): Social Return on Investment (SROI) is an instrument that allows the social impact assessment of interventions that have an added social, economic and environmental value.'

Inputs: they are the investments used to carry on the activities. They can be financial or "in-kind", but they must be associated with a value regardless of the nature of the resource.

Outputs: they are the measurable activities of an intervention.

Outcomes: the changes generated on stakeholders as a result of an intervention, that can be both positive and negative, expected or unexpected.

Financial proxy: The approximation of the monetary value obtained from market prices, that represents the equivalent benefit of a particular outcome.

Deadweight: The percentage of change that would have occurred even without the intervention.

Attribution: A percentage that measures the extent to which other organizations or individuals contributed to the outcome.

Displacement: A factor that indicates how much of the outcome led to shifting an issue to a different area rather than resolving it.

Drop off: A reduction rate applied to interventions with effects lasting beyond a year, reflecting the decreasing influence of the project over time on the key stakeholders, as other factors come into play.

Material: it means relevant, associated to information whose omission would influence the analysis result.

Impact: the social value generated to stakeholders after taking into account the discount factors and the duration of an intervention's effects, therefore the drop-off.

Abbreviation list

Term	Description
CBA	Cost-Benefit Analysis
HACT	Housing Associations' Charitable Trust
SROI	Social Return on Investment
ToC	Theory of Change
VS	Visionary Solution
WTP	Willingness-to-pay
NBS	Nature-Based Solution

1 Executive Summary

The VARCITIES project has successfully applied the Social Return on Investment (SROI) methodology and has added advancements in the impact assessment of European projects. In fact, the SROI framework allows to calculate how many euros of social value are produced for every euro invested by the European Commission and eventually, local resources.
By implementing the SROI framework in VARCITIES the main achievements must be recognized:

- The application of SROI methodology with the Willingness to pay approach and the Financial Proxy one, which were experimented in the urban context for the first times in the literature
- The SROI guidelines on the application of the methodology for municipalities to calculate the social impact of public space interventions. (Attached 12.1SROI Guidelines)
- The development of a methodology to streamline the often-complex process of conducting SROI workshops, making them more engaging and easier to follow. This was especially important given the challenges of evaluating urban interventions.

The SROI has been tested first in Castelfranco Veneto pilot [2], then it was decided to extend the application to the other pilot areas to support the research on the quantification of social value related to the impact of public spaces. The latter being often studied but only rarely quantified, especially in monetary terms.
The process has been tailored to match the specific situation of each pilot site. Therefore, a general methodology has been agreed upon and applied in an experimental way, combining rigor and customization. Additionally, the nearly 1.5-year period of Forecast SROI application allowed for significant improvements, transforming the original questionnaire format into a game-like interface.
It was found that the Visionary Solutions (VSs) implemented as part of the VARCITIES project delivered remarkable results in terms of euros of social return for every euro invested in the VSs. The calculation of the SROI ratio has considered as investments the 70% of the total budget allocated to the pilots, as agreed in the Grant Agreement, including additional external resources. The results were all positive indicating the efficacy of the overall investment in terms of social impact. The specific results are reported in Table 1 and are detailed in the chapters from 4 to 10.

Table 1 SROI results per pilot

Pilot	SROI
Chania	1: 4,80
Gzira	1 : 6,12
Skelleftea	1 : 3,97
Dundalk	1 : 2,00
Castelfranco Veneto	1 : 2,04
Leuven	1 : 2,78
Novo Mesto	1 : 2,16

2 Introduction

2.1. General context: the lack of awareness on social impact

The current climate change and mitigation challenges, as well as the lack of resilience in cities and communities, emphasize the need for direct actors of change - including planners, policy makers, and municipalities - to develop creative strategies for addressing an unpredictable future filled with natural disasters. The VARCITIES vision is to implement a series of VSs that are meant to improve urban spaces and therefore citizens' health and wellbeing, by providing a variety of benefits such as microclimatic improvements, enhanced aesthetic appeal, and increased awareness of local biodiversity. This aims to support the stewardship of preserving and promoting nature for future generations.
Searching through the literature, it emerges that one of the main barriers to implementing solutions as the VS is that local stakeholders lack the tools to quantify their actual worth [3–5].

2.1.1. SROI as a valuable tool to calculate social impact

SROI is defined as an instrument that allows for the accounting for interventions that have an added social, economic and environmental value [1].
The implementation of SROI in VARCITIES' pilots represents a novel approach, expanding its use beyond conventional sectors such as social services, healthcare, and education. Although SROI has seen limited application in urban planning, growing research emphasizes the need for evaluation frameworks that integrate social, health, welfare, and environmental outcomes alongside economic indicators [6].

2.2. Contents of Deliverable

The present deliverable provides a detailed explanation of how a relatively new social impact assessment technique is used to unveil the value that VARCITIES brings to local communities in the seven European cities where VSs are implemented.
The deliverable is articulated into two main parts:

1. Methodology and peculiarity of SROI application in VARCITIES
2. Reporting of the 7 pilot areas analyses

An annex that includes guidelines specifically elaborated to teach pilot leaders and experts how to implement the SROI framework, aiming to create capacity building among partners, is attached. These guidelines also serve as a streamlined method for other subjects that are willing to conduct SROI analysis for urban intervention case studies. The guidelines summarize the key elements of the SROI Guide 2012 [1].

3 SROI Methodology

In contrast to its conventional application, which was first intended to evaluate effects in domains like social services, healthcare, and education, the use of SROI in VARCITIES' pilots is an innovative method. There are currently few precedents for applying the SROI technique to urban planning. Emerging research, however, points to a shift in economic assessments and calls for more comprehensive frameworks [5]. According to this new perspective, evaluations must consider a wider range of outcomes, including social dynamics, health, welfare, and environmental aspects, in addition to economic metrics.

3.1. How to apply SROI: 6 stages and 3 Milestones

The SROI framework is typically described in six stages [1] that are: Stage 1: Establishing scope and identifying key stakeholders; Stage 2: Mapping outcomes; Stage 3: Evidencing outcomes and giving them value; Stage 4: Establishing impact; Stage 5: Calculating the SROI; Stage 6: Reporting, using, and embedding.
To facilitate practical implementation, the extensive six-stage SROI methodology has been condensed into three significant milestones for the VARCITIES Project:

- 1. Theory of Change (ToC) Identification: The first and second phases of the traditional SROI framework are included in this milestone. It involves setting the project's variables, mapping relevant stakeholders and outlining the anticipated results, i.e., the outcomes. This phase is essential to comprehend the desired social effect and match project objectives with stakeholder needs.
- 2. Quantification of Outcomes: This milestone combines stages 3, 4, and 5 of the SROI framework. It involves the rigorous process of assigning value to the outcomes defined in the ToC, and establishing the actual impact generated, by considering 4 discount factors and then combining all the data into the calculation of the SROI ratio.
- 3. Reporting and Use of Results: The final milestone, that is stage 6, focuses on communicating the findings and the strategic utilization of SROI results. This involves embedding the insights gained into decision-making processes and ongoing project strategies.

By condensing the SROI stages into these milestones, the VARCITIES Project aims to simplify the implementation process while ensuring a robust understanding and measurement of social impact.

The SROI workflow chart (Figure 1) outlines the steps of the process that has been implemented in VARCITIES, following this hierarchy:

- Milestones – macro-activities that define the overall process
- Practical Items - specific actions that are practically achieved throughout the SROI process by pilot leaders
- SROI Steps - detailed components of SROI analysis that are comprised in the practical items
- Pilot Effort - highlights tasks for which pilot experts are directly responsible for

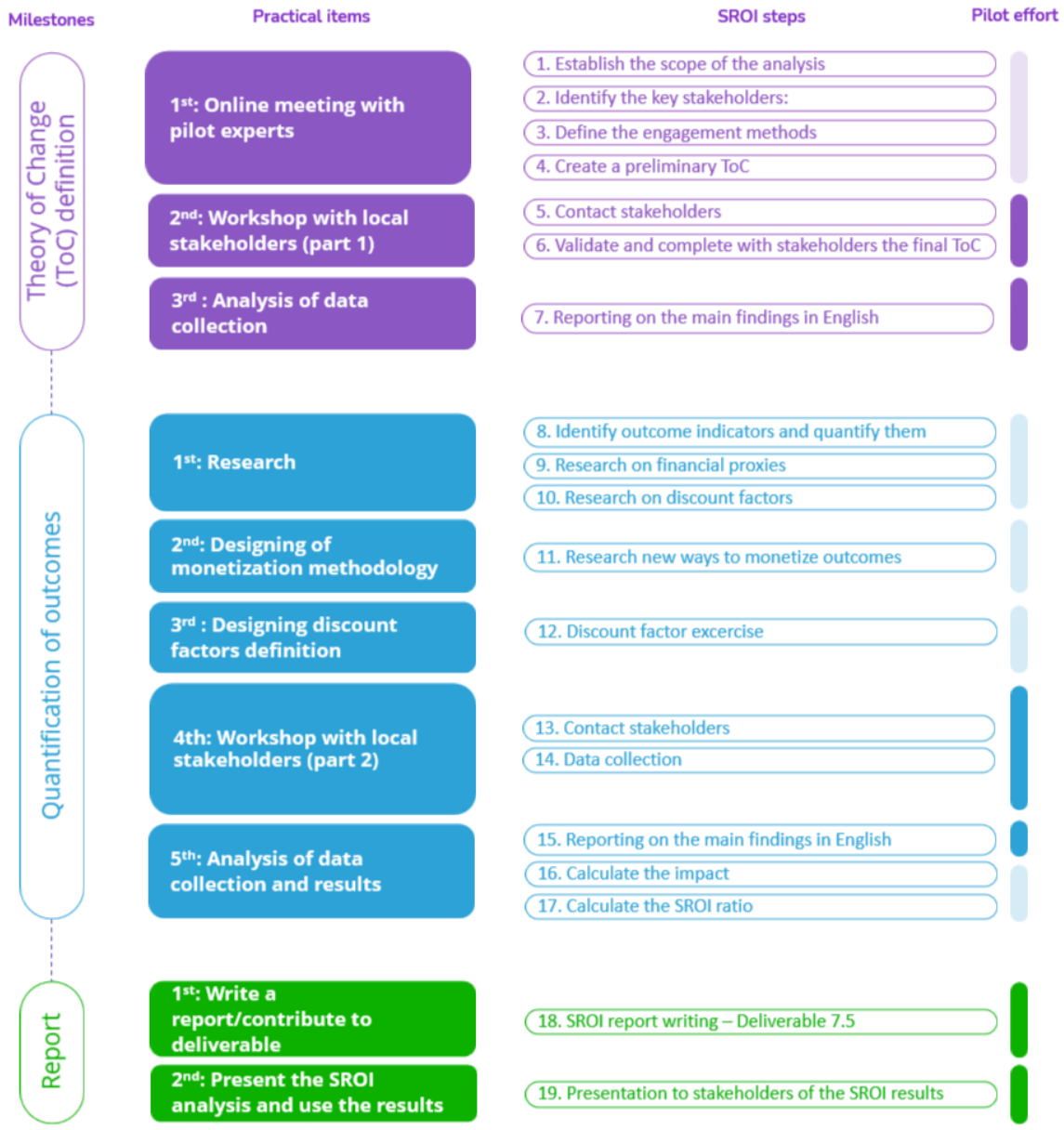


Figure 1. SROI workflow chart

3.1.1. Theory of Change (ToC) Identification

The Theory of Change (ToC) can be conceptualized as a causal chain between the different components to be identified to calculate the SROI ratio. This chain starts with key stakeholders, to which it follows the outputs, i.e., the project VSs, and the outcomes, i.e., the anticipated changes experienced by stakeholders.

Phase I: The Workshop among pilot experts

The first activity carried out in each of the remaining six pilot areas was to organize online workshops, one for each city, to outline the ToCs. These workshops were held between December 2023 and February 2024. Eurac, together with the pilot leaders and experts, met to initiate the SROI activities. Each workshop lasted approximately two hours.

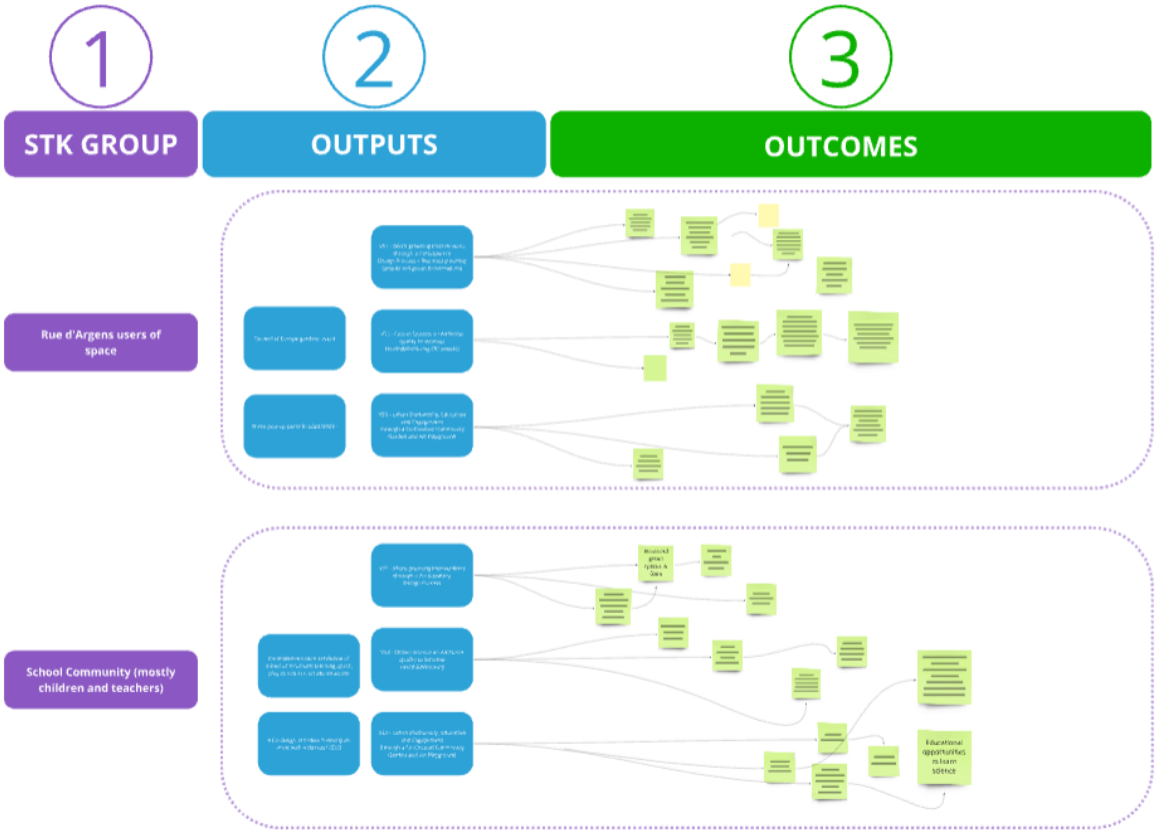


Figure 2 MIRO board first workshop for ToC definition. Gzira example

The primary purpose of the workshop was to define the starting point of the analysis. This involved identifying the direct beneficiaries of the VSs (i.e., the stakeholder groups), providing a detailed definition of the outputs, and, finally, having the pilot representatives define the hypothetical outcomes expected as a result of VS implementation. These outcomes were based on their experience and

in-depth knowledge of the solutions in place. The picture shows the ToC agreed on a MIRO board during the workshop with Gzira pilot.
To conclude, by the end of the workshop, the fundamental elements needed to conduct the SROI analysis were established, paving the way for further preparation of workshops with local key stakeholders. For this purpose, specific materials were developed to support the facilitation of these workshops.

Phase II: The Workshop with local community

The second phase involved organizing workshops with local stakeholders, during which community members actively shared their perceptions of the potential impact they expect to experience from the implementation of VSs in their neighborhoods.
This phase took longer than anticipated, as, during the final part of the project, the partners had multiple engagement activities to manage. To optimize resources and ensure that the SROI analysis genuinely involved the local community, it was decided to blend all necessary data collection into a single workshop. This included the identification of the ToC and outcomes, as well as the monetary value quantification data. One key challenge in some pilot areas was guaranteeing representation from vulnerable groups, which are a critical focus within the scope of VARCITIES.

Workshop Structure

The workshop was structured as follows:

- Pilot representatives introduced the VARCITIES project and explained the VSs that had been implemented or were planned for implementation.
- They then presented the SROI analysis, the ToC, and key concepts, such as the "Willingness to Pay (WTP)" as a monetization technique.
- Finally, the facilitators initiated the activities, using materials prepared by Eurac partners.

To streamline data collection and optimize time, a questionnaire template was developed. For each outcome, Eurac partners created a card with five questions to be addressed:

- Outcome rating: Participants rated the outcome on a scale of 1 to 5
- Motivation for the rating: Participants provided a brief explanation for their rating
- Willingness to Pay (WTP): Participants were asked to indicate their WTP. However, in most pilots, this question was excluded, as pilot experts, thanks

to their knowledge on the stakeholder groups, decided that it might be misunderstood.

- Identification of other initiatives: Participants identified other projects or initiatives that produce similar changes in the pilot area
- Attribution Rating: Participants rated the influence of external factors compared to the VARCITIES project, i.e., attribution, (see glossary).

After filling out the cards, an open discussion followed to explore the motivations behind the ratings. The session concluded with a wrap-up, during which participants could openly and transparently agree or not on the data collected.

Materials used in VARCITIES SROI

Figure 3 presents the first version of the questionnaire for data collection, while Figures 4-6 illustrate the improved version, which was transformed into a game. The game version included:

- Board Game (Figure 4): The upper section explained the rules of the game and described the VSs in the respective pilot. The lower section detailed each outcome and included a narrative pathway guiding stakeholders through all the outcomes, ultimately leading to the SROI definition.
- Outcome Card (Figure 5): The outcome card to collect the feedback from the participants
- Feedback Card (Figure 6): A note-taking template prepared to document participants' motivations for each outcome during the workshop.
- Power point to visually explain the SROI methodology and the aims.

Workshop Variations

Some pilots organized separate workshops for each stakeholder group, while others held combined events where different stakeholder categories participated but worked in separate groups.

OUTCOME 1 - Improved social opportunities connected to the new synergies between the library and the museum

The **local community** could benefit from the new connections forged between the library and the museum by **frequenting** both institutions more often, thereby enriching their **social interactions** and connections.

RATING	MOTIVATION	FINACIAL PROXY
Rate the outcome from **1** (very unlikely to happen) to **5** (very likely to happen)	Please provide a comment related to the given rating	When considering outcome 1, what is your **maximum willingness to pay** on a **monthly basis** considering the value of having an increase in your **social interactions** within the **local community** through the **library** and **museum**? No change: ◯ 0,00 € VS1 implemented: ◯ 1,00 € ◯ 5,00 € ◯ 2,00 € ◯ 10,00 € ◯ 3,00 € ◯ other .... €

ATTRIBUTION	ATTRIBUTION VALUE
Can you identify local initiatives in **Dundalk** that encourages your social connections within the local community? If so, how do you perceive their impact on you in comparison to that of the **VARCITIES** project? Please name below **projects**, **local associations** or **initiatives** in **Dundalk**:	How much impact do these external factors have compared to VARCITIES? Rate from 0 (meaning they are not influential at all) to 10 (completely overlapping with VARCITIES)

Figure 3. First version of Questionnaire Template for data collection: Dundalk example

3.1.2. Quantification of Outcomes

The quantification milestone focuses on the technical challenge of evaluating intangible benefits. In fact, it is at the end of this process that it can be achieved the SROI ratio calculation.

In fact, there are several data to be either collected or researched:

- The target stakeholder number: the total number of stakeholders, belonging to a certain group, that could be affected by the VSs
- The financial proxies: it is the approximation of the monetary value obtained from market prices, that represents the equivalent benefit of a particular outcome.
- The deadweight: The percentage of change that would have occurred even without the intervention (what would have happened anyway),
- The attribution: A percentage that measures the extent to which other organizations or individuals contributed to the outcome (how much others contributed),
- The displacement: A factor that indicates how much of the outcome led to shifting an issue to a different area rather than resolving it (benefits offset by negative impacts elsewhere),
- The drop off: A reduction rate applied to interventions with effects lasting beyond a year, reflecting the decreasing influence of the project over time on

the key stakeholders, as other factors come into play. (decline in impact over time).

To accomplish SROI can be complex, therefore, to address it, the following practical steps offer a structured approach:

- Research: Conduction of research to explore monetization techniques for quantifying outcomes identified in the ToC. In VARCITIES the financial proxies have been identified through 2 main methods: the first is the desk research among local services or activities, or so-called "revealed preference WTP", that was always possible and performed; the second way was performed by including a question on the outcome cards asking for the so-called "stated preference WTP" [7,8]. In most of the cases the stated WTP question was avoided as the stakeholders were fragile. The research phase also involved the deadweight percentages research and the target number of stakeholders definition.
- Workshop with local stakeholders: Stakeholder engagement through a workshop to validate and refine the financial proxies established in the "Research" phase, or, whenever this question was included, ask participants to provide a WTP considered on a monthly basis to link with the value of the benefit that they would perceive in relation to the VSs. This interactive session, in fact, aims at encouraging active participation, allowing stakeholders to collaboratively assess and adjust the financial proxies. To assess the attribution factor the stakeholders are guided into identifying what other external entities that give them the same outcomes as the VARCITIES implementation, and how much on a scale from 1 to 5, in the game card, 1 to 10, in the original outcome card template.
- Analysis of data collection and results: Analysis of the collected data and results from the Research and Workshop with stakeholders. This analysis aims to elaborate all the data that supports the SROI calculations.

SROI Calculation

To estimate the total social value of the intervention, the expected number of stakeholders experiencing significant change due to VARCITIES is multiplied by the corresponding monetary value (proxy) for each outcome.

After obtaining the gross social value, it is necessary to discount it by applying the 4 discount rates, deadweight, attribution, displacement and drop-off, to obtain the

impact and not overestimate the social value generated.

Finally, the SROI is a benefit-cost ratio made between the total value created by the project and the inputs, i.e. the investments, and it is calculated by applying the following formula:

$$SROI\ Ratio = \frac{Total\ present\ Value\ of\ the\ Benefits}{Total\ present\ Value\ of\ Inputs\ (Investments)}$$

Where the

- Total Present Value of Benefits = The monetized value of all social, environmental, and economic outcomes attributed to the activity, adjusted for:
    - Deadweight
    - Attribution
    - Displacement
    - Drop-off
- Total Value of Inputs (Investment) = The money and resources invested into the activity/program.

This final step aims to determine the threshold values of certain analysis variables before the ratio drops below "1 : 1". The process involves selecting one specific variable, such as discount factors, financial proxies, or outcome quantities, and gradually adjusting their values to observe how the ratio changes. This helps identify the variables most sensitive to variation, and in this way how accurate the SROI analysis is. The more variables can be changed and the more the SROI process can be considered accurate.

3.1.3. Lessons learnt

Design thinking methodology

The process of adapting the SROI methodology to the project's needs followed an inductive methodology, progressing from the initial pilot in Castelfranco Veneto to subsequent pilots. As this was the first time the SROI methodology had been applied to urban case studies, several challenges arose along the way, requiring a design thinking methodology to learn from the experiments, pilot after pilot. This is also why the process took almost three years from the first to the last application.

The Castelfranco Veneto case study was innovative in that it applied Social Return on Investment (SROI) to urban green space interventions in a way that had not been done before, involving fragile users of the park such as Alzheimer's patients and their carers. The study focused on social outcomes such as health, wellbeing and community empowerment

rather than just economic gains and involved stakeholders directly in defining and valuing the changes they would experience as part of a forecasting analysis[2,11].
The Gzira pilot experimented with using a questionnaire co-developed with the local university team to ascertain users' willingness to pay for the outcomes of the pilot. Although complicated to understand and difficult to obtain in terms of the number of respondents, it was a valuable experiment.
The questionnaires were replicated in Novo Mesto, but without the willingness-to-pay element and using a proxy methodology for calculating the outcomes.
For the remaining four pilots, a gamification-like methodology was co-developed and experimented with to carry out the workshops. This was done to simplify the effort for the municipalities. Starting with the Leuven case, there was a need to facilitate the collection of data for the SROI calculation. There was a time shortage of 45 minutes, short attention spans and difficulties talking about money. People were not confident about spending too much time on this kind of workshop. The executers had never facilitated anything like this before and needed guidance.
This led to the co-development of a PowerPoint presentation and a physical game to collect participants' data. This was trialed in Chania, Skellefteå and Dundalk with positive results, despite initial resistance.

Challenges

The process was extensive, as experimentation often requires a significant degree of initiative in addition to securing stakeholder engagement. The initial challenge involved effectively communicating the concept of SROI to municipalities and articulating its value. Additional challenges stemmed from the fact that most VS were not yet operational, which made engaging participants in measuring social impact particularly difficult. Consequently, the first case proceeded as a forecasting analysis.
Due to budget constraints, it was not feasible to visit each pilot location and conduct workshops directly; therefore, emphasis was placed on developing a methodology to streamline workshop organization for municipalities.
In collaboration with Gzira and Novo Mesto, a questionnaire was developed; however, in Gzira, obtaining a sufficient number of responses to support monetization through willingness to pay proved challenging. As a result, an alternative data collection questionnaire was created to complement the proxy approach for outcome monetization.
The Leuven pilot presented further complexities, namely facilitating data collection for SROI calculations while addressing sensitivities around financial discussions. For this reason, the willingness to pay approach was omitted. The pilot also faced time limitations—only 45 minutes were available during a city festival, leading to reduced participant attention span and reluctance to commit time to the workshop. Additionally, facilitators lacked prior experience and required guidance. For the remaining pilots, Chania, Skellefteå and Dundalk, a gamification-based methodology was collaboratively developed and trialed to

facilitate the workshops, aiming to simplify the process for municipalities. Detailed summaries of each specific pilot experience are provided in the "Lessons Learned" section following each SROI calculation.
A video was created to promote and clarify the use of the SROI methodology in urban applications (http://youtube.com/watch?v=IHUEfU_AJYs).

4 Castelfranco Veneto

4.1. Theory of Change Definition

The first phase of the process was the identification of the relevant stakeholder categories to be involved in the analysis, the way to engage them and the material outcomes.
Once the stakeholder categories, for Castelfranco Veneto: fragile park visitors, including people with physical and mental impairment, their caregivers, and the non-fragile park visitors, one series of focus groups and one of workshops have been organized to assess the social impact of the project, see Table 2.

The focus group and workshop modalities were particularly suitable for the type of stakeholders, as the number of participants was small, they allowed lively discussions and gave the time to each participant to express their own view on the project.
The VSs received appreciations, which are documented by the high scores received during the engagement, although a crucial contribution was the suggestions and future complementation with other activities even after the end of the project.
Aside from the SROI scope, the encounters were useful to establish deeper connections with the local association and increase the knowledge on VARCITIES interventions on the territory, that could be enjoyed in the future by the different stakeholder groups.

Table 2. Main Stakeholder Engagament Activities

Activity	Objectives	Month	Duration
1 Kick off workshop with the project team.	- Alignment on the definition of the field of analysis (i.e., activities and stakeholders to be included in the research).	Jan 2022	2,5h
1 workshop with the project team.	- Alignment on possible social to be expected from the VARCITIES implementation	Mar 2022	2 h
1 Workshop for the validation of the Theory of Change and the measurement of	- Defining the outcomes chains for each group of stakeholders included in the field of analysis. - Establishing the degree of materiality of the mapped outcomes.	May 2022	2h
2 Stakeholder interviews for the validation of the Theory of Change.	- Understand the expected changes for the stakeholder's groups.	May 2022	1h

1 Workshop for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI discount rates	- Supporting the definition of the monetary proxies based on the relative preferences of stakeholder's group. - Defining the amount of people experiencing changes and depth of the change to be experienced. - Estimating SROI discount rates.	June 2022	2h

4.1.1. Identifying and engaging stakeholders

In the case of Castelfranco, two preliminary workshops between SROI experts and VARCITIES local consortium were conducted to map all the stakeholders that might be impacted and choose only the most relevant ones (in terms of impact intensity, duration and number of subjects). The selected groups included fragile park visitors (such as individuals with physical and mental impairments), their caregivers, and non-fragile park visitors. The municipality staff was excluded as they would not experience material changes, although interviews were conducted with three local technical administration members, who are key actors in the VARCITIES solutions' development.

The selection of participants to the research activities was primarily based on their willingness to get involved. The Castelfranco Veneto Municipality project team sent invitations to numerous third sector associations and local health facilities, guided by a comprehensive stakeholder mapping exercise.

The involved organizations represented the perspectives of the three groups of stakeholders analysed. Notably, the experiences of vulnerable park visitors were documented both directly, by those with sufficient levels of autonomy, and indirectly, through professional or informal caregivers of individuals with high levels of vulnerability (e.g., people with Alzheimer's or other types of mental disabilities).

The preferred engagement method was the focus group and the workshop format. Two engagement sessions have been organized, each session had a total of three encounters, one for each stakeholder category, for a total of six.

Table 3. The stakeholder groups, the rationale for their inclusion or exclusion, and the activities realized to engage them in the forecast SROI analysis.

Stakeholder group	Included/ Excluded	Rationale	Engagement Method	N° of participant

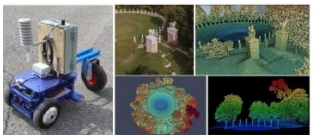
Non-fragile visitors	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group 1 Workshop	12 10
Fragile visitors	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group 1 Workshop	10 8
Caregivers	Included	They are indirect beneficiaries of the project, as they will benefit from the outcomes lived by people, they take care of.	1 Focus group 1 Workshop	7 4
Municipality staff	Excluded from the SROI monetization Included in the qualitative analysis	As the pilot leader, the Local Authority can take and change decisions on the implementation of the VSs. Their expected changes are not material enough to monetize them. Therefore, they are addressed only qualitatively.	2 Interviews	3

4.1.2. Inputs and outputs

Outputs

In Castelfranco Veneto six VSs have been implemented to, on one hand, enhance physical accessibility and digital engagement of the Villa Bolasco Garden, and on the other, to raise citizens' awareness on the benefits of urban green and blue areas. Finally, VSs aim at strengthening the Park's role as a hub for research and exchange of best practices in terms of urban green design, with the intention of encouraging active citizen participation in planning and safeguarding of the local landscape and biodiversity. The actions have been classified into three clusters (Table 4).

Table 4. Outputs description

Visionary Solutions	Pictures	Inclusion in SROI analysis
Cluster 1: Development of tools to support and facilitate the visit of the historic garden VS 1: Cycle-pedestrian access path creation to the park gate and re-paving of the internal trails to satisfy all mobility needs. VS 5: The implementation of ICT tools (Information and Communication Technologies) consists in the design of sensor furnished benches and the availability of a movement tracking app aiming at detecting dangerous situations and so give an increased sense of safety to park users.	 	Yes
Cluster 2: Basic actions (scientific activities to produce data) VS 2: Analysis and monitoring of psychological and physiological well-being of elderly people and people with Alzheimer's disease in relation to environmental conditions VS 3: Monitoring of microclimatic and environmental conditions in different areas of the garden (forest area, open area, lake area)	 	No
Cluster 3: Transfer of results to city and, more generally, at territorial level VS 4: It consists in the development, printing, and dissemination of a manual of good practices on the therapeutic effects of green and blue urban areas and the Observatory of the local landscape, which will change headquarters in the former "Casa del Giardiniere". This VS aims at being a support for active participation in co-design processes of green spaces. VS 6: An interactive totem having the role of a virtual "window" between the park and the outside. It will provide images and information on the microclimatic conditions of the garden, games and scientific materials. Also, it would be constantly updated including the newest events in the city.	 	Yes

Only clusters 1 and 3 are considering within the SROI analysis. Cluster 2 is being excluded as the actions are of interested to the researchers and provide data for the other VSs development, but there is not directly interaction with any relevant stakeholder group. (For more information on the VSs see Deliverable 6.4.)

Inputs

In the case of Castelfranco Veneto the inputs have been calculated according to the guidelines in the SROI Guide for assets with a long-life expectancy. Calculating the Social Return on Investment (SROI) for such projects is complex, as maintaining ongoing services will continually require additional income. The guide suggests focusing on a single year and emphasizing that the SROI examines only the social value created by the inputs necessary for the activity within that year.

The data on inputs and outputs (Table 5) were derived from a cost analysis conducted within the Work Package 6 (see D6.4). The inputs were then annualized by dividing the implementation costs of each output by its expected duration (Table 6).

To be noted that the input analysis shows the situation in 2022, when the forecast SROI analysis was conducted for Castelfranco Veneto.

Table 5. Inputs and outputs

VSs	Output	Quantity	Duration	Funding source	Input
VS1	Renovation of the access road to the garden	10.000 m^2	10	Ministry of the Interior Department - Internal and Territorial Affairs Central Directorate	€ 925.000
	Renovation of the internal paths' network	4.942 m^2	10	EU Commission	€ 22.000
	All terrain wheelchair	1	10	EU Commission	€ 3.000
	Maintenance of the paths (construction work costs)	N/A	-	Total operating cost (year)	€ 5.600
VS4	Development, printing and dissemination of a best-practices manual on the therapeutic value of blue and green urban areas	1	10	EU Commission	€ 20.000

	Establishment of a Local Landscape Observatory. Development and dissemination of informative and communication material and events for promotion initiatives concerning therapeutic effects of green and blue areas.	N/A	10	Municipality funding	€ 20.000
	Staff	N/A	-	Total operating	€ 21.000
	Others	N/A	-	Total operating cost (per	€ 3.000
	Revenues generation through Public/private partnerships (fees for private partners to join the Observatory activities)	N/A	-	Revenues (per year)	€ 10.000
VS5	Devices (smartphones) and related accessories	20	5	EU Commission	€ 4.000
	Ergonomic benches	4	10	EU Commission	€ 4.000
	Sensor for the use of the bench	4	10	EU Commission	€ 2.000
	Development of app and creation of learning algorithms to process historic and real time data of geo- localization of visitors	App development by 1 professional; Algorithm created by 1 professional	10	EU Commission	Not applicable since the component is developed by the University staff
	Maintenance of devices and sensors	N/A	-	Total operating cost (per	€ 500
	Consultancy, Training, Data sharing/ monetization	N/A	-	Revenues (per year)	€ 6.300

F	Installation of the screen, power supply, and connection to the data network	1	10	The estimated cost of planning processes (TESAF)	€ 1.000
	Installation of the screen, power supply, and connection to the data network		10	The estimated cost of installation and	€ 4.000
	Screen showing images and videos of the garden, and visualizing data and information, and sound system. The system should allow the interaction with the	1	10	Estimated equipment cost (UNISMART)	€ 21.000
VS6	1. LCD screen 55" = 1211.6 x 682.4 mm or 75" = 928.26 x 1650.24 mm 2. LCD touch screen (as above, but with the possibility for the user of direct interaction). 3. Sound system, to provide environmental sounds enhancing the perception of the garden or voice messages. Wall rack/standing cabinet, to ensure protection of the infrastructure from outdoor conditions and possible thefts/vandalisms, logo and visual advertising of the project VARCITIES. Size and weight: 55"	1	10	Software development (EURAC)	€ 12.000
	Creation of the interactive/multimedia contents to be shown on the screen; this includes photo and video of the garden, different results from the project and the other VS	1	10	Contents development (Municipality of Castelfranco Veneto)	€ 5.000
	Screen maintenance, Energy costs, Insurance	N/A	-	Total operating cost (per	€ 1.950

	Consultancy, Commercial products development: Multimedia contents for other health facilities / waiting rooms / relax areas.	N/A	-	Total revenues (per year)	€ 6.900

Table 6. Total Inputs

Cost category	Total Value	Annualized Value
Total financial inputs, including operating cost and subtracted revenues per year	1,141,500.0 €	11,415.00 €
Total direct personnel costs	456,252.0 €	4,562.52 €
Total indirect costs	173,297.4 €	1,732.97 €
Total	1,771,049.4 €	17,710.49 €

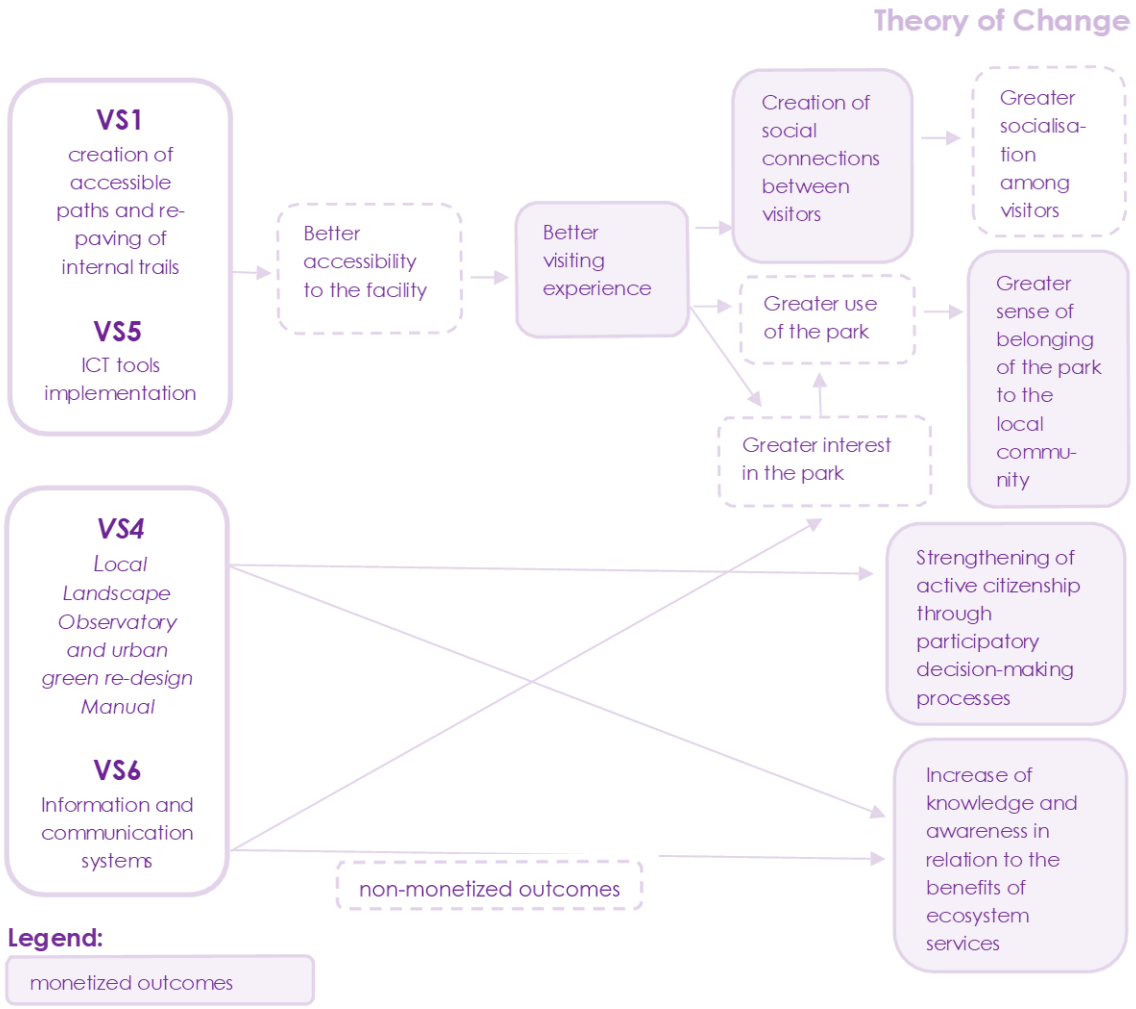
4.1.3. Mapping outcomes

Generally, the workshops have been interactive and full of insights that helped the SROI analysts and the Eurac team supporting the evaluation to obtain quality data which supported the numeric scores required.
The outcomes have been divided into three categories depending on the stakeholder categories identified in the previous stage. The Theories of Change, which include the sequence of inputs, actions, outputs, and outcomes required to achieve the expected changes, have been defined in a workshop with VARCITIES partners and triangulated using a literature review of relevant Nature-Based Solutions (NBS) case studies. The material stakeholders then validated these outcomes.
For the purpose of outcome validation, three focus groups were held, one for each of the three stakeholder groups: non-fragile park visitors, fragile park visitors, and informal and professional caregivers for fragile visitors. Participants were asked to rate the hypothesized outcomes from 1 to 5 based on their materiality (i.e., importance and relevance), then provide a justification and engage in open discussion.

Stakeholder group 1: Non-fragile visitors of the park

Engagement: Focus group, May 2022, 12 people

Organizations represented: environment preservation, cycle mobility, volunteering, alpine sports, retired people socialization.
The participants have been particularly interactive, raising valuable questions on the project, worries on its future realization, but also suggestions on how to potentially complement in the future the actions implemented by the VARCITIES project.



Better accessibility to the facility - score: 3,73
Citizens' representatives view the project interventions as essential for transforming the garden. They emphasized the need to enhance accessibility, particularly for those arriving by car and for people with mobility difficulties. However, this outcome was rather seen as instrumental and not monetized.

Better visiting experience - score: 3,64
Participants recognized the added value of VSs to enhance the visiting experience and improve accessibility. However, stakeholders suggested the integration of these solutions with the human involvement of park guides as well.

Creation of social connections between visitors - score: 3,55

Seven out of the eleven citizen representatives believe that social connection can occur only if organized activities that encourage people to gather and socialize are foreseen. They gave the example of initiatives at the new Local Landscape Observatory (VS4) as opportunities for citizens to connect and build relationships.

Greater socialization among visitors - score: 3,09

This change, related to the possible creation of deeper bonds and exchanges between park visitors, was scored the lowest among all the other outcomes.

Greater use of the park - score: 3,41

The increased use of the park was generally considered a non-significant change, obtaining very low scores. A bias regarding a more intense future use of the garden based on the current availability situation emerged during the focus group.

Greater interest in the park - score: 3,27

Stakeholders identify two primary aspects regarding interest in the facility. Participants noted that interest is already high, but the inability to freely access the Villa and Park is a significant obstacle.

Greater sense of belonging of the park to the local community - score: 3,45

Castelfranco citizens view a sense of belonging as a key potential benefit of the VARCITIES project. However, stakeholders are concerned that the current opening schedule and management plan of the garden.

Strengthening of active citizenship through participatory decision-making processes - score: 3,82

Citizenship representatives believe that the project will enhance citizen involvement in decision-making by raising awareness of the park's benefits. Increased park accessibility (VS1, VS5) and the Local Landscape Observatory (VS4) are seen as key factors in encouraging participatory processes and organizing events.

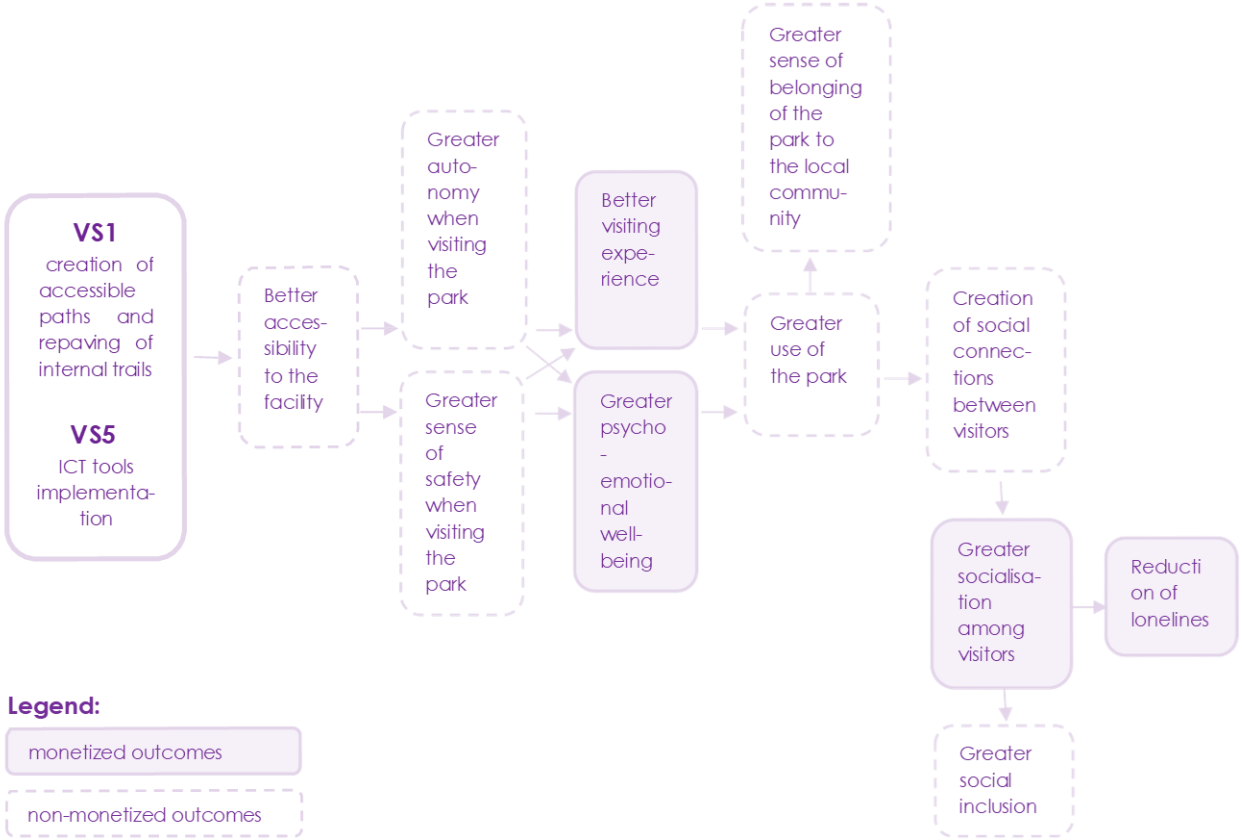
Increase of knowledge and awareness in relation to the benefits of ecosystem services - score: 4,45

The outcome received the highest score of 4.45, with all votes being 4 or 5. Citizens' representatives emphasized the importance of knowledge and awareness for active participation. They highlighted the need for education about green and blue spaces as essential for the garden's use, interest, and protection.

Stakeholder group 2: Fragile visitors of the park

Engagement: Focus group, May 2022, 10 people
Organizations represented: Alzheimer's treatment and research, neuro-diverse people support, elderly centers, volunteering.
The stakeholders were represented by the caregivers of the fragile subjects, as the condition of this category could not consent them to participate in the focus group. The participants were eager to engage and share about how neurodiverse and physically disabled people would be impacted by the VARCITIES intervention.

Theory of Change



Better accessibility to the facility - score: 4,30
Representatives of vulnerable groups emphasized that improving accessibility is crucial for the success of the project and the usability of Villa Bolasco Garden. They highlighted the need for more parking spaces for those with mobility challenges, which is contemplated within the VS1.

Greater autonomy when visiting the park - score: 3,40
Participants highlighted differing views on the project's impact on autonomy for people with disabilities. They emphasized that while the project could enhance autonomy for those with physical disabilities, it would not replace the need for caregivers for those with mental disabilities.

Greater sense of safety when visiting the park - score: 3,60

Project actions were deemed insufficient for fully addressing the needs of vulnerable individuals. While benches, new pedestrian paths, sensors, and apps are useful for ordinary citizens, they are not adequate for those with significant vulnerabilities, according to focus group representatives.

Better visiting experience - score 4,05

Representatives of vulnerable groups viewed the improved visiting experience as a significant change. They emphasized also the need for human elements, such as volunteers or guides, and recommended establishing refreshment points and a calendar of engaging activities to ensure a fully satisfying experience.

Greater psycho-emotional well-being - score: 4,15

Participants agreed that combining park use with technological tools can significantly enhance users' psycho-emotional well-being.

Greater use of the park - score: 4,10

This change is considered significant, taking into account the contributions of all the implemented VSs, including accessibility interventions and information and communication tools. It emphasizes the critical role of digital solutions for patients unable to visit the Villa Bolasco Garden in person.

Creation of social connections between visitors - score: 3,70

Representatives of vulnerable groups believe that creating social connections is a challenging goal to accomplish, yet it is regarded as particularly important for fragile individuals.

Greater socialization among visitors - score: 4,00

While deeper social bonds are achievable, the vulnerability of individuals remains a barrier to interaction. Although this challenge is not directly addressed by the intervention, it affects socialization at the park. Participants suggest creating dedicated spaces or activities to better facilitate social interaction and community building.

Reduction of loneliness - score: 4,20

Loneliness is a prevalent issue among vulnerable individuals. Their representatives believe that the project's proposed solutions could significantly address this problem.

Greater social inclusion - score: 3,80

This change is deemed feasible. The VARCITIES project actions could encourage acceptance of diverse groups visiting the park, leading to increased awareness and understanding among all societal components.

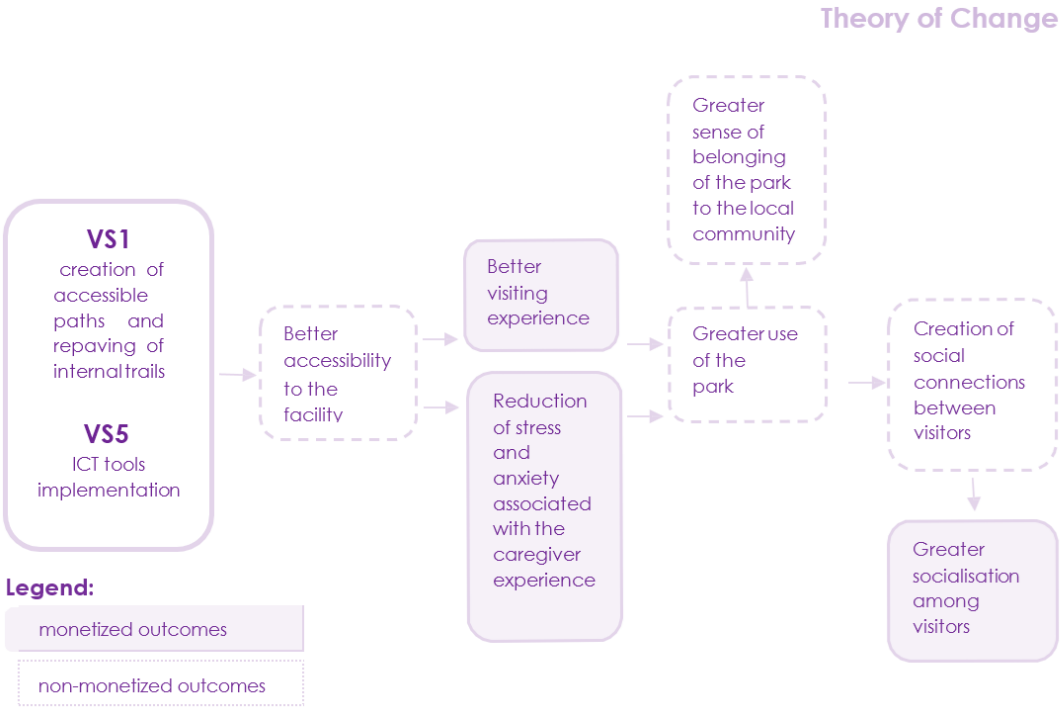
Greater sense of belonging of the park to the local community - score: 3,80
This change has been positively associated with feeling the park as one's own, as a common good of the city that can be freely visited. The representatives of fragile subjects believe that VSs will improve accessibility and help achieve this goal. However, they see the outcome as less relevant for their category, as it has already been considered from the perspective of non-vulnerable park visitors.

Stakeholder group 3: Caregivers

Engagement: Focus group, May 2022, 7 people
Organizations represented: Alzheimer's treatment and research, neuro-diverse people support, elderly centers, volunteering.
This group found it more difficult to talk about their experience, as their visits to the park are linked to the person they are responsible for. However, very interesting insights emerged, such as professional interaction and knowledge sharing among other caregivers.

Better accessibility to the facility - score: 4,57
Accessibility is a fundamental element underlying all the planned activities, and its outcomes are considered among the most significant. In this context, the accessibility of the historic garden relies on the availability of suitable transportation options for individuals with limited mobility, including adequate parking spots. Improving access in this manner would motivate caregivers and the people they support to visit the park more often.

Reduction of stress and anxiety associated with the caregiver experience - score: 4,29
This change is regarded as significant and received one of the highest scores. Participants overall agreed that the implementations introduced by the VARCITIES project, including the new pathways with parking facilities and the addition of technological systems, will contribute to reducing stress and anxiety among caregivers.



Better visiting experience - score: 4,14

Only one participant expressed doubts about the project solutions, considering them "not significant enough" to improve the visit experience, while the rest of the representatives provided positive feedback.

Greater use of the park - score: 4,21

Caregivers' perspectives on park use are shaped by the needs of the individuals they assist, making their visiting experience dependent on those of the people they accompany. All participants voiced concerns about how individuals with particular vulnerabilities, especially psychiatric patients, interact with the park. It was suggested that visitors should be informed about the presence of individuals with different behaviors, or alternatively, that specific time slots should be allocated for these groups. This approach would create awareness and acceptance of diversity within society. Additionally, a proposal was made to create opportunities benefiting both neurodiverse individuals and the local community by assigning certain vulnerable groups tasks related to maintaining the park's greenery.

Creation of social connections between visitors - score: 3,86

From the caregivers' perspective, the formation of social connections should be viewed differently. The conversation with the participants revealed a unique form of interaction, distinct from typical socialization among ordinary citizens. The participants suggested that social bonds should be translated into training and professional development opportunities for caregivers. They proposed the idea of small meeting spaces or

transforming the villa into a hub for discussions and the sharing of knowledge related to disability topics.

Greater sense of belonging of the park to the local community - score: 4,14
Improving the park's accessibility and openness could enhance its connection to the local community. The participants shared a desire to have access to the park for cultural activities as well. Regarding the park's vulnerable visitors, this outcome is not considered relevant for this group, as this aspect has already been addressed for the non-vulnerable visitors.

Greater socialization among visitors - score: 4,05
In the case of caregivers, socialization was proposed to be linked to a form of interaction structured around professional exchange events or training sessions.

4.2. Quantification of Outcomes

For the second phase of the analysis, three workshops were held to assess the future impact of the project, by directly asking citizens to rate what in SROI is called attribution discount factor. Therefore, people answered on whether other external factors or entities provide with the same outcomes hypothesised for the Castelfranco Veneto's case study. Additionally, the workshop was a moment to further discussions on the outcomes, finalizing the ultimate ToC. During this stage, interacting with citizens proved more challenging due to the complexity of the concept of attribution. This difficulty was identified as an area for improvement for future applications in other VARCITIES pilots.
The identification of the financial proxies and of the deadweight factor have been identified through research. Particularly for the proxies, the anchoring technique was used: the outcome that could more easily be translated into monetary terms was chosen as "anchor" and for this one a monetary value has been identified while the other outcomes were calculated as a percentage of this value based on the rating received from stakeholders.

4.2.1. Estimating the quantity of subjects who will experience the outcomes

The forecast SROI analysis used both primary and secondary data to estimate the number of individuals likely to experience the outcomes for three stakeholder groups. First, relevant and up-to-date secondary data was gathered to determine the total number of beneficiaries. Then, during three workshops with representatives from each stakeholder group, participants rated the likelihood of target subjects experiencing specific outcomes on a scale of 1 to 5. The average percentage from these ratings was used to calculate how many people would be affected.

Non-fragile visitors of the park (i.e. Local visitors, Non-local visitors)

For this stakeholder group, outcomes are divided between those expected to be experienced only by local visitors, which require more frequent use of the park, and one outcome—"Better visiting experience"—that can also apply to non-local visitors. As a result, the number of target subjects varies: 3,609 for outcomes specific to locals and 12,032 for outcomes that include both local and non-local visitors. The data was provided by the Permanent Events Office of the Botanical Garden and Villa Parco Bolasco based on the annual tickets sold.

Table 7. Outcome indicators for Non-fragile visitors

Outcome	Target subjects	Consulted secondary data	Percentage and number of people experiencing outcomes	Average amount of change to be experienced
Increase of knowledge and awareness in relation to the benefits of ecosystem services	3.609	Number of resident and non-resident visitors (Data shared by the Permanent Events Office of the Botanical Garden and Villa Parco Bolasco)	60% 2.165	Strong enough
Strengthening of active citizenship through participatory decision-making processes	3.609		60% 2.165	Strong enough
Better visiting experience	12.032	Total resident population under 75 as of January 1, 2022 in Castelfranco Veneto (Istat, http://dati.istat.it/Index.aspx?QueryId=18549)	76% 9.144	Strong enough
Creation of social connections between visitors	3.609		58% 2.093	Strong enough
Greater sense of belonging of the park to the local community	3.609		58% 2.093	Strong enough

Fragile visitors of the park (i.e. Elderly people, People with disabilities)

The number of target visitors with disabilities and those over 75 was estimated by applying the percentage, i.e., 15.6%, according to the National Statistics Institute, to the population of Castelfranco Veneto. This resulted in a total of 5,020 "fragile" residents in the city. Next, the same 15.6% percentage was projected to the visitors of Villa Bolasco park, estimating 645 potential fragile visitors.

Table 8. Outcome indicators for fragile visitors

Outcomes	Target subjects	Consulted secondary data	Percentage and number of people experiencing outcomes	Average amount of change to be experienced
Reduction of loneliness	645	Percentage of people with disability in italy (Istat 2019, https://www.disabili.com/aiut o/articoli-qaiutoq/disabilita-in-italia-numeri-cifre-e-condizioni-negli-ambiti-generali-di-mobilita-scuola- lavoro-welfare) Total resident population over 75 as of January 1, 2022 in Castelfranco Veneto (Istat, http://dati.istat.it/Index.aspx?QueryId=18549) Number of resident visitors (Data shared by the Permanent Events Office of the Botanical Garden and Villa Parco Bolasco)	65% 419	Strong enough
Greater psycho-emotional well-being	645		83% 535	Strong enough/ Very strong[1]
Better visiting experience	645		68% 439	Very strong
Greater socialization among visitors	645		65% 419	Strong enough

Informal and professional caregivers of fragile visitors of the park

The estimated number of people accompanying fragile individuals to visit the park was calculated by applying the national percentage of caregivers in Italy to the number of local residents expected to visit Villa Bolasco Park.

[1] For this outcome, the two options collected the same number of responses.

Table 9. Outcome indicators for caregivers

Outcomes	Target subjects	Consulted secondary data	Percentage and number of people experiencing outcomes	Average amount of change to be experienced
Reduction of stress and anxiety associated with the caregiving experience	720	Percentage of caregivers in italy (Istat 2015, https://www.istat.it/it/archivio/204 655) Total resident population as of January 1, 2022, in Castelfranco Veneto (Istat, http://dati.istat.it/Index.aspx?Quer yId=18549) Number of resident visitors (Data shared by the Permanent Events Office of the Botanical Garden and Villa Parco Bolasco)	65% 468	Strong enough
Better visiting experience	720		75% 540	Strong enough
Greater socialization among visitors	720		65% 468	Strong enough

4.2.2. Establishing how long outcomes last

To estimate how long the outcomes of the VARCITIES project would last, both the perspectives of pilot leaders and independent research were taken into account. Given that the outcomes primarily focus on social and intangible benefits, they are expected to last for 5 to 10 years, based on the anticipated lifespan of the new digital and physical infrastructure. In particular, the new biking trail and the opening of the Local Landscape Observatory to the public are projected to last for at least 10 years.

4.2.3. Assigning value to the outcome: willingness to pay approach

To determine the financial proxies, the Anchoring Technique was used. This method anchors the monetary value of all outcomes of a stakeholder group to a single estimate. The process began by defining a financial proxy for each beneficiary group, linking an outcome to an alternative service or activity that could provide a similar experience of change, and therefore to their monetary price. Table 10 outlines the financial proxies selected for the VARCITIES project's outcomes. These were chosen based on their suitability

for establishing starting proxies, as they can be more easily connected to a service or product with a recognized economic value.

Table 10. Financial Proxies for the three stakeholder groups

Stakeholder	Outcome	Proxy	Motivation behind the proxy	Source
Non-fragile visitors of the park (Local visitors / non-local visitors)	Increase of knowledge and awareness in relation to the benefits of ecosystem services	€ 48,9	Annual subscription to National Geographic magazine (average cost between full and discounted costs)	https://ilmioabbonamento.gedi.it/national/prodotto/SCF_ABB1_NG
Fragile visitors of the park (i.e., Elderly people People with disabilities)	Greater psycho-emotional well-being	€ 45,0	Monthly yoga course (4 lessons + annual card cost)	https://spaziozephiro.it/eventi/hatha-yoga
Informal and professional caregivers of fragile visitors of the park	Reduction of stress and anxiety associated with the caregiving experience	€ 45,0	Minimum cost of an individual session of stress management, according to the Order of Psychologists' tariff	https://www.psy.it/nomenclatore

The monetization process using the Anchoring Technique started from considering the values of the outcomes in Table 10 as baseline value, i.e., the 100%. This allowed the scores of other outcomes to be adjusted in relation to that percentage. Finally, using these percentages, the monetary value of the outcomes was determined by multiplying the anchor by the respective percentage.

Table 11. Financial proxies for Non-fragile visitors of the park (Local visitors, Non-local visitors)

Outcomes	Weighting - Average materiality score	Proxy
Increase of knowledge and awareness in relation to the benefits of ecosystem services	**4,45 (100%)**	**€ 48,9 (100 %)**
Strengthening of active citizenship through participatory decision-making processes	3,82 (85,8%)	€ 41,9
Better visiting experience	3,64 (81,7 %)	€ 39,9
Creation of social connections between visitors	3,55 (79,7 %)	€ 38,9
Greater sense of belonging of the park to the local community	3,45 (77,5 %)	€ 37,9

Table 12. Financial Proxies for Fragile visitors of the park (i.e., Elderly people, People with disabilities)

Outcomes	Weighting - Average materiality score	Proxy
Reduction of loneliness	4,20 (101,2 %)	€ 45,5
Greater psycho-emotional well-being	**4,15 (100%)**	**€ 45,0 (100 %)**
Better visiting experience	4,05 (97,5 %)	€ 43,9
Greater socialization among visitors	4,00 (96,3 %)	€ 43,4

Table 13. Financial Proxies for Informal and professional caregivers of fragile visitors of the park

Outcomes	Weighting - Average materiality score	Proxy
Reduction of stress and anxiety associated with the caregiving experience	**4,29 (100%)**	**€ 45,0 (100%)**
Better visiting experience	4,14 (96,5 %)	€ 43,5
Greater socialization among visitors	4,05 (94,4 %)	€ 42,5

4.2.4. Establishing Impact

For the Castelfranco case study, only the deadweight and the attribution have been calculated. Since the timeframe used for the calculation was one year, no drop off was applicable, while the displacement was not deemed relevant for Castelfranco Veneto.

Deadweight

The deadweight calculation recognizes that some of the expected outcomes may occur even without the VARCITIES intervention at Villa Bolasco.
By reviewing statistical data and relevant literature, it was possible to estimate specific deadweight percentages, based on national or local data regarding access to similar services or activities that stakeholders might use to achieve the expected benefits independently. The tables below provide detailed assumptions regarding deadweight for each material outcome included in the analysis.

Table 14. Deadweight for non-fragile visitors of the park

Outcome	Deadweight	Rationale
Increase of knowledge and awareness in relation to the benefits of ecosystem services	30%	Percentage of people in Veneto who read books and newspapers, reduced to account for the specific focus on ecosystemic services (Istat, http://dati.istat.it/Index.aspx?QueryId=22373)
Strengthening of active citizenship through participatory decision-making processes	20%	Percentage of people aged 14 and over who have developed a greater civil and political awareness, undertaking free activities through groups or organizations (Istat, http://dati.istat.it/Index.aspx?QueryId=26039)
Better visiting experience	25%	Percentage of requests for guided tours from private visitors, out of the total number of guided tours carried out by Italian tourist guides (ISNART, Confguide, https://www.confcommercio.it/documents/20126/180251/Il+testo+dell%27indagine+nazionale+sulle+guide+turistiche.pdf/36124b50-ee12-1fb9-746a-d4f591004d6a?version=1.1&t=1455288240000)
Creation of social connections between visitors	30%	Percentage of people from North-East Italy who spend time with friends (Istat, http://dati.istat.it/Index.aspx?QueryId=25852)

Greater sense of belonging of the park to the local community	10%	Estimate of the percentage of residents of Castelfranco Veneto following the facebook page of Castelfranco Veneto Pro Loco (https://www.facebook.com/proloco.castelfrancoveneto/)

Table 15. Deadweight for Fragile visitors of the park

Outcome	Deadweight	Rationale
Reduction of loneliness	30 %	Percentage of people from North-East Italy who spend time in company (Istat, http://dati.istat.it/Index.aspx?QueryId=25852)
Greater psycho-emotional well-being	35 %	Percentage of people in Veneto aged 15 or more attending outdoor places (Istat, http://dati.istat.it/Index.aspx?QueryId=25716)
Better visiting experience	25%	Percentage of requests for guided tours from private visitors, out of the total number of guided tours carried out by Italian tourist guides (ISNART, Confguide, https://www.confcommercio.it/documents/20126/180251/Il+testo+dell%27indagine+nazionale+sulle+guide+turistic he.pdf/36124b50-ee12-1fb9-746a-
Greater socialization among visitors	30 %	Percentage of people from North-East Italy who spend time in company (Istat, http://dati.istat.it/Index.aspx?QueryId=25852)

Table 16. Deadweight for informal and professional caregivers of fragile visitors of the park

Outcome	Deadweight	Rationale
Reduction of stress and anxiety associated with the caregiving experience	20%	Percentage of caregivers who report that their health is not affected by caring tasks (Censis, https://welforum.it/wp-content/uploads/2017/12/Caregiver_Parkinson_Sintesi - rapporto-Censis_2017.pdf)
Better visiting experience	25%	Percentage of requests for guided tours from private visitors, out of the total number of guided tours carried out by Italian tourist guides (ISNART, Confguide, https://www.confcommercio.it/documents/20126/180251/Il+testo+dell%27indagine+nazionale+sulle+guide+turistic he.pdf/36124b50-ee12-1fb9-746a-)

Greater socialization among visitors	30 %	Percentage of people from North-East Italy who spend time in company (Istat, http://dati.istat.it/Index.aspx?QueryId=25852)

Attribution

In the SROI methodology, attribution refers to the portion of the outcome influenced by other organizations or external factors. This helps identify the specific changes directly linked to the VARCITIES project in Castelfranco Veneto. The attribution percentages were estimated based on input from beneficiaries who participated in workshops. During these sessions, participants helped identify other local groups and organizations working on similar outcomes to those of VARCITIES. To accurately determine the attribution rate, a targeted exercise was conducted with the three stakeholder groups. Beneficiaries were asked if there were any external factors, projects, or organizations in the area that could also contribute to the changes they would experience. Based on participants' responses, the influence ranges shown in Table 17 below were developed by the analysts to establish the appropriate attribution percentages.

Table 17. Attribution ranges in Castelfranco Veneto pilot

Attribution	Effect
100%	The change will be entirely the result of other organizations, projects, or external factors.
80 %	The change will be in great part a result of other organizations, projects, or external factors.
60%	The change will be in small part the result of other organizations, projects, or external factors.
40%	The change will be partly the result of other organizations, projects, or external factors.
20%	The change will be in small part the result of other organizations, projects, or external factors.
0 %	Other organizations, projects, or external factors will have no impact on the change detected.

Table 18. Attribution values for Non-fragile visitors of the park (i.e., Local visitors; Non-local visitors)

Outcome	Attribution
Increase of knowledge and awareness in relation to the benefits of ecosystem services	40%

Strengthening of active citizenship through participatory decision-making processes	80%
Better visiting experience	20%
Creation of social connections between visitors	80%
Greater sense of belonging of the park to the local community	40%

Table 19. Attribution values for Fragile visitors of the park (i.e., Elderly people, People with disabilities)

Outcome	Attribution
Reduction of loneliness	80%
Greater psycho-emotional well-being	80%
Better visiting experience	20%
Greater socialization among visitors	80%

Table 20. Attribution values for Informal and professional caregivers of fragile visitors of the park

Outcome	Attribution
Reduction of stress and anxiety associated with the caregiving experience	80%
Better visiting experience	20%
Greater socialization among visitors	80%

4.2.5. SROI calculation

The calculated SROI ratio is 1: 2.04, meaning that for every unit of investment, 2.04 units of social value are generated. This result indicates a positive return, demonstrating the project's ability to create significant social impact.

In Figure 4 it can be observed the social value is primarily focused on non-fragile park visitors, 89% of the total. The reason is that this group is significantly larger than the other two stakeholder groups, from 4 to 25 times for certain outcomes.

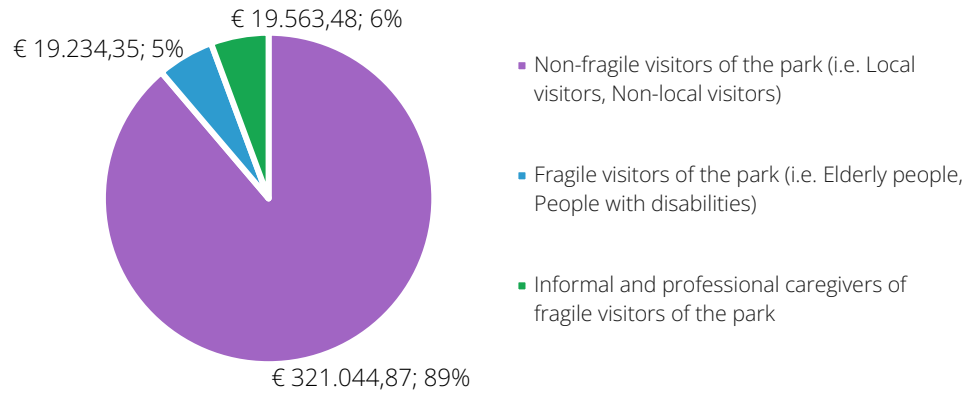


Figure 4. Social value expected for each stakeholder group

The analysis shows that one outcome stands in all stakeholder groups: a "better visiting experience," which is expected to create the most social value. This benefit is directly linked to the structural improvements made in the Villa Blasco park, while other outcomes are less likely to reach their full potential because they depend more on factors outside of the VARCITIES project, which doesn't currently address them.

Figure 5 highlights the key result for the non-fragile visitors of the park: in particular, the "increase of knowledge and awareness in relation to the benefits of ecosystem services" outcome scored the highest among stakeholders. It was less affected by discount factors, such as the deadweight and the attribution, as it is strongly tied to VSs' efforts.

Regarding the fragile visitors the "greater psycho-emotional well-being" is deemed to generate more social value, which is coherent with the initial assumptions.

Finally, caregivers agreed that the outcome most likely to happen is the "reduction of stress and anxiety associated with the caregiving experience" Figure 7.

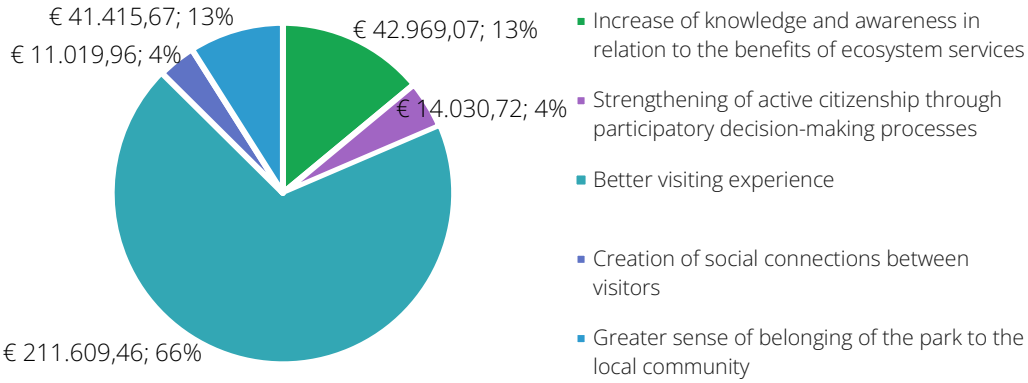


Figure 5. Social value expected for non-fragile visitors of the park

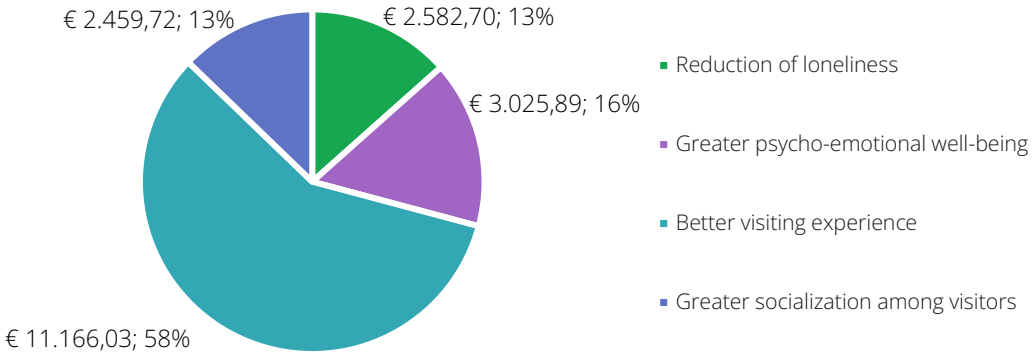


Figure 6. Social value expected for fragile visitors of the park

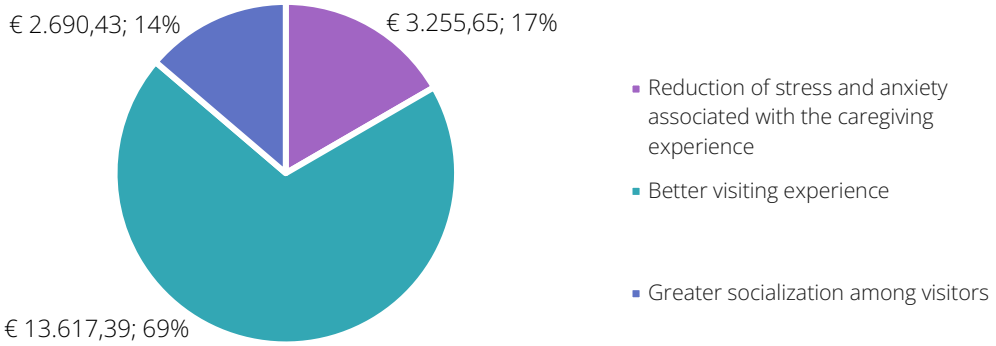


Figure 7. Social value expected for informal and professional caregivers of fragile visitors of the park

Sensitivity analysis

Sensitivity analysis examines how changes in the SROI ratio occur when:
A. Assumptions with weaker evidence are varied
B. Assumptions with a stronger impact on the results are modified
This analysis (Table 21. Sensitivity analysis - Castelfranco Veneto pilot) focuses on specific variables that are based on secondary research rather than insights from stakeholder engagement:

Table 21. Sensitivity analysis - Castelfranco Veneto pilot

Variable	Starting assumptions	New assumption	SROI ratio
Discount rates	The assumed displacement is 0%.	Displacement is raised to 40% for all outcomes.	€1: € 1,22

	The assumed deadweight is below 60%.	Deadweight is raised to 60% for all outcomes	€ 1: € 1,08
Proxy Non-fragile visitors of the park	The value of increased knowledge and awareness in relation to the benefits of eco- system services is identified in the cost of an annual subscription to National Geographic magazine (average cost between full cost and discounted cost - € 48,9).	The value of increased knowledge and awareness in relation to the benefits of eco-system services is reduced to the cost of a six-month subscription to National Geographic magazine (average cost between full cost and discounted cost - € 24,45).	€ 1: € 1,03
Fragile visitors of the park	The value of greater psycho-emotional well-being is identified in the cost of a monthly yoga course (4 lessons + annual card cost – € 45).	The value of greater psycho-emotional well-being is reduced in the cost of a biweekly yoga course (2 lessons + annual card cost – € 25).	
Informal and professional caregivers of fragile visitors of the park	The value of reduction of stress and anxiety associated with the caregiver experience is identified in the minimum cost of an individual session of stress management according to the Order of Psychologists' tariff (€ 45).	The minimum cost of an individual session of stress management according to the Order of Psychologists' tariff is assumed to be halved (€ 22,5).	

4.3. Lessons learnt

The forecast SROI analysis for the VARCITIES pilot in Castelfranco Veneto focused on the key outcomes expected to be generated by the VSs for park visitors and, more broadly, for the local community during the first year of implementation.

The analysis emphasized the importance of these outcomes in addressing the needs of both primary and secondary beneficiaries of the project. These needs are tied not only to

improving physical access to Villa Bolasco but also to fostering a social and cultural reconnection with the space as a shared community asset.

One goal of the forecast SROI analysis was to provide insights to guide the planning and design of activities, ensuring the project achieves its maximum impact.

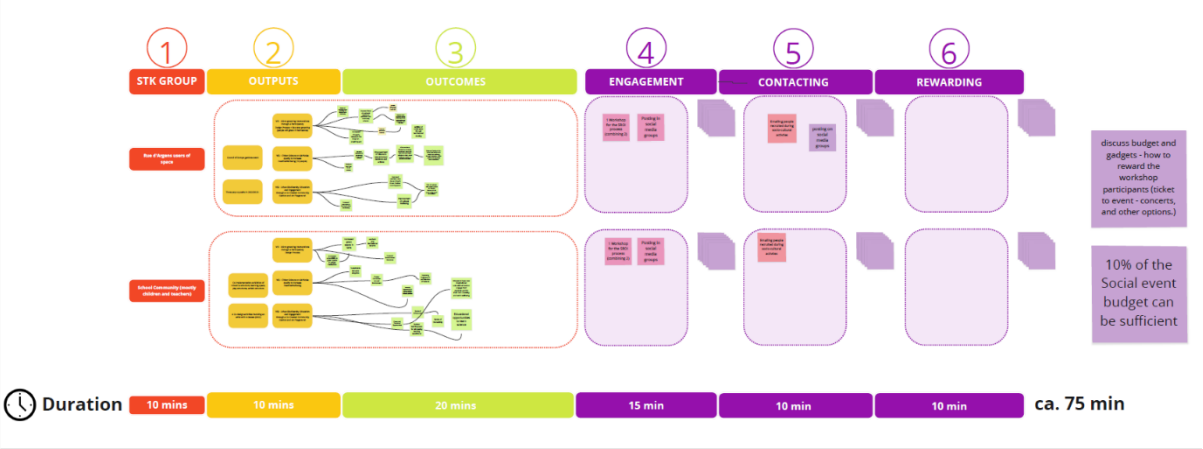
Stakeholders stressed the need to fully utilize the benefits of the project's interventions to promote greater inclusiveness and community engagement within the Villa. To achieve this, stakeholders identified two key areas of focus. First, they emphasized the need for structural improvements to ensure freer and more consistent access to the park, particularly for vulnerable visitors and their caregivers. Suggested improvements include additional van, car, and bike parking, better transportation links from outside Castelfranco Veneto, and extended visiting hours.

Second, participants in stakeholder engagement activities highlighted the importance of collaborating with local associations to make better use of the park's spaces for social, educational, and cultural events. The involvement of the local Third Sector could be instrumental in organizing citizen engagement activities through the Local Observatory and implementing social initiatives. These efforts could enhance VARCITIES' potential to achieve outcomes such as fostering social bonds, promoting inclusion, reducing loneliness, and reclaiming the park as a valued community heritage site for both vulnerable and non-vulnerable visitors.

Additionally, the analysis revealed the importance of incorporating the "human factor" into project solutions to achieve the desired outcomes, such as organizing guided tours, provide assistance, and offering information about Villa Bolasco to ensure all visitors feel supported and informed during their visit.

5 Gzira

5.1. Theory of Change Workshops



The Theory of Change serves as the foundation for SROI analysis by providing a comprehensive framework for identifying and measuring outcomes. It ensures that we capture all relevant impacts and helps understanding the causal relationships between inputs, activities, outputs, and outcomes. This clarity is essential for accurately valuing the SROI and demonstrating the project's true impact on the community.

On December 2023, the ToC workshop was conducted online, bringing together Eurac Research's SROI junior experts and the Gzira pilot team. This engaging session lasted one and a half hours and utilized Miro board technology to facilitate brainstorming. In Gzira's SROI analysis, identifying and engaging key stakeholders was a crucial step. We began by mapping out all potential groups affected by or involved in the project. The workshop's primary objective was to outline the anticipated outcomes from implementing the VSs in Gzira for each STK group.

Table 22. Main Stakeholder Engagement Activities

Activity	Objectives	Month	Duration
1 Kick off workshop with the project team	Define the scope of the analysis (activities, stakeholders and results included in the research)	Dec 2023	2h

SROI Workshop with Gzira residents (Stakeholder Group 1)	- Engage local citizens to discuss the social value from the economic investment of the VSs - Collect feedback from Gzira residents regarding the motivation rating of outcomes, financial proxy and attribution value	Mar 2024	3h
SROI Workshop with School Community (Stakeholder Group 2)	- Engage local citizens to discuss the social value from the economic investment of the VSs - Collect feedback from Gzira residents regarding the motivation rating of outcomes, financial proxy and attribution value	Tbd	Tbd

5.1.1. Identifying and engaging stakeholders

After outlining every possible group that would be impacted by or participated in the project, such as: residents, nearby companies, educational institutions, and consumers of public services. The decision moved to considering the two main STK groups that would be impacted by the project: the school community and the Rue d'Argens users of space. These groups were chosen because they were directly involved in the project and were likely to experience tangible results.

Local citizens in Gzira were selected due to the direct impact from VS1 & VS2, i.e., the bus station micro-greening and the pop-up parks including citizen science activities that were organised as initiatives to increase urban greening in the target site, create temporary social spaces for the community, and co-monitor air pollution in the area to increase awareness about air pollutants. VS3 is then directly effective within the school community in Gzira, where the outdoor learning space and several co-design workshops with children, teachers and parents were organised. The VS implementation in Gzira, specifically the bus station micro-greening in Rue d'Argens, will also impact bus stop users in general with added benches integrated within the planters to increase the seating space and have a larger shaded surface area to incentivise use of public transport. These implementations serve as a stepping stone for further NBS interventions in the area by the municipality.

Table 23. The stakeholder groups, the rationale for their inclusion or exclusion, and the activities realized to engage them in the forecast SROI analysis. Gzira

Stakeholder group	Included/ Excluded	Rationale	Engagement Method	N° of participants
Stakeholder group 1: Rue d'Argens users of space	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Workshop	8
Stakeholder group 2: School community	Excluded	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Workshop	tbc
Stakeholder group 3: Bus stop users from the public	Excluded	They are indirect beneficiaries of the project, as they will benefit from its outcomes, but their impact is not relevant enough.		

5.1.2. Inputs and outputs

Gzira Pilot has implemented three main VSs, of which two are deemed material, as they directly affect local key STKs and therefore create social value.

VS1: Rue D'Argens: Micro-greening Interventions through a Participatory Design Process

This VS was initiated with a questionnaire which was distributed to Gzira residents in and around the implementation area. The team collected baseline data from residents and invited them to provide their suggestions regarding the NBS implementation. Seeds were distributed to participants as an initiative to green people's balconies. The following activities, which are the pop-up parks, were organised in 3 different locations within Rue d'Argens in collaboration with the Gzira local council. The team hosted several science and educational activities for the public, while also using the opportunity to collect further feedback from the participants about the Gzira implementation. The infrastructural result from the responses received was the micro-greening of the bus stop, which lays the foundation for further implementation by the local council.

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Figure 8 Visionary solutions from Gzira

Figure 9 Visionary solutions from Gzira

VS2: Citizen Science on Air/Noise quality to increase H&WB awareness

It is the citizen science project being implemented by the University of Malta, in which residents were recruited through activities to co-monitor air quality in the area. Sensors were installed in their balconies, and other public spaces, to collect environmental data in the area, and educate citizen regarding the various existing pollutants.

Figure 10 Visionary solutions from Gzira

VS3: Urban Biodiversity, Education and Engagement through a Co-Created Community Garden Project

It is targeted at implementing NBS in 2 local schools; St. Clare Primary School and Stella Maris secondary school. Co-design activities were organised with students, parents and teachers to collect feedback about the implementation at the school, related to the needs and challenges experienced by the target groups. Co-implementation activities were also organised to decorate their courtyards together with the students, with additional science activities. The outdoor furniture which was used for the pop-up parks were then donated to the school at St. Clare primary as part of the implemented outdoor learning space.

Figure 11 Visionary solutions from Gzira

Table 24. VS Inputs and outputs. Gzira

VSs (Outputs)	VS components	Quantity	Funding Source	Inputs
VS1	1.1 - Provision of seeds and distribution to residents,	1	VARCITIES	1,052.00
	1.2 - Greening of a small area in Rue D'Argens & pop up greening spatial interventions	1	VARCITIES	5468.31
	1.3 Pop-up greening & citizen engagement	3	VARCITIES	8597.00
	1.4 Greening of a small area in Rue d'Argens	1	VARCITIES	2204.16
VS2	2.1 Fixed sensors	14	University of Malta	0.00
	2.2 Citizen science campaign and sensors	10	VARCITIES	1009.02
	2.3 Installation poles and wiring for sensors	10	VARCITIES	354.00
	2.4 Hololens	1	VARCITIES	3889.00
VS3	3.1Outdoor Learning Space at St. Clare Primary School, design, land survey	1	Arts Council Malta / VARCITIES	3,648.77 / 1,2093.20
	3.2 Council of Europe Gardens cultural event	1	VARCITIES	3455.01

	3.3 Pop-up engagement in sounding locations	0	VARCITIES	Covered in VS1
	3.4 Engineering Health & Safety Fees	1	VARCITIES	528.64
	3.5 Purchase and Installation of Matts for safety as instructed by H&S engineer	1	VARCITIES	510.17
	3.6 School co-design workshop (with school children, teachers and parents)	1	Arts Council Malta	2,772.05
	Implementation in Stella Maris School: Planters, Greening, Co-creation material	1	VARCITIES	11,000.00

Table 25. Total Inputs. Gzira

Cost category	Value
Total financial inputs, including operating cost and subtracted revenues per year	169367,9 €
Total direct personnel costs	391979,6 €
Total indirect costs	125768,9 €
Total	**687116,3 €**

5.1.3. Mapping outcomes

Activities tailored to the 2 target groups mentioned above are detailed in this section. Both target groups participated in the respective SROI workshops to express their subjective social value attributed to the VS implementation through the questionnaire inputs. The first STK group, consisting of local citizens, was primarily involved through a co-creation survey where the citizens provided their opinions regarding the local environment and baseline information for the Gzira evaluation. Residents were also involved in a citizen science initiative to support in the monitoring of air quality.

The same group was invited to other co-creation workshops organised by the University of Malta and pop-up parks in Rue d'Argens. The second group was mainly involved in co-design and co-implementation workshops for children, conversations with parents and workshops with teachers about the needs, challenges and solutions to improve the school environments, and make them healthier, more inclusive and educational for the immediate communities. This bottom-up approach enables the team to capture the important feedback, that can be implemented within the scope and timeframe of the VARCITIES project. These activities and implementations in various location within Gzira have rendered

the following mapped outcomes, creating social, cultural and environmental value for the local biodiversity and communities.

Stakeholder group 1: Rue d'Argens users of space

Engagement: Workshop, March 2024, 8 people

STK type: Students representing Rue d'Argens users of space

The first SROI workshop was organised in Gzira on 15th March 2024, inviting local citizens to determine the social value of the implementation of VSs at the pilot site. The University of Malta hosted 8 participants, composed of citizens and University students residing in the area. Although the participants lived in neighbouring localities they were very interested in these projects and events taking place in the Gzira region. During the Workshop process, they compared Gzira with the settlements they lived in. They repeated that the problems in Gzira were similar to the problems where they lived.

The Gzira pilot team ran the session for 3 hours, where they introduced their 3 VSs, namely, the pop-up parks, the bus station micro-greening in Rue d'Argens, the sensor installations in Gzira and citizen science activities, and lastly the outdoor playscape and garden being implemented in local schools. In addition, the SROI process was explained thoroughly for the participants to understand the scope of the data which was collected afterwards through a questionnaire. The outcomes of the Visionary Solutions were presented consecutively, and the participants provided the answers on a questionnaire based on these 3 main questions; outcome rating with motivation, financial proxy and indication of other initiatives on the territory that participants know and that would have a similar impact as VARCITIES (i.e. the attribution factor). The motivation questions reflected on realisation potential of the outcomes, and the financial proxies intended to gather information related to the financial value that the STKs perceive when considering the impact of the three VSs. The last question was then focused on collecting data on the participants' perception of the extent to which external projects might influence this outcome. Below are the value percentages and economic impact of these outcomes.

Participants provided various suggestions and feedback on urban greening and environmental initiatives. They recommended planting trees and plants on street corners, with a preference for affordable, low-maintenance species. Concerns were raised about waste collection schedules and the growing population, particularly in Gzira and Sliema, where they felt foreign residents were less environmentally conscious. They also suggested promoting surveys on social media and increasing the number of bus stations. Additionally, poor lighting in parks was noted as a deterrent for evening walks.

The training and workshops, especially those in schools, were well received. Participants appreciated the idea of street activities and proposed hosting workshops in more local

areas due to the transient population. A creative suggestion was to repurpose a stadium for pop-up parks and community gardens.
The greening of bus stations and community gardens impressed participants, and they showed interest in further greening initiatives, particularly in schools. However, they wished for more frequent events and better announcements.
Suggestions included focusing more on public space and congestion issues, emphasizing education and active participation, and involving experts before making interventions. Schools should incorporate more outdoor activities and hands-on environmental learning. Additionally, participants recommended reconsidering the marketing plan and making information about urban greening more accessible, ensuring engagement happens in everyday spaces rather than expecting people to seek it out.

Figure 12 SROI Workshop with citizens

Visionary Solution	Outcome Description	Justification	Resource	Value Percentage
VS1	Enhanced knowledge and appreciation of gardening and local biodiversity	percentage of people who read news and books in Gżira	Malta survey	24,30%
	Improved psycho-emotional well-being	percentage of people in Gżira going in open spaces	Access Green Spaces	50%
	Increased sense of pride and belonging to the neighbourhood	percentage of people who feel attached to the Gżira neighbourhood	feel of attachment	8%
VS2	Enhanced awareness of air and noise pollution levels, and empowerment of citizens		noise pollution	26,25%
	Improving residents' lifestyles through education on air and noise pollution risks and self-protection actions	percentage of people who rely on education as a source of environmental hazards / air and noise pollution risks awareness in Malta	Public perception on the state of air quality in Malta	6,25%
VS3	Enhanced awareness of local urban biodiversity	percentage of people in Malta who is informed about the local biodiversity/ percentage of people who read news and books	Digital in Malta: All the Statistics You Need in 2021 — Data Reported – Global Digital Insights	6%
	Enhanced play area appearance	intention from the school side to improve the yard's appearance	-	0%
	Enhanced mental well-being	percentage of people in Gżira going in open spaces	https://nso.gov.mt/structural-business-statistics-2020-2-2/	73%
	Boosted social interaction with a new gathering spot in the school yard for parents or staff	percentage of people in Malta spending time in the company of others	social interaction	44%

Outcomes		Discount factor				impact
Description	Target in number	Deadweight	Displacement	Attribution	Drop-off	Value €
Enhanced understanding and appreciation of gardening and local biodiversity	1.000	24%	0%	13%	4%	13.230,61
Improved psycho-emotional well-being	950	50%	0%	15%	4%	21.871,54
Increased sense of pride and belonging to the neighbourhood	1.150	8%	0%	11%	4%	18.573,45
Enhanced awareness of air and noise pollution levels, and empowerment of citizens	95	26%	0%	8%	4%	2.307,83
Understanding sensor usage	20	0%	0%	0%	4%	0,00
Improving residents' lifestyles through education on air and noise pollution risks and self-protection actions	90	6%	0%	11%	4%	3.399,52
Enhanced awareness of local urban biodiversity	363	6%	0%	8%	4%	24.550,85
Enhanced play area appearance	363	0%	0%	13%	4%	20.867,96
Enhanced mental well-being	363	73%	0%	11%	4%	5.416,91
Boosted social interaction with a new gathering spot in the school yard for parents or staff	363	44%	0%	9%	4%	11.115,67

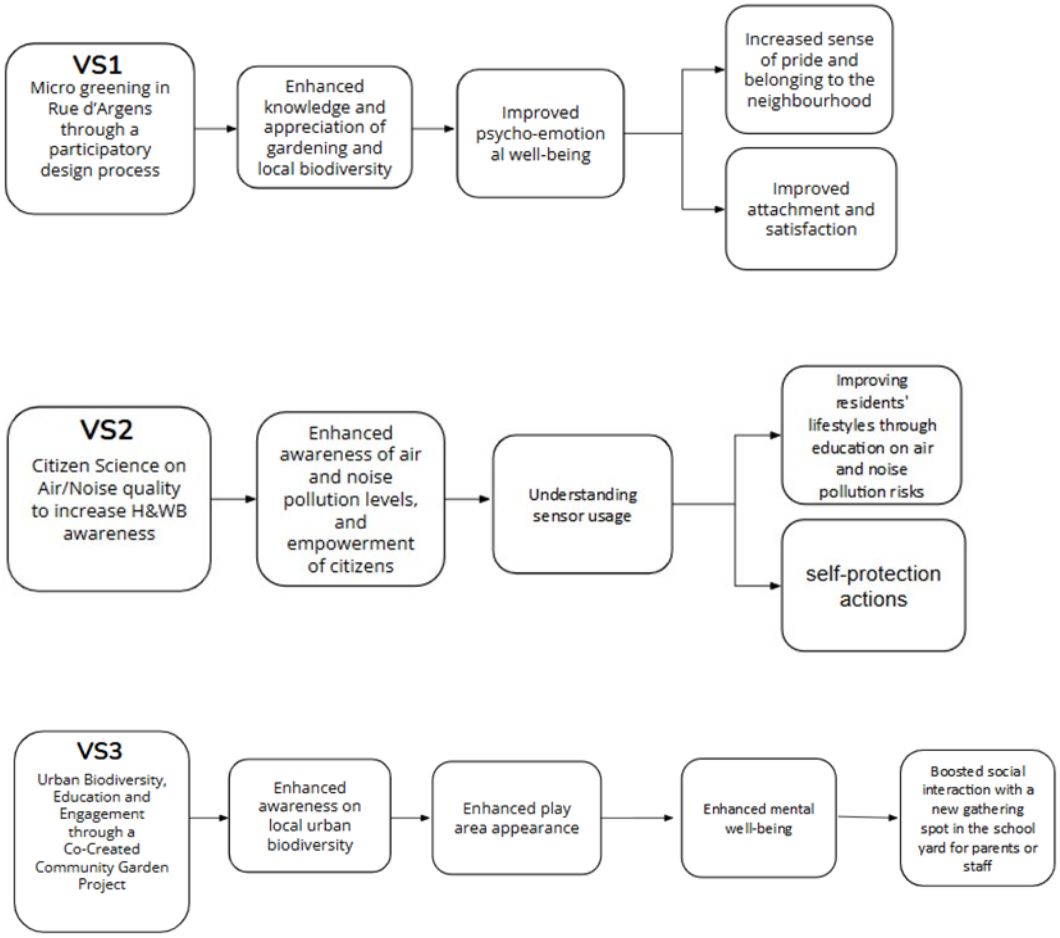


Figure 13. ToC of the Rue d'Argens users of space

Outcome Feedbacks

VS1

Enhanced knowledge and appreciation of gardening and local biodiversity, score 2,88

Synergies can be created with government for additional pop-up parks to be organised in certain locations that promote understanding of and provide support for local biodiversity, through activities. This comment

Improved psycho-emotional well-being, score 4,63

Due to the implemented sheltered bus stop, and further implementation by the local council to expand on it, it creates a calmer and more accessible environment. Being part of the workshop and contributing to the data created a more positive outlook that solutions can be found to mitigate the environmental issues in Gzira – although it takes time and can be challenging.

Increased sense of pride and belonging to the neighbourhood, score 2,63

Participants mentioned that this is an important factor to include, mostly for the residents of the area and long-term migrants. The place has several opportunities for cultural events and public dialogue which could be exploited, and that can enhance residential attachment.

VS2

Enhanced awareness of air and noise pollution levels, and empowerment of citizens, score 3,38

The participants acknowledged and encouraged the team for further awareness raising and advised to work with local NGOs and using various channels, also online, to motivate people to live more sustainably.

Enhanced mental well-being, score 4,50

Participants have shown support for the need to work with children in schools, and involving them in the process to design and implement changes at the school that will benefit them directly, creating agency within the community. This process can lead to children feeling more welcome and having their voices heard at the schools.

Additional comments received:

The bus station micro-greening should be replicated in other stations

A valuable comment that was received was the potential for replication of the bus station micro-greening in other areas where shade is also lacking. Given the micro scale of the intervention, people confirm that the benefits are very much needed in other places. The integrated benches have also provided bus stop users with added seating capacity at the station but are also functional to people in general.

Cultural activities in local areas

Some participants said they needed additional cultural activities in local public spaces but also validated the value of activities in schools. The participants then suggested other places where activities can be organised, perhaps on a regular basis. They were enthusiastic about the educational co-design format of the schools' activities but commented that events in public spaces should be marketed more.

Material Outcomes

The SROI principles "Do not overclaim" and "Only include what is material" emphasize including only material outcomes. In the specific pilot case of Gzira the “Understanding sensor usage”, that scored 1,0 out of 5 points was deemed not relevant by the workshop participants and therefore excluded from the analysis.

5.2. Quantification of Outcomes

Following the insightful workshops, the next step was using the data collected and proceed with the quantifying outcomes, estimating how many people would experience each benefit. Next, indicators to measure these outcomes effectively were established. Then, the duration of these impacts, a crucial factor in assessing their overall value, was determined. Finally, there was the assignation of monetary values to each outcome using a willingness-to-pay approach, allowing to translate social benefits into financial terms.

The in-person workshops described in paragraph 1.4.1. included also the data for this second phase of "outcome quantification" and they have been organized for both stakeholder groups, Rue d'Argens users of space and the school communities. The former was held at the Gzira parish church hall and the latter at St. Clare Primary School – including both school communities. Regarding the data gathered through the questionnaire proposed in the workshop, the first workshop is successful in terms of feedback received and participant turnout – considering that it was a difficult activity to promote on social media and the recent decline in participation rate. Some of the participants enjoyed the workshop, although they have mostly provided feedback on the general environmental situation in Gzira and lack of green spaces rather than the main topics related to SROI, and most times deviated from the purpose of the workshop.

The team running the workshop ensured to explain the SROI process in detail, include all participants equally and engage them in dialogue. Most of the initial questions were mostly related to the questionnaire process to better understand certain terms being used. After establishing the scope of the workshop, participants preferred to complete the questionnaire individually with the team providing support where necessary. Later, all participants were divided into groups to discuss topics of their choice in relation to Gzira's challenges and needs. All participants recognized the need to evaluate the VSs in terms of SROI to quantify the subjective and hypothetical investment in Gzira, which can be used to influence policies or decisions at a governmental level.

Their contribution in both workshops lead to the validation of SROI regarding the pilot interventions in Gzira, by understanding the social value of the economic investment by the EU Commission and other entities that have provided the University of Malta with support during the implementation of their infrastructural, digital and sociocultural VSs.

5.2.1. SROI calculation

To calculate the Social Return on Investment, or SROI, we need to determine either the Total Present Value or Net Present Value. This figure is then divided by the total investment

costs. The SROI ratio calculated is of 1 : 6,12. This means that for every euro invested in our urban transformation project, we're creating 6,12 euros of social value.

5.3. Lessons learnt

The SROI analysis for this urban transformation project has provided us with valuable insights and important lessons. Our findings reveal significant social value creation, with the benefits of the interventions outweighing the costs, as indicated by a positive SROI ratio. One crucial lesson we've learned is the importance of comprehensive stakeholder engagement. By involving Gzira residents and the school community, we gained invaluable insights into the true impact of the project. This participatory approach not only improved the accuracy of our analysis but also fostered a sense of ownership among the beneficiaries. Another key takeaway is the power of quantifying social outcomes. By assigning monetary values to traditionally intangible benefits, we've provided a compelling case for investment in urban transformation. This approach can be particularly useful in securing funding and support for future projects. Challenges faced during the engagement related to the language, understanding the scope and the organization of the workshop.

The process also highlighted the complexity of urban systems and the interconnectedness of outcomes. Future projects should consider these ripple effects and potential unintended consequences in their planning and evaluation. Lastly, the sensitivity analysis underscored the importance of robust data collection and conservative estimations. This approach ensures credibility and helps manage expectations among stakeholders and decision-makers. As we move forward, these lessons can inform and improve future urban transformation initiatives, leading to more effective, efficient, and impactful projects that truly serve the needs of our communities.

6 Novo Mesto

6.1. Theory of Change Definition

With the aim of conducting SROI, structured engagement strategies were employed to ensure active participation from key stakeholder groups. The process began with a kick-off workshop where the project team outlined the scope of the analysis and the first ToC that includes: defining the activities, stakeholders, and expected outcomes. This session established the foundation for further discussions. This workshop took place in January 2024 and was attended by 4 Participants of the project team.

Secondly, a focus group was organized in July 2024, that engaged representatives of youth community and people with special needs, to create the final ToC and assign monetary values to the outcomes defined for each stakeholder group. The session lasted 2 hours and allowed stakeholders to provide in-depth feedback on the expected project outcomes.

Finally, a stakeholder meeting in November 2024 presented the key findings from the SROI analysis and gathered feedback on the estimation of SROI. This meeting was rich in comments and it turned out that the analysis in Novo mesto accurately reflects stakeholder priorities. Representatives for individuals with special needs highlighted the project's increased social impact and improved accessibility, while noting that participation still depends on personal motivation. Additionally, the significant benefits of organized programs for the elderly and retirees, especially those living alone, were emphasized, as these programs provide essential opportunities for recreation and social interaction. Looking ahead, future initiatives include the development of green areas for outdoor exercises, activities for children and other groups, and the introduction of new recreational elements to further enhance community engagement and well-being.

Table 26. Main Stakeholder Engagement Activities

Activity	Objectives	Month	Duration
1 Kick off workshop with the project team	Define the scope of the analysis (activities, stakeholders and results included in the research)	Jan 2024	2h
1 Kick off workshop with the project team	Define the scope of the analysis (activities, stakeholders and results included in the research)	Jan 2024	2h
1 Focus group with Youth community	Involvement of youth community representatives with the aim of creating the final	Jul 2024	2 h

(Stakeholder group 1)	ToC and defining monetary values of individual results and attribution value.		
1 Focus group with People with special needs: Sensory groups and Elderly (Stakeholder group 2)			
1 Stakeholders meeting to present key SROI findings and to get feedback on our estimation	Present and validate the SROI analysis results to the stakeholders, highlight its social impact, gather feedback on current programs and discuss future initiatives.	Dec 2024	2 h

6.1.1. Identifying and engaging stakeholders

We determined two groups as the primary stakeholders for the research – youth community, elderly and people with special needs, as VS1, VS2 and VS3 will have a direct impact on them. New sensory paths equipped with information boards to raise awareness about blindness (VS2-VS3) are primarily intended to sharpen human senses and learn about the surroundings. Also the new motoric park (VS1) strengthens motor skills and informs visitors about the area of Natura 2000 and its animal and plant species. Interconnectedness of all the facilities (VS4) in area enables accessibility in and around facilities and creates program offer of the park, offering healthy leisure time for all generations. Also, facilities were designed and strategically placed to encourage interactions between the various user groups and social engagement.

During the initial planning, we defined three groups of stakeholders. In addition to those already mentioned, there were also families and individuals looking for recreational activities. In later group forming this group was excluded from the analysis, since this group, regardless of our activities, would look for other options that would lead to similar or the same results as in VARCITIES project.

Table 27. The stakeholder groups, the rationale for their inclusion or exclusion, and the activities realized to engage them in the forecast SROI analysis

Stakeholder group	Included/ Excluded	Rationale	Engagement Method	N° of participants

Stakeholder group 1: Youth community: children	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group	5
Stakeholder group 2: People with special needs: Sensory groups and	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group	10
Stakeholder group 3: Families and individuals seeking recreational activities	Excluded from SROI monetization	They are indirect beneficiaries of the projects as they would look for other options that would bring them similar outcomes to those foreseen within the VARCITIES project.		

6.1.2. Inputs and outputs

The Novo mesto Pilot has implemented a total of five VSs, however, only three were considered in the SROI analysis. VS4 and VS5 were excluded as they do not have a direct impact on our relevant stakeholder groups. The table below provides a detailed description of the included VSs (outputs) and the associated investments (inputs) required for the implementation, focusing on key outputs and financial consideration.

VS 1: Brownfield remediation and greening with plant species indigenous to the nearby Natura 2000 areas

This VS activities involved the remediation of old military brownfield, where some plant species indigenous to Natura 2000 areas were planted. This initiative also serves an educational purpose by raising awareness about local biodiversity. Sensors were installed to monitor air quality and meteorological conditions, comparing data with the urban city.

Picture 1. Brownfield remediation and greening with plant species (VS1)

VS2: Creating sustainable forest trails

It is focused on developing sustainable forest trails to connect sports and recreational facilities at Sports and recreation center in Češča vas. Along the trail different information stations were placed to educate visitors on health and sustainability. The path is also equipped with motion sensors to monitor the number of visitors.

Picture 2. Creating sustainable forest trails (VS2)

VS3: Interconnectedness of sports, recreational and therapeutic facilities

This VS aimed at integrating sports, recreational and therapeutic facilities through the development of a comprehensive self-sustaining program, including physical and digital connectivity. The initiative also focused on improving accessibility for disabled individuals, providing Wi-Fi hotspots, and organizing events to promote the facilities' interconnectedness.

Picture 3. Interconnectedness of sports, recreational and therapeutic facilities (VS3)

Table 28. Inputs and outputs

VSs	Output	Quantity	Funding source	Input
VS1	Preparation of technical documentation and visualizations for obtaining required permits and expert opinions	1	VARCITIES	€ 5.000
	Removal of scrubs and levelling of the degraded area	5.000 m2	VARCITIES	€ 5.000
	Purchase & planting of trees and bushes	20	VARCITIES	€ 15.000
	Selection, purchase & installation of air quality and microclimate sensors	2+10	VARCITIES	€ 9.000
VS2	Preparation of technical documentation and visualizations for obtaining required permits and expert opinions	1	VARCITIES	€ 5.000
	Design & content of informative spots of the sustainable trail	1 plan; 6 spots	VARCITIES	€ 1.000
	Construction work for execution of the trail	1 km	VARCITIES	€ 74.500
	4 Infrared (IR) people counters with LoRaWAN connectivity	4	VARCITIES	€ 1.600

	Promotional events design & activities	2	VARCITIES	€ 5.000
	Supporting actions for execution of survey and questionnaires	20	VARCITIES	€ 500
	Social media & mass media information	4	VARCITIES	€ 500
VS3	Consumables for implementing the developed integrated business and environment programmes	5	VARCITIES	€ 5.000
	Common resources and facilities (rest areas) will be designed and strategically placed to encourage spontaneous encounters and interactions between the various user groups	5	VARCITIES	€ 10.000
	Analysis and mitigating measures of disabled friendly access in the park	1	VARCITIES	€ 10.000
	Performing events that will market and show facilites in the interconnectedness	2	VARCITIES	€ 7.500
	LoRaWAN Gateways	3	VARCITIES	€ 3.000
	Enabling connectivity for all users	2	VARCITIES	€ 2.000
	Supporting actions for execution of survey and questionnaires	2	VARCITIES	€ 500
	Sustainable follow-up of the programmes – analysis and setup of further development of the special and general groups programmes for healthy living	1	VARCITIES	€ 500

Table 29. Total inputs

Cost category	Value
Total financial inputs, including operating cost and subtracted revenues per year	349.095,91 €
Total direct personnel costs	80.500,00 €
Total indirect costs	107.398,98 €
Total	**536.994,89 €**

6.1.3. Mapping outcomes

For both stakeholder groups a focus group was organized. This workshop included 5 participants representing the youth community and 10 participants representing people with special needs: elderly and sensory group. The 2-hour workshop focused on introducing VSs, namely: establishing a motor park (VS1), creating a trim track with informational boards featuring local plant and animal species (VS2), introducing the park's program offerings and enhancing accessibility for the physically challenged (VS3). Later, the participants were introduced to the concept of SROI analysis which made it easier for them to give their opinion and evaluations in the continuation of the workshop.
To obtain data, the participants filled out a questionnaire, on which they defined the probability of a certain outcome occurring for each activity, financial proxy and assessing the impact of other similar projects on the outcomes (see chapter 1).
The workshop took place at the same time for both stakeholder groups, although data was collected separately for each group.

Picture 4. Focus group for stakeholder group 1 and 2

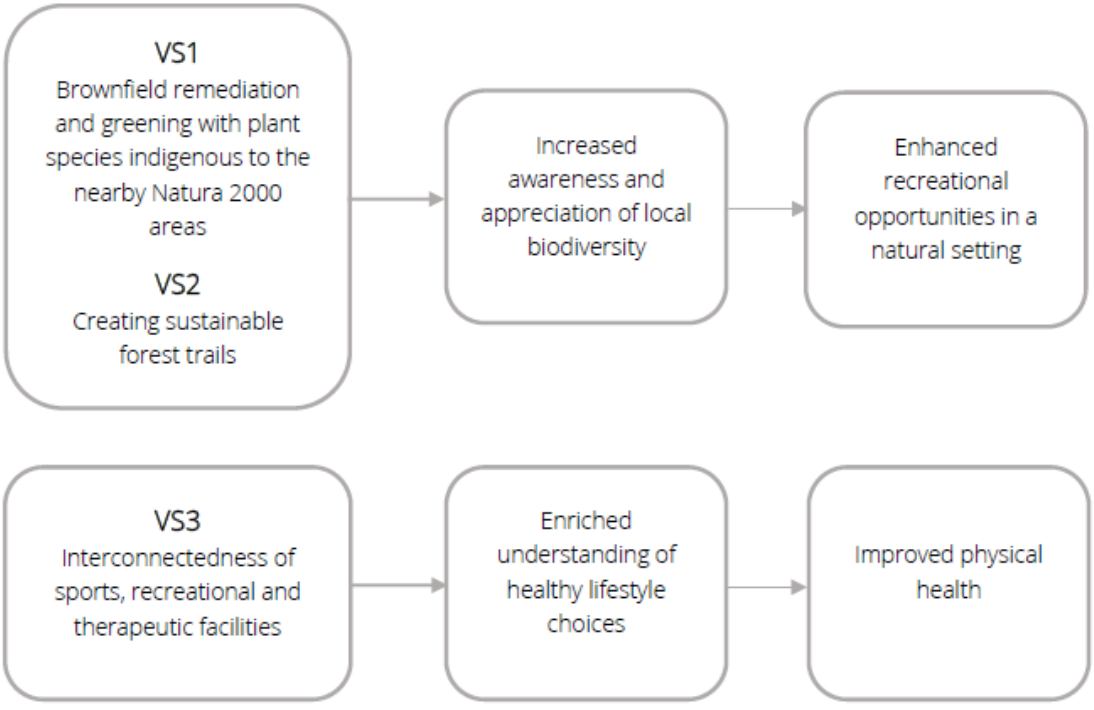
Stakeholder group 1: Youth community: children

Engagement: Workshop, July 2024, 5 participants

Organizations represented: health education center, swimming sports, triathlon sports, volunteering.

The workshop with stakeholder group 1 took place on July 8, with 10 participants attending. At the beginning of the workshop, the project process and the activities conducted in the project were presented to all participants. To facilitate participation in the discussion and the easier completion of the questionnaire, SROI was explained in detail to the participants. First, the participants openly shared their opinions regarding each individual outcome, and finally, they completed a questionnaire that provided us with the necessary data for calculating SROI. After completing the questionnaires, the participants engaged in an open discussion to further express their perspectives and insights. The stakeholders' opinions are described in the following sections.

Picture 5. Theory of change for stakeholder group 1



Outcome Feedbacks

Increased awareness and appreciation of local biodiversity – score: 3,8

Youth representatives' comment that informational boards are an interesting way for connecting nature with children and teaching them about local biodiversity. They comment that incorporating engaging activities, such as workshops or guided tours could increase their

learning experience. However, they emphasize that this is not one of the key outcomes of the project.

Enhanced recreational opportunities in a natural setting – score: 4,22

Representatives of this group mentioned that the children are enthusiastic about the recreational opportunities of the RC Češča vas. Children visit this park with school, and then they return to it with their families. Free access to the park is a big advantage for them, as some families find it difficult to afford to enroll their children in paid sport activities.

Enriched understanding of healthy lifestyle choices – score: 4,4

The interconnectedness of sports facilities in Češča Vas offers a various recreational opportunities for individuals. Participants noted that while for example one child attends cycling training, another can use that time to swim at the pool or engage in activities at the motor park. This synergy among various activities cultivates a supportive environment that promotes a healthy lifestyle.

Improved physical health – score 4,33

Participants highlight that enhanced access to sports activities undoubtedly motivates young people to engage in more physical exercise. With a wide array of options available, children can explore their diverse interests and select activities that resonate with them. This variety not only fosters greater physical engagement but also contributes to improved overall health and a reduction in obesity rates.

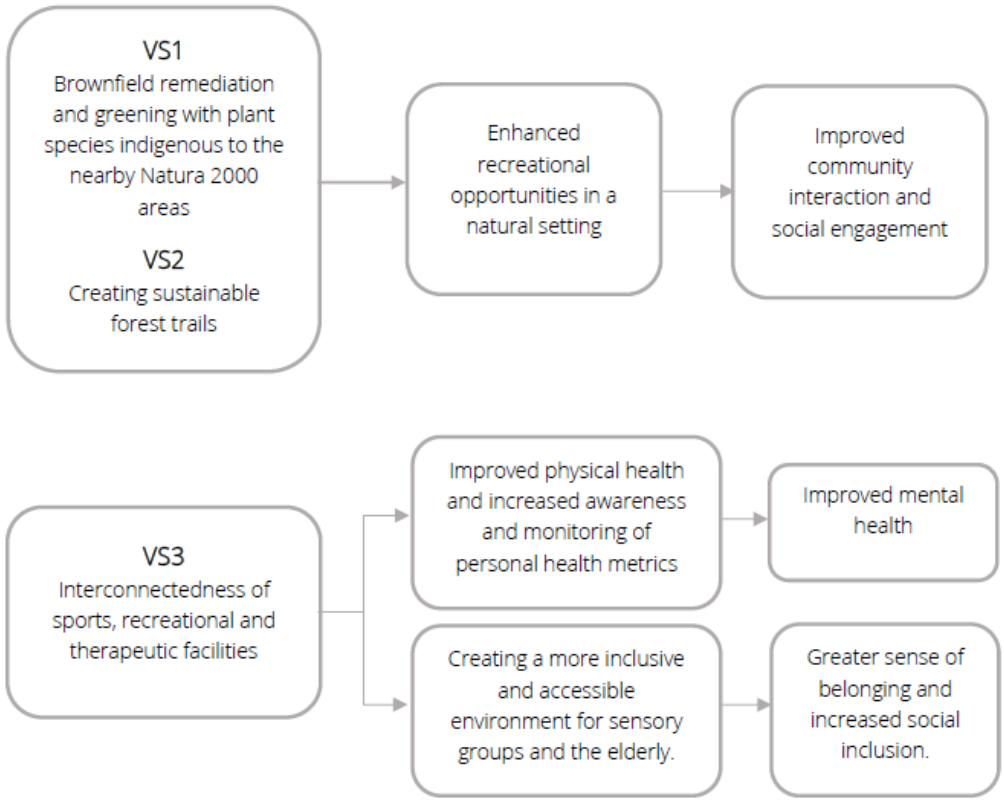
Stakeholder group 2: People with special needs: Sensory groups and Elderly

Engagement: Workshop, 8th July 2024, 10 participants

Organizations represented: health education center, swimming sports, volunteering.

For stakeholders group 2, the workshop also took place on July 8, with 5 participants. The workshop for both groups was held simultaneously, and during the open discussion, the participants from each group provided separate opinions on the expected outcomes. Some participants represented both stakeholder groups, and they also completed the questionnaire for each group individually at the end. After completing the questionnaires, the participants engaged in an open discussion to further express their perspectives and insights. The stakeholders' opinions are described in the following sections.

Picture 6. Theory of change for stakeholder group 2



Outcome Feedbacks

Enhanced recreational opportunities in a natural setting – score: 4,38

Participants mention that the park plays a crucial role in increasing recreational activities among people with special needs. They think it is essential that recreational opportunities are offered to them, as this alone is a great motivation for use. People with special needs expressed immense joy about sports' day that was organized in the park and the ability to explore and use motoric park.

Improved community interaction and social engagement – score: 3,7

This outcome is expressed through various activities that involve people with special needs. Representative from The Association of the Blind and Visually Impaired mentioned that the members were particularly happy about the event where the sensory park allowed sighted individuals experience simulations of visual impairments through special glasses. They also commented that the learning path is increasingly visited by people with special needs, and awareness boards inform visitors about blindness and encourage them to accept differences. All of this contributes to enhancing empathy and understanding of different community groups.

Improved physical health and increased awareness and monitoring of personal health metrics – score: 4,36

Health centers and different recreational programs offer opportunities to improve physical health. Representatives from the Health Center noted the need for motivation to visit the trim path, which could contribute to better physical conditions for older individuals with higher body weight. Regular programs offer and implementation of sport activities is crucial for monitoring and enhancing personal health metrics, as evidenced by increased participation and satisfaction among participants.

Improved mental health – score: 4,3

The representatives point out that professional workers who work with people with special needs observe that people with special needs are more relaxed and happier after visiting the park. They also note that working with them in the afternoon is much easier, mainly due to their improved well-being. People with special needs can connect and express themselves more easily through these activities.

Greater sense of belonging and social inclusion – score: 3,9

Stakeholder representatives emphasize that members of society feel equal and accepted after visiting the center, which contributes to their confident development. All members agreed that the inclusion of various groups in shared activities leads to greater connection and support within the community.

Creating a more inclusive and accessible environment for people with special needs, including sensory groups and the elderly – score: 4

Representatives from the Society of Paraplegics point out the need for greater accessibility in all new investments. The introduction of sensory path and tailored programs allows older adults and individuals with special needs to actively participate in recreation, enhancing their mobility and quality of life.

6.2. Quantification of Outcomes

For each target group, a focus group was selected as the primary engagement method, inviting representatives from various organizations within the target demographic. This interactive format allowed participants to openly share both positive and negative views on the project activities. The focus group proved effective, as the open discussions fostered a continuous exchange of new perspectives, which would not have been achievable through a standard questionnaire.

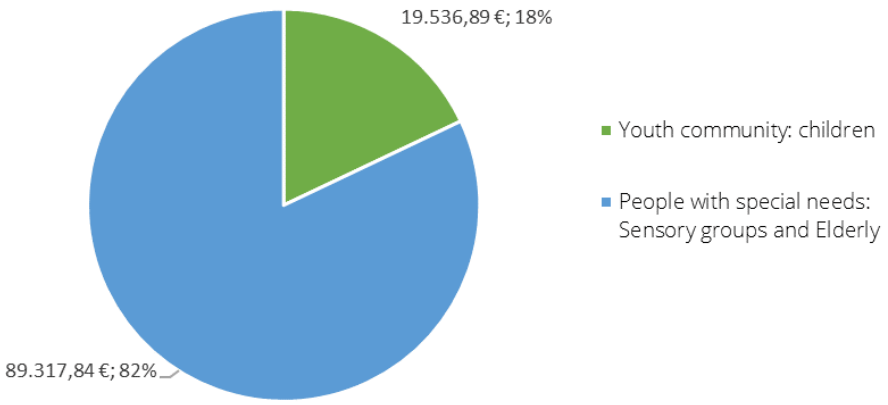
The main challenges emerged with the follow-up questionnaire that participants completed after the open discussion. Many struggled to assign a financial value to each outcome, finding it difficult to identify values that matched the project's impact accurately.

Initially, participants appeared reserved and somewhat skeptical about the purpose of the workshop and the significance of their input. However, after a detailed explanation of the SROI (Social Return on Investment) analysis and their role in it, questions began to emerge, and participants gained a clearer understanding of how their contributions would improved project outcomes. Instead of filling in the willingness to pay part of the questionnaire, stakeholders suggested local and specific proxies. Other proxies have been found through desk research.

6.2.1. SROI calculation

Relating the total value of the expected social benefit to the value of the inputs (financial costs and intangible resources) necessary for the implementation of the intervention, the result is a ratio of € 1: € 2,16.
The SROI ratio emerging from the analysis makes it possible to estimate that, for each euro invested in the Slovenian pilot of Varcities, the realization of the Visionary Solutions will generate more than double in terms of social benefit for the territory of Novo mesto.
The following chart represents the amount of value expected to be experienced by the two stakeholder groups and for each of them, the value generated by the respective outcomes.
As shown in the Figure 12, the highest social value generated by the activities is observed among people with special needs (sensory groups and elderly). This is primarily because the activities introduced through the project are new and engaging for this group, with a strong emphasis on promoting their inclusion in various programs and initiatives. While the youth community is also actively involved, they have access to a wider range of similar activities elsewhere, which explains the relatively smaller impact on this group.

Figure 14. Social value expected for each stakeholder group



Since different outcomes are expected for each group, Figure 13 highlights that the highest social value for the youth community is "greater understanding of healthy lifestyle choices". This outcome is minimally affected by external factors (low attribution) and is primarily driven by the efforts of VS's, particularly through programs for children focused on a healthy lifestyle. Additionally, improved physical health also contributes significantly to the social value within this group.

Figure 15. Social value expected for youth community

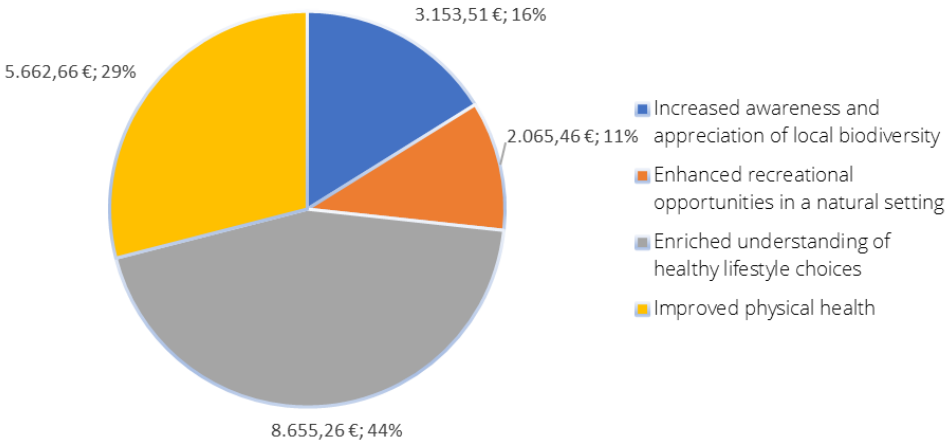
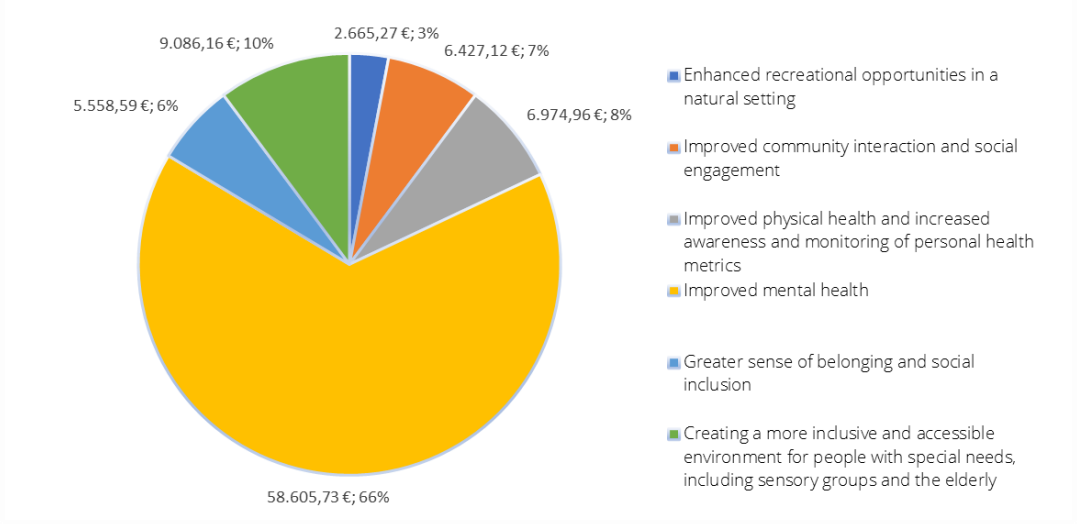


Figure 14 shows that for people with special needs, the highest social value is expected in the area of "improved mental health". This was confirmed in the focus group discussions with stakeholder representatives, who observed significant improvements in the mood of people with special needs when they participated in park activities.

Figure 16. Social value expected for people with special needs



6.3. Lessons learnt

The SROI analysis for Novo Mesto has provided several important lessons regarding accessibility, community engagement, and long-term sustainability. These lessons, derived from both stakeholder feedback and data collected during the SROI workshop.

One of the key takeaways is the importance of accessibility and inclusion. The introduction of sensory parks and accessible recreational facilities demonstrated how critical it is to design public spaces that cater to people with special needs. These efforts not only improved physical accessibility but also enhanced social inclusion by allowing people with disabilities to participate more actively in community life. The sensory pathways, informational boards, and nature trails were highlighted as essential tools for fostering a sense of belonging and equality within the community.

Another important lesson is the significance of motivation and program consistency. Feedback from participants showed that while the facilities themselves are beneficial, they must be paired with well-organized, regular programming to ensure ongoing engagement. Offering one-time events may draw initial interest, but continuous programs that incentivize regular participation are more effective in the long term. This applies not only to children and youth, who benefit from consistent physical activities, but also to elderly and sensory groups who rely on routine for physical and mental well-being.

The challenge of sustained engagement also emerged, particularly in relation to accessibility for disadvantaged groups. Financial and logistical barriers, such as transportation and pricing, were identified as key factors that could hinder broader participation. To address this, offering subsidized access to facilities or ensuring better

transportation links could play a pivotal role in increasing community engagement, particularly for families or individuals with limited financial means.

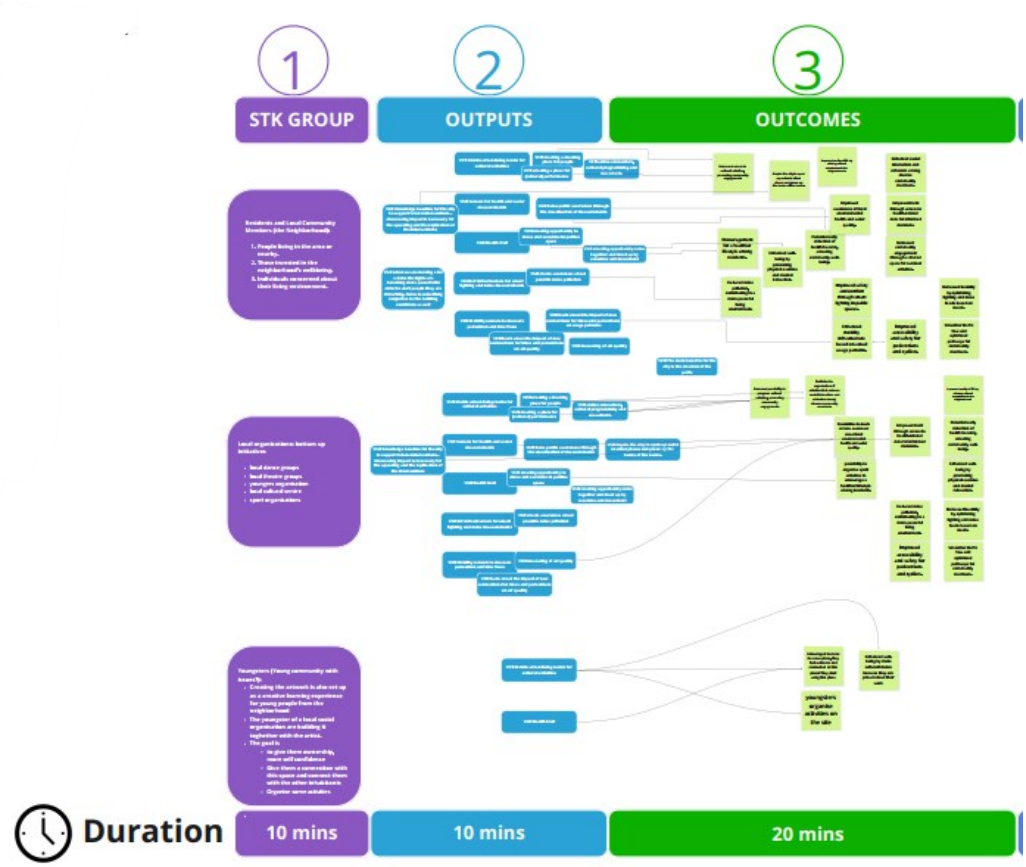
Finally, another important aspect highlighted was the multi-use potential of recreational spaces. Feedback showed that families and different user groups were able to engage with various activities at the same time, promoting family-oriented experiences and social interactions across generations. This underscores the importance of creating multi-functional spaces that accommodate diverse needs, allowing different user groups to simultaneously benefit from shared resources.

In summary, the Novo Mesto project highlights the importance of ongoing involvement, inclusive design, and regular activities to create the most social value. Future projects should focus on improving accessibility, reducing financial barriers, and improving evaluation methods to better measure projects impact.

7 Leuven

7.1. Theory of Change Definition

7.1.1. Theory of Change Workshops



The Theory of Change forms the basis for SROI analysis, providing a detailed framework for determining and assessing outcomes. It is crucial for capturing all pertinent impacts and understanding the causal links between inputs, activities, outputs, and outcomes. This is vital for accurately assessing the SROI and showcasing the project's real effect on the community.

In December 2023, an online Theory of Change workshop was held, featuring Eurac Research's SROI junior experts and the Leuven pilot team. This interactive session lasted for ninety minutes and utilized Miro board technology for efficient brainstorming. The key objective was to identify the expected outcomes of implementing the VSs in Leuven for each stakeholder group.

Identifying and engaging key stakeholders was essential. We began by mapping out all potential groups affected by or involved in the project. The first phase involved identifying

relevant stakeholder categories, engagement methods, and material outcomes. Once these categories for Leuven were established, a workshop during the Co-evaluation event was organized on 28th and 30th November with local experts to assess the project's social impact, as detailed in Table 1.

The focus group and workshop formats were particularly effective given the small number of participants. They facilitated dynamic discussions and allowed each participant ample time to share their perspective on the project. The VSs received high praise, reflected in the engagement scores, and provided valuable suggestions for future activities.

Beyond the SROI scope, these engagements fostered deeper connections with local associations and enhanced understanding of VARCITIES interventions, which will benefit various stakeholder groups in the future.

Table 30 Main Stakeholder Engagement Activities

Activity	Objectives	Month	Duration
1 Kick off call with the project team.	Define the scope of the analysis (activities, stakeholders and results included in the research)	Jan 2024	2,5h
2 call with the project team.	Alignment on possible social to be expected from the VARCITIES implementation	Mar 2024	2 h
1 Theory of Change ToC Workshop with the project team for	Validation of the Theory of Change and the measurement of the outcomes' materiality. Defining the outcomes chains for each group of stakeholders included in the field of analysis. Establishing the degree of materiality of the mapped outcomes.	21 February 2024	2 h
1 SROI Workshop 36 people	SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI Understand the expected changes for the discount rates.	12 Nov 2024 (preparation call) 28 Nov (1 workshop, 2 groups) Nov 30th 2024 (2 workshops)	2,5h 2*2,5h 4h total

7.1.2. Identifying and engaging stakeholders

In the Leuven case, an online workshop was conducted to identify and select the most relevant stakeholders using criteria such as impact intensity, duration, and the number of individuals affected. A Miro board was employed to facilitate discussions with local partners, including the Municipality of Leuven, E2ARC, and the Cultural Centre.

The selected participants represented a diverse range of stakeholder groups, including:

- Young individuals from neighbouring areas
- Local associations and cultural programmes (e.g., lindy hop and tango classes)
- Youth involved in construction and activity production
- Representatives from E2ARC associated with the Leuven Olevodroom project
- Residents from both within and outside the neighbourhood

This stakeholder group was largely composed of individuals who regularly frequent the Olevodroom and are considered primary beneficiaries of the project. They are expected to experience tangible outcomes as a result of their involvement.

Between 1 January and 31 December 2024, the Olevodroom hosted a cultural programme featuring 130 events, attracting over 25,000 participants (source: Varcities data). Although detailed information about Varcities was not always provided at each event, the project maintained a visible presence through banners displayed at all activities.

Participant selection for the research activities was primarily based on willingness to engage. The project team at the Leuven Municipality extended invitations to stakeholders identified through a comprehensive stakeholder mapping exercise. Workshops and focus groups were the preferred method of engagement.

Table 31 The stakeholder groups, the rationale for their inclusion or exclusion, and the activities realized to engage them in the forecast SROI analysis.

Stakeholder group	Included/ Excluded	Rationale	Engagement Method	N° of participants
People frequenting the Olevodroom: - Youngsters involved in the constructions and production of the activities - Local organizations: lindy hop, tango classes - People form the neighborhood or coming from out of the neighborhood	Included	They are primary beneficiaries of the project and are likely to experience material outcomes. The Olevodroom has a cultural programme (1/1/2024 - 31/12/2024) and were organized 130 events. (VARCITIES data)	3 Focus group using the SROI game	Around 20 people per workshop

7.1.3. Inputs and outputs

Output

VS1 + VS3: Mobile urban living room for cultural activities + Healthtrail becomes the Olevodroom

A health trail is being realized in the new park of Hertogensite, connecting to other paths for slow traffic within the city network. It includes elements that stimulate movement for different ages and connects various areas like the urban living room (VS1) and integrated exercise elements (VS3). The mobile urban living room, known as the "Olevodroom," was co-designed with local stakeholders and implemented with the participation of residents and youngsters from underprivileged environments. The Olevodroom aims to vitalize the new public space, stimulate social contact, and promote physical activity. It hosted sixty-nine socio-cultural events from April to October 2024. It will be relocated to the new park once regeneration works are completed. The allocated VARCITIES budget in VS3 was used to integrate exercise elements in the Olevodroom. VS1 and VS3 were integrated into one architectural element due to their infrastructural nature.

VS2: Sensors for Health and Water Measurements

In the revitalization project of Hertogensite, Leuven is installing sensors to measure water and climatic conditions to monitor the impact of the regeneration. Weather sensors and SENSEDGE sticks are used to gather data on temperature, dew point, air pressure, relative humidity, precipitation, and wind. This data helps assess comfort conditions and citizens' exposure to the Urban Heat Island effect. Water quality monitoring includes field measurements and chlorophyll analysis, with initial results reported in February 2024.

VS4: IoT infrastructure for smart lighting and noise measurements
VS4 aims to mitigate noise issues in Leuven through smart infrastructure. Smart lighting poles with integrated noise sensors will monitor environmental noise and adjust lighting intensity based on noise levels. Data captured will be sent to the Smart City Data Platform, triggering changes in lighting intensity when noise exceeds predefined levels. The project, managed by a consortium and installed by Fluvius, is expected to be operational by the end of 2024.

VS5: Measuring sustainable mobility.
This Visionary Solution involves measuring the impact on sustainable mobility by monitoring pedestrian and bicycle traffic in the park and assessing air quality improvements due to reduced motorized traffic and increased green spaces. Traffic counters and air quality sensors are installed to collect live data, which is integrated into the city's platform to evaluate changes in air quality, specifically PM2.5 and PM10 concentrations.

Table 32 Output of the project

Visionary Solutions	Pictures	Inclusion in SROI analysis
VS1 + VS3: Mobile urban living room for cultural activities + Healthtrail becomes the Olevodroom		Yes

		
VS2: Sensors for Health and Water measurements		Yes
VS4: IoT infrastructure for smart lighting and noise measurements		Yes

VS5: Measuring sustainable mobility		Yes

Input

For Leuven, inputs were calculated per the SROI Guide for long-life assets. SROI calculations for these projects are challenging since ongoing services require continuous funding. The guide recommends assessing one year and focusing on the social value from that year's necessary inputs. Input and output data come from a cost analysis in Work Package 6 (see D6.3 Cost management [12]). Inputs were annualized by dividing each output's implementation cost by its expected duration.
The input analysis reflects the 2025 situation when Leuven's SROI was evaluated.

Table 33 Input of the project

VSs	Output	Quantity	Duration	Funding source	Input
VS1 + VS3: Mobile urban living room for cultural activities + Healthtrail becomes the Olevodroom	Costruction and implementation costs (current cost)	1	1	EU Commission for Local Finance + Own funding	€208,051.07
VS2: Sensors for Health and Water measurements	Costruction and implementation costs	1	1	EU Commission for Local Finance + Own funding	€10,148.60
VS4: IoT infrastructure for smart lighting and noise measurements	Costruction and implementation costs	1	1	EU Commission for Local Finance + Own funding	€43,903.68
VS5: Measuring	Costruction and	1	1	EU	€43,903.68

sustainable mobility	implementation costs			Commission for Local Finance + Own funding	

Table 34 Inputs and outputs cost

Cost category	Value
Total VS financial inputs, including operating cost and subtracted revenues per year	€273,752.94
Maintenance cost / year	€ 5000 + 8000 +180 +280 + 1000 + 150
Total direct personnel costs	€143.000
Total indirect costs	€123.023

7.1.4. Mapping outcomes

To map the outcomes, focus groups were organised, first with local partners and then with stakeholders. This workshop included participants representing the young people involved in creating the Olevodroom. The workshop began by introducing VSs and then explained SROI analysis to facilitate participant feedback. Participants played the SROI game and completed outcome cards, defining the probability of certain outcomes for each activity and assessing the impact of similar projects on these outcomes.
On 28th November, two separate workshops were held with mixed stakeholder groups. These were followed by a larger, four-hour workshop on 30th November that brought all groups together. This multi-stage approach aimed to reach a broader audience and gather a more comprehensive understanding of stakeholder perspectives.
The workshop agenda included:

- An overview of urban changes related to the Varcities project
- Presentation of proposed solutions
- Explanation of evaluation objectives
- Key lessons learned
- Anticipated neighbourhood transformations
- The significance of the forthcoming Cultural Centre as a space for community building

Participants were shown images, prompted with questions, and engaged in small group discussions. At the conclusion of the sessions, outcome cards were completed to capture insights and reflections.

Evaluation and recommendations from the workshops with the citizens

Co-evaluation talks were organised on 28 and 30 November 2024 where the neighbourhood, stakeholders, city services and visitors had the opportunity to share their

experience of the Olevodroom. The resulting feedback is now being used to evaluate and interpret the significance and impact of the project, with the aim of formulating some recommendations and areas of focus for the future.

Key themes addressed:

- Approachable and Accessible Place: the Olevodroom is appreciated for its approachability and ability to attract diverse age groups. The presence of facilities such as the bar and toilets contributes significantly to the accessibility and comfort of visitors. However, there are concerns about noise pollution from the nearby wharf and accessibility for wheelchair users, for example, could be improved.
- Place for sports and exercise: the infrastructure of the Olevodroom invites exercise, with facilities such as the urban dance floor and the pump track. However, more exercise activities for the elderly and other sports besides dancing are needed to appeal to a wider audience.
- Community-building place: the Olevodroom plays an important role in bringing together different communities, such as local residents, tango dancers and the hip-hop community. It takes time to grow neighborhood activity and involve more neighbors. Improved communication can help reach a wider audience and strengthen community building. Good agreements on noise and duration of activities will increase support in the neighborhood.
- Unique place: the Olevodroom was perceived as a unique place in Leuven. The combination of the accessible artwork, an unfinished place and the infrastructure present such as the covered place with tables and chairs, toilets and bar play an important role. In addition, the place was experienced as a real YES-city place where a lot could be organised bottom-up, thanks to the support of the coordinating staff and technical support.
- Co-creative approach: the involvement of different groups and NPOs in the co-creation process is seen as very valuable. For example, young people feel more accepted when they are given the opportunity to organise something themselves. Other groups also felt 'co-owners' of the place. However, logistical support is needed to keep boundary conditions low and provide the freedom needed for successful co-creation. The cooperation of different city departments made a lot possible here.

Recommendations for the (near) future

The Olevodroom stands out as a collaborative urban space, appreciated for its grassroots initiatives and the diverse ways it engages the local community. Functioning as a "Yes-city" place, it encourages co-creation and plays a vital role in strengthening community ties in Leuven. Much of its success comes from active cooperation among city services, stakeholders, and residents.

Looking ahead, the main challenge will be maintaining the Olevodroom's vibrant character as the Hertogensite and the wider lower town continue to develop and welcome many new residents. Inclusive neighbourhood activities will become increasingly important, and activating parks and squares early can help prevent these public spaces from becoming either exclusive or underused. Building partnerships with local actors, such as churches, care areas, and neighbourhood centers, will be crucial in this process.
In practical terms, the Olevodroom will remain in its current location for 2025, allowing operations to continue for another year. Afterwards, the Olevodroom will move to the park, where its role in activating the space and developing new activities will be reconsidered. Once the performing arts building is completed, the Olevodroom's operations will shift to and around this new facility. The concept of "Yes spots", flexible, accessible spaces, should be extended to other urban areas in transition, so that the spirit of open community involvement continues to thrive. Overall, these recommendations are designed to ensure the Olevodroom remains a lively, inclusive place at the heart of Leuven's community life.

7.1.5. Stakeholder group

Engagement: Focus groups, 28-30 November 2024

1. Cultural activities, 3,97

Residents and local community members would have an improved quality of life due to the easier access to cultural activities and increased engagement in the community.
Quality of life has improved through easier access to cultural activities, enhancing community well-being and social cohesion. Various cultural events, such as concerts and dance activities, have fostered a sense of belonging and pride, encouraging residents' active participation. Increased access to cultural activities promotes community engagement and improves the quality of life by offering experiences in the neighbourhood. Local organizations, including dance groups, theatre groups, youth organizations, cultural centres, and sport organizations, drive these bottom-up initiatives.

Rating Motivation from the workshops
The Olevodroom offers a diverse and accessible range of activities, bringing people together in an open, welcoming space that is free of charge and available to all ages. The venue has transformed a previously vacant area into a lively meeting place, fostering new connections, learning opportunities, and greater community engagement. Residents appreciate the approachable atmosphere, variety of cultural and recreational events, and opportunities for social interaction and relaxation. The Olevodroom is praised for its inclusivity and its role in making culture accessible to everyone, with many highlighting its positive impact on quality of life and neighbourhood cohesion. There is a desire to continue and expand these offerings, ensuring the space remains welcoming, diverse, and adaptable to the needs of all, including people with disabilities. Some participants say: "*I don't go to a*

show or concert very often and the Olevodroom made me more in touch with it."; "More contact with other local residents."; "An approachable place, where you feel very welcome to participate or even just 'be'."

2. Community building, 3,63

The Olevodroom VS1-VS3 affected community building in the neighbourhood. Residents and local community members use the Olevodroom installation, as the variety of activities organized within it create opportunities for gathering, influencing the social cohesion among neighbourhood members.

Rating Motivation from the workshops

The Olevodroom serves as a vibrant and approachable space that inspires movement, social interaction, and outdoor activity among residents of all ages. It hosts a variety of initiatives, especially centered on dance and breakdance, with some demand for more flexible features like moving benches and activities that cater to older adults and various age groups. While offerings for fitness activities are somewhat less pronounced, the Olevodroom provides opportunities for exercise through both organized and spontaneous activities, such as dance (including salsa and tango), yoga, cycling, and using the open dance floor. The infrastructure, including features like the dance floor and pop-up track, encourages both children and adults to move and interact, with many participants appreciating the playful environment.

Although some residents feel the options could be expanded, particularly for all-age activities like gymnastics or guided walks, most agree that the Olevodroom adds significant value by providing a meeting point and fostering community cohesion. People are motivated to visit for movement, socializing, and relaxation, with many noting the increase in time spent outdoors and the approachable nature of the space. The Olevodroom's design and activities invite natural participation, and its establishment has been seen as a positive change, creating new opportunities where previously there were none. The venue accommodates a wide range of uses and is especially popular for dance, fitness, and activities that encourage both organized and organic gatherings, although certain installations like the parcour construction may be less accessible to some groups.

3. Sense of ownership; 4,00

The Olevodroom VS1-VS3 has enhanced community engagement and facilitated the organization of neighbourhood events.

Residents and local community members are likely to feel a sense of ownership of the Olevodroom by organizing or participating in various events.

Rating Motivation from the workshops

The Olevodroom has provided opportunities for existing initiatives, like camping and dance, to flourish and fostered work and connections among residents, both young and old. People feel welcome to participate in activities, encouraging repeated visits and a sense of community. While some participants initially did not identify with any specific group, attending regular events such as Wednesday activities or parties helped them feel more connected. The venue serves as an accessible gathering place, stimulating more contact and bringing people together, though some still feel limited communication between different groups. Residents from various areas, including those outside the immediate neighborhood, engage in activities and develop a sense of belonging. The Olevodroom's approachable environment supports ongoing community building through regular meetings and accessible activities. As the project continues, communities remain active, especially when promoted and held consistently, including future plans at the Wagenhuys. It functions as a "third place," belonging to everyone, and has successfully reached many new or vulnerable young people. While positive progress has been made, continued time and effort are needed for consistency, broader engagement, and further outreach to vulnerable groups, especially in literal construction and participation in the Olevodroom.

4. Healthier lifestyles; 4,03

The Olevodroom VS1-VS3 has fostered healthier lifestyles among residents by promoting outdoor exercise and sports. Residents and local community members find it easier and more appealing to engage in physical activities and spend time outdoors due to the presence of the Olevodroom and adjacent public spaces. Ultimately, this initiative promotes healthier lifestyles by encouraging outdoor sports and activities.

Rating Motivation from the workshops

The Olevodroom is recognized as an open and vibrant space that encourages participation, movement, and community engagement among people of all ages. Its flexible facilities and variety of events have made it easy for residents to connect, co-create, and organize activities, whether individually or through organizations. The support from coordinators, both technical and logistical, has enabled spontaneous ideas and a wide range of gatherings, from open dance floors to neighbourhood parties, while making the process accessible and inclusive for everyone, including those not originally connected to the area. Residents appreciate the freedom to organize events, the approachable atmosphere, and the sense of ownership that develops through creative involvement. The Olevodroom's design and ongoing outreach efforts have fostered closer ties within the community, allowed non-profit organizations to feel heard, and motivated people to contribute with enthusiasm. Though balancing local identity with broader neighbourhood connections remains complex, the venue's commitment to co-creation and coordination has built a supportive environment where every layer of the population feels included and empowered to participate.

5. Environmental awareness; 2,50

The sensors for health-related data, noise, and mobility have heightened environmental awareness among residents and policymakers. Residents and local community members, informed by the environmental data on noise and air pollution collected through the health and wellbeing VARCITIES platform, become more aware of how these factors impact their health. This increased awareness may lead to behavioural changes over time.

Rating Motivation from the workshops

Measuring project outcomes is essential for informed urban policy, yet it remains challenging to estimate how much these results will truly influence urban development. The participants believe the project shows promise but still needs to demonstrate its effectiveness, especially since there are likely existing studies underscoring the importance of green spaces. Some residents feel the data collection process can seem overly controlling, and there is uncertainty about how, why, and for what purpose the information is used. Awareness of the project's existence is still insufficient, and although it has great potential, many people remain unaware of it or its implications, which are important to clarify. While measurement is vital, it's important to ensure that budgets are proportionate and that results are properly considered. The project's visibility in the neighbourhood is limited, and its usefulness for future policy evaluation is apparent, though challenges remain. For example, difficulties in obtaining and registering dates for events and workshops persist, and many people are not concerned with this aspect.
Ultimately, there is uncertainty about whether people even know that data is being collected for the project.

Material Outcomes

Figure 17 Workshop materials for the SROI assessment

7.2. Quantification of Outcomes

In the second phase of analysis, a workshop was held to assess the project's impact. Stakeholders rated the outcomes and the attribution discount factor in SROI. The workshop facilitated discussions on outcomes and finalized the ultimate ToC. Participants evaluated whether external factors contributed to the outcomes hypothesized for Leuven's case study. Interacting with citizens during this stage was challenging due to the complex concept of attribution, highlighting an area for improvement in future VARCITIES pilots. The identification of the financial proxies and of the deadweight factor have been identified through research. Particularly for the proxies, a monetary value has been identified for each outcome.

7.2.1. SROI calculation

Certain outcomes were consolidated during the calculation process due to their similarities, in order to avoid overstating the projected benefits. The calculated SROI ratio is 1: 2,78, meaning that for every unit of investment 76 units of social value are generated. This result indicates a positive return, demonstrating the project's ability to create significant social

impact.

7.3. Lessons learnt

Lessons learned from this experience were:

- Meaningful Discussion: Focusing on open, qualitative conversations was more valuable than interactive games, especially since participants were already familiar with the content.
- Qualitative Insights: Rich, in-depth discussions yielded deeper understanding compared to quantitative methods alone.
- Co-Evaluation with SROI: Combining co-evaluation techniques with SROI provided broader stakeholder input and maintained engagement.
- Stakeholder Commitment: The dedication of stakeholders was crucial to both continuing and strengthening the Olevodroom project.
- Adapting Engagement: Flexible approaches, including hands-on activities, were more effective for younger stakeholders, highlighting the need for adaptable strategies.
- Overcoming Resistance: Initial scepticism, particularly among some community members, turned to support as engagement increased—beginning with younger participants helped shift perceptions.
- Managing Fatigue: To prevent stakeholder fatigue, it was important to refresh engagement methods and involve new, enthusiastic participants.
- Community Empowerment: Co-creation and the continuous inclusion of new voices fostered a sense of ownership, broadened participation, and strengthened overall project impact.

This experience demonstrates that genuine engagement, qualitative focus, adaptable methods, and community empowerment are key to successful SROI evaluations and lasting outcomes.

8 Chania

8.1. Theory of Change Definition

8.1.1. Theory of Change Workshop

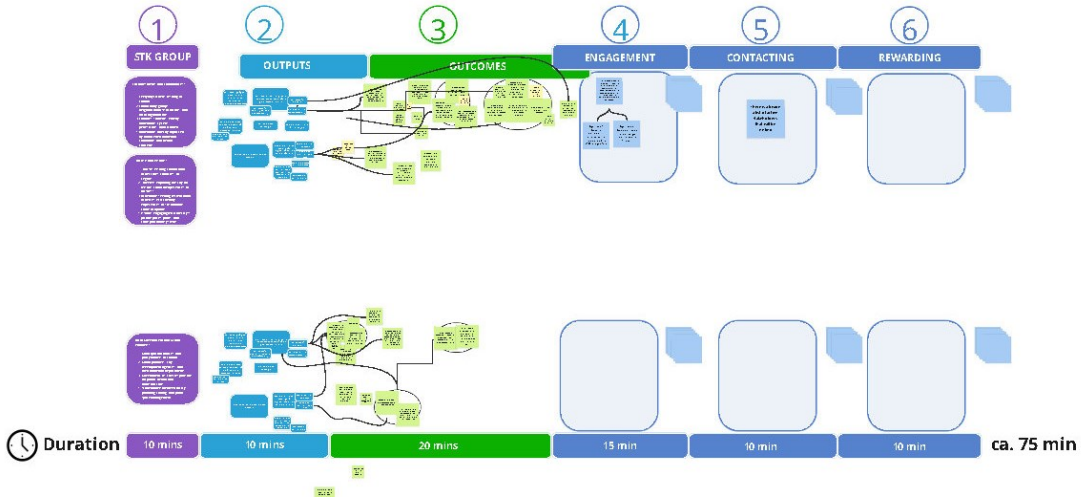


Figure 18 Theory of Change MIRO workshop Chania

The first phase of the process involved identifying the relevant stakeholder categories to be included in the analysis, the methods to engage them, and the material outcomes. The Theory of Change is fundamental to SROI analysis as it provides a framework for identifying and measuring outcomes. It ensures that all relevant impacts are captured and aids in understanding the causal relationships between inputs, activities, outputs, and outcomes. This clarity is crucial for accurately valuing the SROI and demonstrating the project's impact on the community.

In June 2024 the ToC workshop was conducted online, bringing together Eurac Research's SROI junior experts and the Chania pilot team. This session lasted one and a half hours and used Miro board technology to facilitate brainstorming. In Chania's SROI analysis, identifying and engaging key stakeholders was an essential step. The process began with mapping out all potential groups affected by or involved in the project. The main objective of the workshop was to outline the anticipated outcomes from implementing the VSs in Chania for each stakeholder group.

Once the stakeholder categories were selected for Chania, two workshops were organized to assess the social impact of the project. The focus group and workshop formats were appropriate for the type of stakeholders, as the small number of participants allowed for lively discussions and gave time for each participant to express their views on the project. The VSs received appreciation, which is documented by the high scores received during the engagement, and significant contributions came from suggestions for future activities even

after the project ends. Beyond the SROI scope, these encounters were useful for establishing deeper connections with local associations and increasing knowledge about VARCITIES interventions in the area, benefiting various stakeholder groups in the future.

Table 35 Main Stakeholder Engagement Activities

Activity	Objectives	Month	Duration
1 Kick off call with the project team.	- Define the scope of the analysis (activities, stakeholders and results included in the research)	Jan 2024	2,5h
2 call with the project team.	- Alignment on possible social to be expected from the VARCITIES implementation	Mar 2024	2 h
1 Theory of Change ToC Workshop with the project team for	- Validation of the Theory of Change and the measurement of the outcomes' materiality. - Defining the outcomes chains for each group of stakeholders included in the field of analysis. - Establishing the degree of materiality of the mapped outcomes.	July 2024	2 h
1 SROI Workshop with STK 1 group: residents (24 people)	- SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI - Understand the expected changes for the discount rates.	January 2025	2,5h
2 SROI Workshop with STK 2 group: Government (7people)	- SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI - Understand the expected changes for the discount rates.	January 2025	2,5h

8.1.2. Identifying and engaging stakeholders

In the case of Chania, one online workshop was conducted to map all the stakeholders that might be impacted and to select only the most relevant ones, based on criteria such as impact intensity, duration, and the number of people affected. This process was facilitated using a Miro board, which served as a collaborative tool to structure the discussion and visualize stakeholder categories. The workshop brought together local partners, including the Municipality of Chania, TUM and CLP partners as pilot experts, to jointly assess and prioritize stakeholder groups. Through this participatory exercise, key groups such as everyday residents, children, elderly individuals, vulnerable citizens, tourists, and municipal staff were identified. The municipal staff were considered important stakeholders as they were expected to experience material changes due to their role in urban planning and public service delivery. The Miro board also mapped outputs and expected outcomes, setting the foundation for engagement, contacting, and rewarding strategies as part of the broader SROI framework.

The stakeholder (STK) groups invited to the SROI workshop represented a diverse range of local organizations actively engaged in social welfare, health, and environmental education. These included institutions such as ELEPAP, SYFACH, the Social Welfare Center of the Region of Crete, and the Environmental Education Center.

Table 36 The stakeholder groups, the rationale for their inclusion or exclusion, and the activities realized to engage them in the forecast SROI analysis.

Stakeholder group	Included/ Excluded	Rationale	Engagement Method	N° of participants
Residents	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group 1 Workshop	24 1
Government	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group 1 Workshop	7 1
Municipality staff	Excluded from the SROI monetization Included in the qualitative analysis	As the pilot leader, the Local Authority can take and change decisions on the implementation	2 Interviews	5

		of the VSs. Their expected changes are not material enough to monetize them. Therefore, they are addressed only qualitatively.		

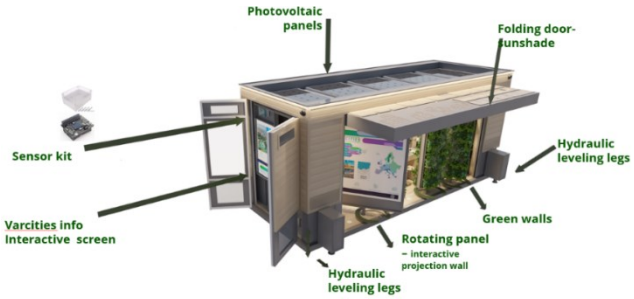
8.1.3. Inputs and outputs

Outputs

In Chania, two Visionary Solutions (VSs) have been implemented to enhance the urban environment. The first VS, known as the Mobile Urban Living Room (MULR), Mobile Urban Living Room-VS1 (is a multifunctional, convertible, portable construction designed for travelling around the city, raising citizens' excitement about green spaces. MULAR's goal is to revitalize the green spaces it visits by attracting citizens. Acting as a meeting point, MULAR encourages citizens to engage in various activities, increasing the green spaces' value. An additional goal is to gather useful data about urban environmental conditions and citizens' Health Well Being. Various sensors installed on MULAR collect environmental data from every neighborhood MULAR visits. Users are handed questionnaires for self-perceived health well-being information to be collected. Citizens are also able to provide feedback about their MULAR experience. The vision of MULAR is to use all this information to assess the current state of green spaces and propose strategies for their future improvement.

The second VS supports the installation of sensor kits measuring air quality (PMs, temperature, humidity, noise and geographical position) on both public (Chania's bike sharing fleet) and private bicycles. Public bicycle stations are also equipped with kits that measure further air pollutants (SO2, NOx, O3, CO, NH3, Cl, CO2 levels, organic substances levels). Available data are geolocated to trace possible pollution hotspots. Instructions and warnings about the environmental conditions will become available to Chania's citizens and visitors.

Table 37 Inputs and outputs

Visionary Solutions	Pictures	Inclusion in SROI analysis
Visionary solution 1: MULAR urban living room	 	Yes
Visionary Solution 2: Sensors on bikes and bike stations		yes

Inputs

In the case of Chania, the inputs have been calculated according to the guidelines in the SROI Guide for assets with a long-life expectancy. Calculating the Social Return on Investment (SROI) for such projects is complex, as maintaining ongoing services will continually require additional income. The guide suggests focusing on a single year and emphasizing that the SROI examines only the social value created by the inputs necessary for the activity within that year. The data on inputs and outputs (Table 4) were derived from a cost analysis conducted within Work Package 6 [12]. The inputs were then annualized by dividing the implementation costs of each output by its expected duration (Table 5). To be noted that the input analysis shows the situation in 2025, when the SROI analysis was conducted for Chania.

Table 38 Input and output VS

VSs	Output	Quantity	Duration	Funding source	Input
VS1	MULαR urban living room total	1	1	EU Commission for Local Finance	TOT: € 235,696.57
	MULαR study	1		EU Commission	€29,512
	MULαR (Construction, equipment, ICT, etc)			EU Commission	€186,000
	MULαR visual and audio system			EU Commission	€ 5265.04
	MULαR ICT equipment (Tablets, laptop, WIFI access point, printer)			EU Commission	€11184.8
	MULαR sensor kit			EU Commission	€ 3,734.73
VS2	Sensors on bikes and bike stations			EU Commission	€ 33,464.38

Table 39 Input and output total Chania

Cost category	Value
Total financial inputs, including operating cost and subtracted revenues per year	€ 269,160.95

Total direct personnel costs	€ 78.000,00
Total indirect costs	€ 105023
Maintenance cost per year	€ 1650 +840= 2490

8.1.4. Mapping outcomes

A focus group workshop was organized for both stakeholder groups, bringing together residents and representatives from the local government. The 2.5-hour session began with an introduction to the Visionary Solutions VSs, followed by a detailed presentation of the SROI analysis framework. This introduction helped participants better understand how to evaluate the interventions and express their views effectively throughout the workshop. To collect qualitative and quantitative data, participants engaged in the SROI game and completed corresponding outcome cards. On these cards, they assessed the likelihood of specific outcomes resulting from each activity and considered the influence of similar projects on those outcomes.
A dedicated SROI session further enriched the workshop, providing valuable insights into the broader social and economic impacts of the project's initiatives. Rooted in Cost-Benefit Analysis (CBA), the SROI methodology allows for a more holistic evaluation of VARCITIES' interventions by incorporating social, economic, and environmental dimensions. Unlike conventional evaluation methods that primarily emphasize economic indicators, SROI places greater importance on capturing and valuing social outcomes.

Stakeholder group 1 – Local residents

Engagement: Focus group, July 2025, 24 people
STK group: Residents
Stakeholder Group 1 consisted of residents, local community members, and tourists in Chania who directly engage with the Visionary Solutions (VSs) implemented under the VARCITIES project, specifically, the MULaR mobile urban lounge and bike-mounted environmental sensors. During the SROI workshop, this group evaluated the perceived social, environmental, and health-related benefits of these interventions. Through structured gameplay and participatory discussion, participants identified eight outcomes, that reflect how innovative public space interventions can generate tangible benefits for local communities by enhancing health, environmental engagement, and civic participation.

Outcome 1: Community Engagement & Recreation
Average Rating Motivation from the workshop: 4,00
Enhance community engagement and social interaction by improving accessibility to a diverse range of social and recreational activities. The MULaR initiative organizes numerous activities that encourage neighbourhood involvement and social interaction, thereby fostering a more interconnected local community.
Participants were largely positive about the role of MULaR in enhancing community engagement and social interaction by improving access to various social and recreational activities. Most rated its impact highly, citing its ability to support vulnerable groups, foster

intergenerational interaction, and provide inclusive, mobile, and creative spaces. Motivations included MULaR's flexibility in hosting activities such as cooking, digital skills workshops, cultural events, and outdoor programs that promote social inclusion. Several participants referenced similar efforts by local associations like Kyttaro and Podhlatreis but noted that MULaR offers unique value through its mobility, integration of environmental monitoring tools, and ability to activate underused public spaces. Attribution ratings varied, with many acknowledging partial overlap with other initiatives but recognizing that MULaR's comprehensive and innovative approach sets it apart. Overall, participants considered MULaR a valuable and effective tool for strengthening social cohesion in Chania.

Outcome 2: Cultural Identity & Creativity

Average Rating Motivation from the workshop:3,96

The MULaR initiative enhances residents' creativity, identity, and connections by providing access to cultural events, fostering community engagement.

Participants generally agreed that MULaR can empower the creativity of residents and enhance local identity by improving access to cultural events. Ratings were consistently high (mostly 4s and 5s), indicating strong perceived value. Respondents highlighted MULaR's ability to serve as a mobile platform for hosting festivals, theatre performances, concerts, and workshops—particularly in neighbourhoods with limited access to cultural activities. Motivations frequently mentioned its technological equipment, versatility, and ease of movement, which together enable it to activate public spaces and foster creative expression. Some also emphasized its role in promoting local heritage and community collaboration. Attributions included local associations such as ELEPAP, Podilateris, Verekynthos, and local theatre groups, but MULaR was still seen as uniquely capable of reaching underserved communities and stimulating creative engagement. Attribution scores varied (0 to 4), but most acknowledged MULaR's distinct capacity to bring culture closer to citizens in inclusive and innovative ways.

Outcome 3: Green spaces use

Average Rating Motivation from the workshop: 3,75

Increase citizen's time spent in green spaces by providing opportunities to visit them. Residents' health and well-being could be positively enhanced by increasing the frequency and duration of green space visits facilitated by MULaR's opportunities.

Participants generally viewed MULaR as a valuable tool for increasing the time people spend in green spaces, with most responses rating the impact positively (mostly 4s and 5s). MULaR was praised for transforming neglected areas like parks and schoolyards into appealing, activity-rich spaces that invite community use. Respondents highlighted its potential as a mobile hub for education, events, and environmental awareness, especially when combined with parallel initiatives like school programs or park clean-ups. Motivation also included the ability to provide nature-based activities, rest areas, and family-friendly programming. While some noted limitations—such as infrastructure or MULaR's reach—most agreed it serves as a strong catalyst for public engagement in green spaces. Attribution references included school initiatives, reconstruction efforts, and associations like DEDIDA, Podhlatreis, and Ecological groups, but MULaR was often seen as more holistic and versatile. Attribution scores varied (1–5), with participants acknowledging some overlap but still recognizing

MULaR's unique role in promoting social interaction and environmental appreciation in urban green areas.

Outcome 4: Sustainability & Energy Awareness
Average Rating Motivation from the workshop: 3,33

Support local energy sustainability by increasing renewable energy use. Residents benefit from increased renewable energy use produced by MULaR, which supports local energy sustainability.

Participants had mixed but generally favorable views on whether MULaR enhances the community's capacity to support local energy sustainability through renewable energy use. Ratings were mostly clustered around 3 and 4, with only one top score of 5 and a few lower scores indicating uncertainty or limited visibility of MULaR's energy-related functions. Respondents who rated the outcome highly pointed to MULaR's photovoltaic infrastructure, its integration with awareness platforms like VARCITIES, and its potential for educational activities, demonstrations, and promotional events related to renewable energy sources (RES). Several saw it as a pilot model or community showcase of independent and sustainable energy use. However, others noted that its ecological contribution could be made more visible and criticized as the lack of broader systemic support or coordination. Attributions were made to entities like the Municipality of Chania, Podhlatreis, the Technical Chamber of Greece, and Crete Development Agency, but overall attribution ratings were moderate (mostly 3s), reflecting MULaR's relatively unique but still emerging role in this domain. The findings suggest that while MULaR has significant potential to promote renewable energy awareness and practices, greater visibility, communication, and integration with existing efforts are needed to realize its full impact.

Outcome 5: Ecosystem knowledge awareness
Average Rating Motivation from the workshop: 3,92

Empower residents to proactively protect their health by enhancing understanding of ecosystem service benefits, environmental pollution, and their health impacts on residents. Local communities benefit greatly from taking a proactive approach, as it enables residents to make informed decisions about their well-being, leading to improved health outcomes and creating a healthier community overall.

Participants expressed strong confidence that MULaR can help residents take proactive steps to protect their health by increasing their understanding of ecosystems, pollution, and associated health impacts. Most responses were rated 4 or 5, showing a high level of trust in MULaR's ability to offer accessible environmental data, real-time pollution indicators, and health-related insights. Many highlighted the value of data visualization tools and mobile health platforms, especially for promoting preventive health behaviors and environmental literacy. Motivations frequently pointed to free access to data, expert collaboration, and the importance of personalized or community-based education on pollution risks. Attribution was given to Municipality of Chania–Smart Cities, Medical Associations, DEDISA, and Environmental Agencies, with moderate attribution ratings (mostly 2–3), reflecting partial overlap but emphasizing MULaR's distinct approach. A few participants expressed concerns over the need for more structured, permanent health-themed actions, suggesting the importance of long-term integration with public health planning. Overall, the feedback

reinforces the potential of MULaR as a valuable health-environment interface, especially for informing and empowering residents in pollution-affected urban areas.

Outcome 6: Belonging and trust

Average Rating Motivation from the workshop: 4,04

Increase residents' sense of belonging and trust in local governance by strengthening participatory decision-making processes. Residents and local communities in Chania experience an enhanced sense of belonging by engaging in decision-making, as it fosters a greater sense of ownership, transparency, and inclusivity. This approach cultivates trust in local authorities and strengthens the bond between residents and governance.

Participants overwhelmingly believe that MULaR enhances residents' sense of belonging and strengthens trust in local governance by enabling participatory decision-making. Most responses were rated 5, emphasizing the project's potential to promote active civic engagement, create direct communication channels, and allow citizens to contribute on equal footing in shaping their environments. Several comments highlighted MULaR's alignment with participatory planning processes, as seen in school pilot projects or initiatives related to the Sustainable Urban Mobility Plan and National Climate Law, receiving moderate attribution scores (typically 2–3). Respondents noted that MULaR fosters ownership and collaboration, especially when linked to design workshops and community input mechanisms. However, some responses (rated 3 or 4) pointed to the novelty of such processes, suggesting that while promising, participatory governance via MULaR is still maturing and requires expanded awareness and continued implementation. Overall, the data strongly supports MULaR's role as a catalyst for democratic dialogue and localized decision-making in urban planning.

Outcome 7: Environmental awareness.

Average Rating Motivation from the workshop: 3,83

Raise citizens' environmental awareness of urban ecosystems by fostering positive perceptions and attitudes toward urban nature. Residents benefit from various environmental awareness campaigns for urban ecosystems, which foster positive perceptions and attitudes toward urban nature.

Empower residents to proactively protect their health by enhancing understanding of environmental pollution, and their health impacts on residents. Local communities benefit greatly from taking a proactive approach, as it enables residents to make informed decisions about their well-being, leading to improved health outcomes and creating a healthier community overall.

This response reveals a strong consensus that MULaR can significantly contribute to increasing environmental awareness about urban ecosystems, with most responses receiving high ratings. Respondents emphasized the potential of interactive educational tools, such as VR/AR applications, guided walks, creative workshops, and nature-based events, to foster deeper public engagement and appreciation for urban nature. The platform's capacity to showcase data on air quality, pollution, and temperature was also seen as crucial in making ecosystem-health links more visible. However, a few entries (rated 2 or 3) pointed to limitations, including a lack of measurable outcomes and the need for better collaboration with schools, municipalities, and other stakeholders to broaden MULaR's reach. Overall, the MULaR is viewed as a promising medium for raising awareness, promoting

positive perceptions, and encouraging sustainable urban living, especially when paired with data transparency, community partnerships, and hands-on experiences.

Outcome 8: Health and wellbeing awareness
Average Rating Motivation from the workshop:3,91
Sensors on public bicycles could enable residents to proactively protect their health by increasing their understanding of environmental pollution and its effects on their health.
This response explores whether sensors on public bicycles can empower residents to better protect their health by understanding environmental pollution and its effects. Many participants expressed strong agreement with this potential, highlighting the importance of real-time data on air quality, pollution levels, and their health implications. Several respondents emphasized the value of interactive platforms, the visualization of collected data, and health data mapping apps as effective tools for raising awareness and prompting preventive health actions. Positive references were made to institutions like the Medical Association and Municipality of Chania–Smart Cities, with some attributions receiving high credibility scores. A few more moderate or critical views (ratings of 2 or 3) raised concerns about data fragmentation, the lack of personalized engagement, and the need for ongoing, structured health-focused events. Overall, the outcome indicates that bicycle-mounted sensors are widely viewed as a useful and innovative way to enhance environmental health literacy and promote preventive behaviors among urban residents.

Outcome 9: Belonging and trust
Average of Rating Motivation from the workshop: 4,04
Sensors on public bicycles would enhance residents' sense of belonging and their trust in local governance by promoting participatory decision-making processes.
This response assesses whether MULR can contribute to enhancing participatory governance by fostering a stronger sense of belonging and trust between residents and local authorities. Most participants responded positively, giving ratings of 4 or 5, highlighting that active participation in decision-making, open communication, and stakeholder engagement in design processes are critical components for reinforcing democratic processes. Several responses pointed to successful participatory planning, including the pilot project *"Learning better this way"* and synergy with VARCITIES initiatives—as effective means of empowering communities. Emphasis was placed on residents being given equal footing in decisions, improving the citizen-agency relationship, and establishing new communication channels between citizens and local government. A few participants were more reserved (ratings of 3) or skeptical (rating of 0), noting barriers like lack of awareness among local actors, unclear impact, and the need for more participatory workshops. Overall, the responses strongly support the idea that MULR can reinforce civic engagement and democratic participation, provided efforts are inclusive, structured, and sustained.

Stakeholder group 2 - Government

Engagement: Focus group, January 2025, 7 people
STK2: Local Government
As key decision-makers and facilitators of urban planning, local government representatives played a central role in the evaluation of VS1 and VS2 in Chania. Their feedback reflects both administrative insight and institutional knowledge concerning the implementation and

potential of the VARCITIES initiatives. During the evaluation process, this stakeholder group was asked to assess two main outcomes:

- Outcome 1: Whether VS1 and VS2 improved the local government's understanding of residents' needs and preferences regarding the use of green spaces through participatory decision-making processes.
- Outcome 2: Whether the initiatives supported local economic resilience by enhancing the scalability and sustainability of urban infrastructure.

The local government stakeholders provided in-depth perspectives, emphasizing both the operational and long-term strategic benefits of the initiatives. Their responses highlight the importance of sustained engagement, institutional alignment, and the capacity to adapt urban solutions across scales.

Outcome 1: Resilience

- Average Rating Motivation from the workshop: 4,71

Local government stakeholders strongly agreed that the initiatives implemented through VS1 and VS2 significantly contribute to enhancing local economic resilience by promoting scalability and sustainability in urban infrastructure. These initiatives were recognized for offering replicable and adaptable frameworks that help address complex urban challenges across various sectors and regions. By integrating sustainable practices, they reduce long-term operational costs, support a circular economy, and foster innovation—key elements of economic resilience. Participants highlighted that such efforts create job opportunities, attract investments, and increase the city's competitive advantage. The scalability of these solutions allows them to evolve and meet future community needs while strengthening local economies through the involvement of local businesses, skilled labour, and SMEs in infrastructure supply chains. Moreover, the initiatives were praised for encouraging collaboration among local authorities, civil society, and the private sector, unlocking resources and ensuring shared responsibility. Public awareness campaigns and stakeholder engagement were also seen as essential in driving behavioural change and reinforcing sustainable urban development.

Outcome 2: Participatory decision making

- Average Rating Motivation from the workshop: 4,70

These responses confirm that participatory decision-making processes, as implemented in VS1 and VS2, have significantly improved local government's understanding of residents' needs and preferences regarding green space use. Respondents emphasized that direct engagement with residents helps local authorities gather insights into how green spaces are currently used, what activities are preferred, and what improvements are needed. These processes have empowered local governments to create more tailored, inclusive, and accessible green environments that reflect real community needs. Furthermore, participatory practices have been shown to strengthen trust, promote transparency, and build long-term civic engagement. Overall, the initiatives have reinforced the importance of resident involvement in shaping sustainable and responsive urban green infrastructure.

Below are some images of the workshop and its materials.

Figure 19 Pictures from the workshop

Figure 20 Pictures from the workshop

Figure 21 Pictures from the workshop

8.2. Quantification of Outcomes

In the second phase of analysis, two workshops were held to assess the project's impact. Stakeholders rated the outcomes and the attribution discount factor in SROI. The workshops allowed final discussions on the outcomes and the ToC. Participants evaluated whether external factors or entities could provide similar outcomes as the Chania case study. Interacting with citizens was challenging due to the complexity of attribution, highlighting an area for improvement in future VARCITIES pilots.
The identification of the financial proxies and of the deadweight factor have been identified through research.

8.2.1. SROI calculation

Certain outcomes (specifically, 1, 2, 5,7,8) were consolidated during the calculation process due to their similarities, in order to avoid overstating the projected benefits. The calculated SROI ratio is 1: 4,81, meaning that for every unit of investment, 4,8 units of social value are generated. This result indicates a positive return, demonstrating the project's ability to create significant social impact.

8.3. Lessons learnt

Several lessons emerged from the use of SROI gamification methodology during the workshop. Gamified activities helped clarify complex concepts and encouraged broader participation, contributing to a more accurate mapping of anticipated outcomes. Interactive exercises supported open discussion and generated new insights, while the flexible format promoted engagement and shared contribution among participants. Overall, this approach improved the effectiveness and inclusivity of the SROI analysis process.

9 Dundalk

9.1. Theory of Change Definition

9.1.1. Theory of Change Workshops

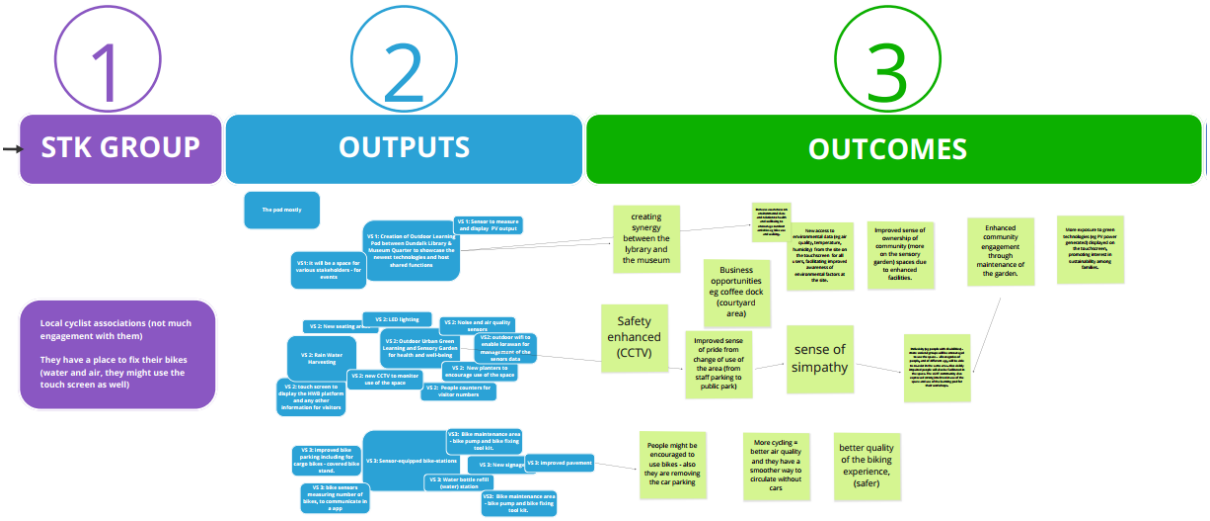


Figure 22 Dundalk Theory of Change Miro board

The initial phase identified stakeholder categories, engagement methods, and material outcomes. For Dundalk, three workshops assessed the project's social impact (see Table 1). The Theory of Change serves as the foundation for SROI analysis by identifying and measuring outcomes, highlighting causal relationships between inputs, activities, outputs, and outcomes. This clarity is essential for valuing SROI and demonstrating the project's true community impact.

In January 2024 an online ToC workshop brought together Eurac Research's SROI junior experts and the Dundalk pilot team for a 1.5-hour session using Miro board technology. Identifying and engaging key stakeholders was crucial for Dundalk's SROI analysis. The workshop mapped potential groups affected by or involved in the project and outlined anticipated outcomes from implementing VSs in Dundalk.

Focus groups and workshops facilitated stakeholder discussions, allowing participants to share their perspectives. The VSs received high scores during engagement, and suggestions for future activities were provided. Beyond SROI, these interactions helped connect with the local association and increased awareness of VARCITIES interventions, potentially benefiting various stakeholder groups in the future.

Table 40 Main Stakeholder Engagement Activities

Activity	Objectives	Month	Duration
1 Kick off call with the project team.	- Define the scope of the analysis (activities, stakeholders and results included in the research)	Jan 2024	2,5h
2 call with the project team.	- Alignment on possible social to be expected from the VARCITIES implementation	Mar 2024	2 h
1 Theory of Change ToC Workshop with the project team	- Validation of the Theory of Change and the measurement of the outcomes' materiality. - Defining the outcomes chains for each group of stakeholders included in the field of analysis. - Establishing the degree of materiality of the mapped outcomes.	April 2024	2 h
1 SROI Workshop with STK 1 group: the Ukrainian and International Protection Community (26 people)	- SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI - Understand the expected changes for the discount rates.	Dec 18th 2024	2,5h
2 SROI Workshop with STK 1 group: Healthy Ireland Steering Group Committee (11 people)	- SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI - Understand the expected changes for the discount rates.	Jan 22th 2025	2,5h
3 SROI Workshop with STK 1 group: Local Autism Charity Group (7 people)	- SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI - Understand the expected changes for the discount rates.	Jan 30th 2025	2,5h

9.1.2. Identifying and engaging stakeholders

In the case of Dundalk, an online workshop was conducted to identify all stakeholders that might be impacted by the project and select only the most relevant ones based on impact intensity, duration, and number of subjects affected. This process was facilitated through an online workshop utilizing a Miro board to encourage discussion with local partners, specifically the Local Library of Dundalk.
Participant selection for the research activities was primarily determined by their willingness to participate. Leveraging the co-identification procedures developed by Prospex for stakeholder engagement workshops, LCC reached out to underrepresented groups and those unable to attend. Invitations were extended to three local groups: the Ukrainian and International Protection Community, the Healthy Ireland Steering Group Committee, and the Local Autism Charity Group, guided by a comprehensive stakeholder mapping exercise. To ensure maximum attendance at the SROI workshops, initial save-the-date notifications were sent, followed by formal invitations and phone calls.
The preferred engagement method was the focus group and workshop format, using the SROI game. Three engagement sessions were organized, one for each stakeholder category.

Workshop 1
To foster inclusivity and ensure diverse participation, members of the Ukrainian and international communities were invited to participate in SROI workshop 1, given their new presence and county Louth and absence from previous stakeholder engagements. Their participation aided the inclusion of under representative perspectives in the review process. The workshop provided the opportunity to introduce participants to the Varcities visionary solutions and pilot site and to collect feedback on its potential contribution to community health and wellbeing .

Workshop 2
To learn more about the project and the Social Return on Investment (SROI) methodology, members of the Louth LCDC Health & Wellbeing Sub-Committee participated in the VARCITIES SROI Workshop 2. Discussions on SROI findings, a sensory cubby demonstration, and a site stroll were among the activities. The workshop's focus on the broader determinants of health and the function of public places in promoting community wellbeing is in line with Healthy Louth's objectives. Future planning will be informed by participation, collaboration will be improved, and the importance of health-focused public realm projects in fostering more inclusive, healthy settings throughout Louth will be illustrated.

Workshop 3
Members from the local charity group called 'Autism Rocks' – is group primarily but not exclusively made up of parents of children with Autism were invited along, as the cubbie

was a late intervention to VS 2. The voices of parents of autistic children are vital in evaluating whether the interventions already implemented at the pilot site effectively meet diverse needs. Their feedback ensures that the space is genuinely inclusive and responsive, helping to assess how well the solutions support accessibility, comfort, and engagement for all users, including neurodiverse families.

Table 41 The stakeholder groups, the rationale for their inclusion or exclusion, and the activities realized to engage them in the forecast SROI analysis.

Stakeholder group	Included/ Excluded	Rationale	Engagement Method	N° of participants
Ukraninan and international protection community	Included	They were selected given their new presence to County Louth and absence from previous stakeholder engagements	1 Focus group using the SROI game	26
Heathy Ireland	Included	They are primary beneficiaries of the project and are likely to experience material outcomes. This group helps inform future policy, develop health and well being strategies and collectively represent multi agencies in both the public, private and voluntary sector	1 Focus group using the SROI game	11
Disability Charity Autism Rocks	Included	They are indirect beneficiaries of the project, as they will benefit from the outcomes lived by people, they take care of. Representation of this sector was under presented in previous workshops and cubbie and the sensory garden will have direct benefits to those they represent	1 Focus group using the SROI game	7

9.1.3. Inputs and outputs

Outputs

VS1: Creation of Outdoor Learning Pod between Dundalk Library & Museum Quarter to showcase the newest technologies and host shared functions

VS1 features an outdoor learning space equipped with a sheltered Learning Pod, sensory equipment called "Cubbie," new outdoor WIFI, CCTV security gates, and sensors to monitor visitor numbers. It also includes software to record PV savings from existing solar panels, promoting sustainable energy solutions.

VS 2: Outdoor Urban Green Learning and Sensory Garden for health and well-being
Status: Operational

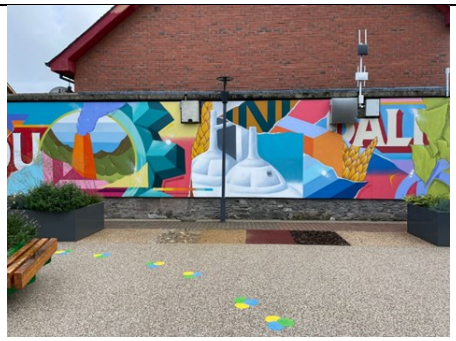
VS2 enhances the existing garden with a Sensory Garden, moveable and non-movable planters, and new seating areas. It also includes rainwater harvesting sensors, low-energy lighting, ambient solar-powered lighting, vertical metal fins, visitor and air quality sensors, and a touchscreen monitor for green learning displays.

VS3: Bike Stations and Sensors on Bikes

VS3 introduces an enhanced, car-free area for pedestrians and cyclists, featuring new bike stations and infrastructure to encourage active travel and reduce pollution. This includes EV charging points, a bike maintenance area, and sensors to monitor cyclist activity.

Table 42 Outputs

Visionary Solutions	Pictures	Inclusion in SROI analysis
VS1: Creation of Outdoor Learning Pod between Dundalk Library & Museum Quarter to showcase the newest technologies and host shared functions		Yes

VS2: Outdoor Urban Green Learning and Sensory Garden for H&WB	 	YES
VS3: New Bike Stations and Sensors Bike-stations		Yes

Inputs

In the case of Dundalk, the inputs have been calculated according to the guidelines in the SROI Guide for assets with a long-life expectancy. Calculating the Social Return on Investment (SROI) for such projects is complex, as maintaining ongoing services will continually require additional income. The guide [15] suggests focusing on a single year and emphasizing that the SROI examines only the social value created by the inputs necessary for the activity within that year. The data on inputs and outputs were derived from a cost analysis conducted within the Work Package 6 (see [12]). To be noted that the input analysis shows the situation in 2025, when the SROI analysis was conducted for Dundalk.

Table 43 Inputs

VSs	Output	Quantity	Duration	Funding source	Input

VS1: Creation of Outdoor Learning Pod between Dundalk Library & Museum Quarter	Construction and implementation costs (current cost)	1	1	EU Commission for Local Finance	€165,18 6.00
VS2: Outdoor Urban Green Learning and Sensory Garden for	Construction and implementation costs	1	1	EU Commission for Local Finance	€172,66 1.50
VS3: New Bike Stations and Sensors Bike-stations	Construction and implementation costs	1	1	EU Commission for Local Finance	€80,690 .67

Table 44 Costs

Cost category	Value
Total financial inputs, including operating cost and subtracted revenues per year	€475040,82
Maintenance cost / year	€6,700.0 + €7,300.00 + €4,400.00
Total direct personnel costs	€ 140.000
Total indirect costs	€103.023

9.1.4. Mapping outcomes

Three workshops were held as part of the Social Return on Investment (SROI) analysis, each lasting 2.5 hours and introducing VSs, SROI concepts, and the rules for an interactive game. Participants played the SROI game, completed outcome cards rating seven key project outcomes from 1 to 5, and discussed their assessments both individually and in groups. Ratings and insights were then consolidated for group consensus and deeper analysis. Surveys during the workshops provided additional quantitative and qualitative data on project outcomes and stakeholder views. The participatory methods used were popular, fostering open discussion and meaningful engagement.

Public libraries are increasingly seen as social spaces rather than merely book repositories, as highlighted by Irish case studies. This shift underscores the importance of evaluating their SROI.

"The predominant use of the library as space reflects the shift in traditional perceptions of public libraries as they evolve into community hubs or as one participant describes it "they [libraries] are not just about books anymore or information. They are social spaces." [16]

9.1.5. The outcomes

The outcomes used were the same for the three workshops, so they are presented in the following, and a distinction is made between the two stakeholder groups based on their answers from the workshops.

6. Outcome : Socialization increase

The Outdoor Learning Pod VS1 promotes socialization through events organized in collaboration with the museum and the library.

7. Outcome: Health and wellbeing awareness

The Outdoor Learning Pod VS1 raises awareness of environmental impacts on health and wellbeing and promotes outdoor activities.

8. Outcome: new business opportunities

The Outdoor Learning Pod VS1 creates new business opportunities and community gathering spots.

9. Outcome: enhanced safety

The Sensory Garden and Cubbie VS2 improved courtyard safety.

10. Outcome: sense of pride

The Sensory Garden and Cubbie VS2 significantly enhanced the sense of pride by repurposing the area from a car park to a public green space.

11. Outcome: Sense of inclusivity

The Sensory Garden and Cubbie VS2 enhanced inclusivity among various societal groups.

12. Outcome: Increased use of bikes

The installation of sensor-equipped bike stations (VS3) led to an increase in bike usage by residents following the removal of cars from the area.

Stakeholder group 1 - Ukrainian and international protection community

1. *Outcome : Socialization increase rating, motivation - **4,8***

The Sensory Garden and Cubbie VS2 enhanced courtyard safety, instilled a sense of pride by transforming a car park into a green space, and promoted inclusivity among societal groups. The installation of sensor-equipped bike stations (VS3) increased bike usage after cars were removed. For the Ukrainian and international protection community, the space improved socialization with a motivation rating of 4.8, offering central meeting locations, opportunities to share experiences, and free WIFI. Despite needing booking assistance and better interior decoration, it provided an excellent facility for social interaction and community engagement. *The Space offers a total silent space for everyone to come and get involved.*

2. *Outcome: Health and wellbeing awareness rating – **4,5***

The site has an excellent central location, good security, and environmentally friendly features, including rainwater harvesting. It is a quiet space with reduced car presence, leading to a cleaner and less polluted environment that makes users feel happy. It is close to nearby cafes and restaurants for convenient lunch breaks. The sensory garden and planting beds require more compatible plants and more comfortable seating. Compared to the nearby Market Square, the pilot site has a nicer ambiance. Better signage describing the new components within the courtyard is needed. The pod and site provide a fantastic space for cultural groups to meet, though better external maintenance is required in the medium to long term.

3. *Outcome: new business opportunities rating - **4,6***

The pod provides a free meeting space for business products to be showcased, possibly in a local market format. It serves as a hub for like-minded individuals to gather and exchange ideas in a secure and comfortable environment. The space offers opportunities for community members to demonstrate cultural activities such as cookery displays and traditional markets. Touchscreens could provide information on developing business ideas and offer classes in the Learning Pod, especially for those unfamiliar with Irish policies. The space facilitates connections among diverse individuals, fostering collaborative solutions and showcasing culinary talents from various cultures. Additionally, it serves as an excellent venue to introduce new businesses and gather public feedback, potentially boosting employment opportunities in nearby cafes and restaurants.

4. *Outcome: enhanced safety rating **– 4,9***

The CCTV in the garden area enhances safety compared to many other parks that lack surveillance. The metal fins provide effective barriers for pedestrians, and the site is well-lit, making it feel secure. The garden is overlooked by passersby, eliminating hidden spots and ensuring protection. Located centrally within the town, the space offers good surveillance unlike edge-of-town parks. The defined space allows for monitored security, and distancing cars maintains clean air quality in the garden.

5. *Outcome: sense of pride rating – **4,8***

I am proud of the LCC staff who designed this inclusive space and reached out to the migrant community, informing them about the interventions and welcoming them to the Varcities project. The VS2 makes me happy because when I visit, I see smiles on the faces of adults and children, and hear children's laughter while they play. As a wheelchair user, I find the site fully accessible and functional. The art offers an attractive feature and, as a new resident, teaches me some history about the town through art. I appreciate the beauty of the planting and feel the air is clean and fresh with no cars and plenty of greenery. The benches are good for sitting and enjoying a coffee from the nearby cafe while watching the

green space. This garden gives me hope to do voluntary work, helping to maintain the garden, which gives me a sense of self-worth and helps me make new friends and integrate into the local Dundalk community. I would like to assist in maintaining the garden and hope LCC can provide the necessary equipment and training.

6. *Outcome: Sense of inclusivity rating* – ***4,8***

Cleaning up after myself in the space makes me feel included. Volunteering in maintaining the garden gives many of us a sense of purpose, improving our language skills, boosting confidence, and helping us become active members of society. The LCC staff involved in the project are inclusive and welcoming, making us feel integrated and approachable. The courtyard offers a quiet retreat within the town centre, providing a free space for community groups to meet, read, have a coffee, or chat in a beautiful environment. While I am new to Dundalk and didn't know the space before, many places in Dundalk offer different meeting spaces for various groups. I hope more classes can be held here and advertised well, as I would love to meet new people. Although I wasn't in Ireland for the start of the project, LCC has welcomed my community and shown us how to get involved in the Visionary solutions, demonstrating inclusivity and care for our needs. The SROI event and walk around the VS made me feel welcome, aiding integration into society. This space is suitable for people from different countries and age groups to learn about biodiversity or simply relax. The opportunity to volunteer in the garden makes me feel happy, useful, and purposeful.

7. *Outcome: Increased use of bikes rating* – ***4,8***

I did not know the covered bike shelter was there, but I will definitely use it to protect my bike from the frequent rain in Ireland. The bike area feels secure, and the unique repair station provides a free service to fix a flat tyre or any broken parts. Better signage indicating CCTV operation around the bike stations is needed to deter anti-social behavior. The provision of good quality drinking water encourages me to park my bike there safely. The excellent bike services make me more active and environmentally conscious, definitely promoting sustainable travel. The CCTV overlooking the bike parking area is reassuring and enhances the feeling of security. Additionally, the charging point is innovative and convenient for e-bike users.

Stakeholder group 2 - Heathy Ireland

1. *Outcome : Socialization increase rating* – ***4,4***

The L Pods are a valuable addition for community use, providing a much-needed open space for events, meetings, and socializing. The area offers various attractions and a quiet space within the town center, complete with a seating area for relaxation. The bifoldable doors of the Learning Pod are well-designed, allowing for an indoor/outdoor experience when the weather is good. This transformative space has turned a dull car park into a

vibrant, inclusive area, prioritizing people over cars. The environment is welcoming, child-friendly, and fosters a connection with nature, making it ideal for meeting friends or networking. Overall, the space brings a sense of excitement and positivity to Dundalk.

2. *Outcome: Health and wellbeing awareness rating – **4,8***

Seeing the air quality monitoring sensors makes me more aware of my environment. The visible bike stands encourage me to be more active. While the space increases awareness of how weather affects health and well-being, it may not necessarily encourage more outdoor activity. The space feels clean and the air is fresh, free from car pollution, providing a quiet retreat from the hustle and bustle of the town centre. I feel more in touch with nature here, and the green plants and educational demonstrations promote healthy living. The space offers a place to meet friends, especially if I am out for a cycle. Regularly hosting events like Heritage Week, Biodiversity Week, Engineers Week, or the Science Festival could maximize the use of the space. It encourages young people to cycle by providing a safe parking area, which is beneficial for health and well-being. With proper advertisement, the pods can be used to host health and well-being classes such as yoga, art, and pilates.

3. *Outcome: new business opportunities rating – **4,9***

The business and hospitality sector could benefit from the space due to its central location, free access, and proximity to public transport and a long-stay council-owned car park. It offers wonderful opportunities for businesses to be promoted, with free parking and a fully accessible space. The space is welcoming, colorful, and unlike anything else in Dundalk. It can be used for craft fairs, supporting local businesses and communities, and keeping jobs local. The adjacent youth center could host music events for the general public in the open courtyard area, which features seating for attendees. The interior finish, equipped with tables, chairs, and Wi-Fi, is state-of-the-art, making it an ideal location for events. I have already booked it once and will be booking it again.

4. *Outcome: enhanced safety rating – 4,70*

The new lighting has improved safety and made the area vibrant and welcoming. Previously dull and uninviting, it is now a green, colorful space people enjoy visiting. Parents appreciate the child-friendly design, and the pedestrianized area feels more secure with no cars and the presence of CCTV. This transformation encourages more visits, especially during darker winter months. The area provides a tranquil spot for lunch breaks, away from car noise. The people-centered design of the courtyard is unique to Louth, offering a safe, overlooked space. However, better signage is needed to prevent cars from entering the site, as they still come through occasionally.

5. *Outcome: sense of pride rating – 4,8*

The new technology can be shared by the community, and the entire design is very welcoming. The space is open and inviting to all, creating a sense of pride among residents. People feel proud that Dundalk and Louth have embraced Cubbie, which is special for those with sensory needs. Friends have shared their love for the space, feeling it belongs to the community. The LED lighting of the library for special days like Autism Awareness Day and World Cancer Day is appreciated, and public requests for the building to be lit up are welcome. The development provides a great service for people of all ages and abilities in Co. Louth, reflecting a significant investment by the EU and LCC. Residents feel that the green interventions reduce the carbon footprint, fostering pride. The space promotes a sense of ownership among users, though better advertisement is needed as it is still relatively unknown.

6. *Outcome: Sense of inclusivity rating – 4,90*

The planters with seating are inviting, with a unique texture that appeals especially to those with intellectual disabilities. The neurodiverse-friendly Cubbie offers a space for anyone needing a brief "time out" from daily stress, including students after exams. It can also attract individuals with sensory needs who previously felt excluded from the library and museum, making these places more accessible. The bench heights are inclusive for all ages and wheelchair users. Different ground textures cater to sensory needs, and the Cubbie is designed to accommodate wheelchairs, offering free Occupational Therapy programs. The garden height is perfect for wheelchair users, allowing them to engage with nature and participate in garden maintenance. The entire site is designed to cater to various aspects of life, providing a beautiful community space that is open on weekends and evenings, making it usable for workers after their daily jobs.

7. *Outcome: Increased use of bikes rating – 4,00*

Although some report the bike station hasn't been seen much in use, it has great potential for promoting healthy lifestyles. Parents feel more comfortable bringing their children to the area now that cars are no longer present. The water station and bike repair facilities are convenient for cyclists, encouraging a free and healthy option. The secure bike stands, monitored by CCTV, make it a safe place for cyclists to park their bikes. However, awareness about these facilities might need to be increased.

Stakeholder group 3 - Disability Charity Autism Rocks

1. *Outcome : Socialization increase rating - **5***

Good for social events, such as coffee mornings for groups meeting.

2. *Outcome: Health and wellbeing awareness rating - **3***

Hosting awareness events in the Learning Pod, such as bicycle maintenance and sensory plant education, has potential for development. However, as these initiatives are new,

promotional efforts are still needed to reach their full potential.

3. *Outcome: new business opportunities rating* - 5

The space is centrally located and easily accessible, with good bus connections. The Learning Pod offers professional amenities like free WiFi, quality furniture, and a projector screen, making it appealing to businesses. Additionally, the space can be easily booked through Louth County Council's booking system.

4. *Outcome: enhanced safety rating - 5*

The CCTV surveillance makes the area very safe, especially for parents with special needs children, as the design allows easy visibility. Although delivery vans are present, their slow speed ensures a pedestrian-friendly environment. The design features metal fins that separate any traffic, enhancing the courtyard's tranquility by setting it back from the main road.

5. *Outcome: sense of pride rating - 4,6*

The space has been visually transformed and provides a calm, quiet, and peaceful environment. People use the space for resting and having coffee, appreciating the lack of traffic and noise compared to other town areas. The courtyard feels safe and secure, instilling a sense of pride as it was designed with special needs children in mind. The colorful artwork and pedestrianized markings create a happy vibe. However, a water feature for sensory needs, requested during the co-design phase, should have been included.

6. *Outcome: Sense of inclusivity rating - 5*

Cubbie is a unique experience in the county that allows children with autism to be fully engaged and active participants when visiting the library. It appeals to everyone and provides a calm, safe space where individuals with autism can choose their own experiences. However, it should be better promoted through community group newsletters since it is both exclusive and inclusive.

7. *Outcome: Increased use of bikes rating – 4,7*

As someone who lives locally and near the pilot site, I will visit using my bike as a mode of transport, as the covered station will keep it protected from the wet Irish weather. I don't know of any other public space that offers a free bike repair facility, which I will make use of, as will many other people I know. This is a unique facility. The new cargo and wheelchair bike stations are very rare. Again, I don't know of any other facility like that within the town. My daughter's special needs bike was extremely expensive, costing several thousand euros. We did not take it into town as we were nervous and afraid of where to park it in case it got stolen. Having CCTV overlooking the bike stations offers me peace of mind. The bike

facilities should be advertised more. The touchscreen should link up with cycle groups. It is excellent to have more cycling parks close to the town center and just beside cycle lanes, making it easier for cyclists and more enticing. However, a sign showing that it is there should be erected at the library gates.

Material Outcomes

Presented below is a selection of photographs documenting the workshops.

Figure 23 Picture of the garden during the workshop

Figure 24 Picture from the workshop

Figure 25 Picture from the workshop

Figure 26 Picture from the workshop

Figure 27 Picture from the workshop

9.2. Quantification of Outcomes

In the second phase of the analysis, workshops helped gather stakeholder ratings on outcomes and attribution discount factors. These sessions facilitated discussions to finalize the ToC. Participants evaluated whether external factors or entities contributed to the same outcomes as the Dundalk case study. Interacting with citizens was challenging due to the complexity of attribution, highlighting an area for improvement in future VARCITIES pilots. Financial proxies and deadweight factors were identified through research, assigning a monetary value to each outcome.

9.2.1. SROI calculation

Certain outcomes were grouped during the calculation process due to their similarities, in order to avoid overstating the projected benefits, along with the principle of "Do not over-claim"[15]. The calculated SROI ratio is 1:2.0, meaning that for every unit of investment, 2.0 units of social value are generated. This result indicates a positive return, demonstrating the project's ability to create significant social impact.

9.3. Lessons learnt

Following three comprehensive stakeholder engagement sessions during the co-creation phase and a well-attended town hall event, Louth County Council (LCC) faced the challenge of engaging stakeholders once again for the Social Return on Investment (SROI) analysis. Securing the participation of three new stakeholder groups for an in-depth two-hour session was not without its difficulties. However, LCC made a strategic decision to focus this phase of engagement on groups that, for various reasons, had not been able to participate in earlier co-creation meetings.

Stakeholder engagement was one of the key innovative approaches introduced through the VARCITIES project. As the project progressed, there was an awareness that stakeholder fatigue could become a concern, particularly among previously engaged participants. By reaching out to new groups, LCC ensured broader representation and maintained the integrity and inclusiveness of the engagement process throughout the project lifecycle.

In conclusion, the engagement of new stakeholder groups by Louth County Council (LCC) played a pivotal role in the stakeholder inclusion, due to the participatory fatigue at the end of the project. The innovative approaches introduced for the Social Return on Investment (SROI) analysis, particularly the game-based format of the workshops, proved successful in mitigating stakeholder fatigue and encouraging meaningful participation. This interactive approach made it easier for participants to engage meaningfully with the material in a relaxed and open setting. Participants responded positively, feeling more comfortable and willing to share their perspectives. For LCC, this represented a new and effective method of stakeholder engagement that proved to be both innovative and impactful.
These endeavours not only enriched the VARCITIES project but also demonstrated the value of adaptive and creative stakeholder engagement strategies. As a result, LCC ensured a comprehensive representation and fostered an environment where diverse perspectives could be effectively integrated into the project's outcomes.

10 Skelleftea

10.1. Theory of Change Definition

10.1.1. Theory of Change Workshops

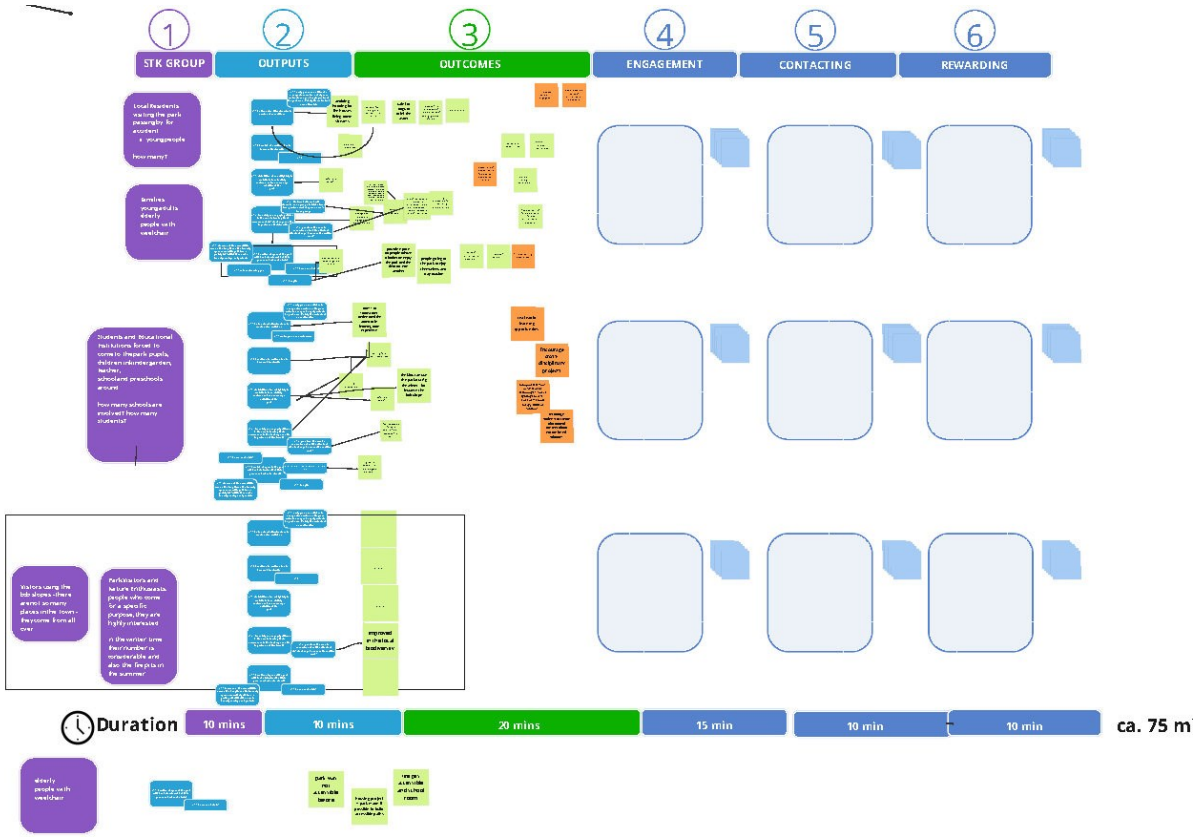


Figure 28 Skelleftea Theory of Change workshop Miro board

The initial phase of the process involved identifying the relevant stakeholder categories to be incorporated into the analysis, determining the method of their engagement, and assessing the material outcomes.

The Theory of Change (ToC) serves as the foundation for Social Return on Investment (SROI) analysis by providing a comprehensive framework for identifying and measuring outcomes. It ensures the capture of all pertinent impacts and aids in understanding the causal relationships between inputs, activities, outputs, and outcomes. This clarity is crucial for accurately valuing the SROI and demonstrating the project's true impact on the community.

On December 18th an online ToC workshop was conducted, bringing together Eurac Research's SROI junior experts and the Skelleftea pilot team. This interactive session lasted two hours and utilized Miro board technology to facilitate brainstorming. In Skelleftea's SROI analysis, identifying and engaging key stakeholders was a critical step. The process

commenced with mapping out all potential groups affected by or involved in the project. The primary objective of the workshop was to outline the anticipated outcomes from implementing the VSs in Skelleftea for each stakeholder group.
Following the identification of stakeholder categories, two workshops were organized in Skelleftea to assess the social impact of the project, as detailed in Table 1. The focus group and workshop formats were particularly suitable given the small number of participants, allowing for dynamic discussions and giving each participant the opportunity to express their views on the project.
The VSs were well-received, which is evidenced by the high scores obtained during the engagement sessions. Notably, significant contributions included suggestions for future complementary activities even after the conclusion of the project.
Beyond the scope of the SROI, these interactions were valuable for establishing deeper connections with local associations and enhancing knowledge of VARCITIES interventions in the area. These interventions could potentially benefit various stakeholder groups in the future.

Table 45 Main Stakeholder Engagement Activities

Activity	Objectives	Month	Duration
1 Kick off call with the project team.	- Define the scope of the analysis (activities, stakeholders and results included in the research)	Jan 2024	2,5h
2 call with the project team.	- Alignment on possible social to be expected from the VARCITIES implementation	Mar 2024	2 h
1 Theory of Change ToC Workshop with the project team for	- Validation of the Theory of Change and the measurement of the outcomes' materiality. - Defining the outcomes chains for each group of stakeholders included in the field of analysis. - Establishing the degree of materiality of the mapped outcomes.	Dec 18th 2024	2 h
1 SROI Workshop with STK 1 group: The teachers (--- people)	- SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI - Understand the expected changes for the discount rates.	Feb 17th 2025	3 h

2 SROI Workshop with STK 1 group: the local residents	- SROI game for the analysis of stakeholder relative preferences, the estimation of expected amount of change, and the estimation of SROI - Understand the expected changes for the discount rates.	May 2025	2,5h

10.1.2. Identifying and engaging stakeholders

For Skelleftea, an online workshop identified the most relevant stakeholders based on impact intensity, duration, and number of subjects. Using a Miro board, local partners and the Municipality discussed and selected groups, excluding municipality staff who wouldn't face material changes, though interviews were conducted with three technical administration members involved in VARCITIES solutions.
Participant selection was based on their willingness to engage. The Skelleftea Municipality project team sent invitations after a stakeholder mapping exercise. Two SROI game workshops were organized.

Table 46 The stakeholder groups, the rationale for their inclusion or exclusion, and the activities realized to engage them in the forecast SROI analysis.

Stakeholder group	**Included/ Excluded**	**Rationale**	**Engagement Method**	**N° of participant**
Teachers and students	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group using the SROI game	20
Local residents,	Included	They are primary beneficiaries of the project and are likely to experience material outcomes.	1 Focus group using the SROI game	Around 10

Municipality staff	Excluded from the SROI monetization Included in the qualitative analysis	As the pilot leader, the Local Authority can take and change decisions on the implementation of the VSs. Their expected changes are not material enough to monetize them. Therefore, they are addressed only qualitatively.	2 Interviews	4

10.1.3. Inputs and outputs

Outputs

VS1: Build natural infrastructure to create urban resilience.
The Visionary Solution enhances park waterways to attract visitors and residents, promoting time spent in the park and educational benefits. This includes sediment removal, vegetation cutting in water channels, ditch restoration, and outflow adjustment. Water flow and quality are measured at four points, incorporating results from existing points. Adjustments to measuring points have been made since the project's inception.
VS2: Creation of a wetland bed to increase biodiversity.
VS2 focuses on creating a wetland bed to boost biodiversity by planting indigenous species and eradicating invasive ones. Enhancements include converting lawn areas into meadows, planting or sowing plants in a 1900 square meter area, and constructing paths for better accessibility. This project complements previous efforts to promote biodiversity and involved a second round of invasive plant removal in summer 2024.
VS3: Installation of smart lighting to contribute to an inviting environment and encourage activities in the park.
VS3 involves installing smart lighting in the park to create an inviting environment and encourage outdoor activities, especially during the long dark winter months. Nine light poles with sensors were installed, providing data on visitor numbers and environmental conditions. The project was developed in collaboration with local departments and the power company Skellefteå Kraft.
VS4: Educating and engaging citizens in the area to level up their awareness of climate change and the importance of biodiversity.
This Visionary Solution involves educating and engaging citizens about the park's solutions through information campaigns, educational materials, and interactive solutions. Signs in the park provide information on pilot goals, biodiversity, climate change, and the water

cycle. Additionally, the VARCITIES Health and Well-being platform allows users to create maps with their own data.

VS5: Creation of space in the park with bee hotels/insect habitats, permanent school material

VS5 involves creating spaces in the park with bee hotels/insect habitats and outdoor classrooms. This educational initiative includes permanent materials about species and a smaller outdoor classroom with seating for 25 people, a table for six, and accessibility features. The classroom is equipped with power and internet, and can be used by teachers and visitors.

Table 47 Output

Visionary Solutions	Pictures	Inclusion in SROI analysis
VS1: Build natural infrastructure to create urban resilience.		Yes
VS2: Creation of a wetland bed to increase biodiversity.		Yes

VS3: Installation of smart lighting to contribute to an inviting environment and encourage activities in the park.		Yes
VS4: Educating and engaging citizens in the area to level up their awareness of climate change and the importance of biodiversity.		Yes
VS5: Creation of space in the park with bee hotels/insect habitats, permane	  	Yes

nt school material		

Inputs

In the case of Skelleftea the inputs have been calculated according to the guidelines in the SROI Guide for assets with a long-life expectancy. Calculating the Social Return on Investment (SROI) for such projects is complex, as maintaining ongoing services will continually require additional income. The guide suggests focusing on a single year and emphasizing that the SROI examines only the social value created by the inputs necessary for the activity within that year.
The data on inputs and outputs were derived from a cost analysis conducted within the Work Package 6 (see D6.3). The inputs were then annualized by dividing the implementation costs of each output by its expected duration.
To be noted that the input analysis shows the situation in 2025, when the SROI analysis was conducted for Skelleftea.

Table 48 Input

VSs	Output	Quantity	Duration	Funding source	Input
VS1 Build natural infrastructure to create urban resilience.	Construction and implementation costs (current cost)	1	1	EU Commission for Local Finance	30,616.60 €
VS2 Creation of a wetland bed to increase biodiversity total	Construction and implementation costs				15,331.11€
VS3 Smart lighting	Construction and implementation costs				€71,000.62

VS4 Educating and engaging citizens in the area to level up their	Construction and implementation costs				€19,320.00
VS5 Creation of space in the park with bee hotels/insect habitats,	Construction and implementation costs				€81,955.11

Table 49 Costs

Cost category	Value
Total VS financial inputs, including operating cost and subtracted revenues per year	€ 218.223,44
Maintenance cost / year	€ 17.700,00
Total direct personnel costs	€ 179.520,00 (+ 329.095 other indirect costs)
Total indirect costs	€ 127.153,98
Total	€ 542.597,42

10.1.4. Mapping outcomes

For both stakeholder groups a focus group was organized. This workshop included 20 participants representing the teachers and the participants for the local residents. The workshop focused on introducing VSs. Later, the participants were introduced to the concept of SROI analysis which made it easier for them to give their opinion and evaluations in the continuation of the workshop. To obtain data, the participants played the SROI game and filled up the relative outcome cards, on which they defined the probability of a certain outcome occurring for each activity and assessing the impact of other similar projects on the outcomes.

The outcomes used were the same for the two workshops so they are presented in the following and it is drawn a difference between the two stakeholder groups based on their answers from the workshops.

Figure 29 Workshop1 with the teachers

Stakeholder group 1 - Teachers and Stakeholder and group 2 – Local Residents visiting the park

Engagement: Focus group, February and May

1. Outcome : Flooding risk

Enhancing Urban Resilience through Natural Infrastructure by reducing the risk of flooding. Local residents benefit from the park's natural infrastructure improvements, such as stormwater management with the ponds and ditches, combined with advanced devices for measuring water flow and quality, ensuring improved water management for the nearby housing area.

4,00 - *Rating Motivation from the workshop with the Teachers February*

Teachers gained new knowledge from the VS and can provide their pupils with new perspectives on water management and wetland beds during park visits. Opinions on the effectiveness of wetlands are mixed, with no significant flooding in Skellefteå as reference. Similar solutions are suggested for Rovön and Nordanå due to seasonal flooding issues. The initiative is praised for giving teachers concrete examples to educate students about climate change, wetlands, and the water cycle.

4,10 - *Rating Motivation from the workshop with the Local residents May*

The park has undergone significant improvements, creating a valuable learning environment with attractive lighting that enhances visibility and play areas. The renovations have increased visitor value, biological diversity, and accessibility, particularly in flood-prone areas. The inviting natural features, such as rippled water and tranquil spaces, contribute to a serene atmosphere.

2. Water management

Enhancing Urban Resilience through Natural Infrastructure by increasing water quality. Residents benefit from the park's natural infrastructure improvements, such as stormwater management with the ponds and ditches, ensuring improved water management and quality. The measurements of water flow and quality has given results showing how the water can be used. The water is generally not recommended to drink, but dogs should not be harmed. The water quality measurements show that there are limitations in how the water should be used for irrigation, that influences the nearby allotment (but is not really an effect of the pilot). This may lead to investments or interventions to provide them with better irrigation water (for example rainwater collection).

2,00 - *Rating Motivation from the workshop with the Teachers February*

The soil and wetland bed can help purify water, reducing the cost of water treatment. Project management highlights that water in Europe is highly polluted, and nearby allotment associations inquired about the water's usability. While the water is not drinkable, it won't be lethal if ingested. Tests, similar to those at bathing sites, indicate high iron and heavy metal content. Bathing is discouraged, but the water is cleaner before entering the municipal system, requiring fewer chemicals for purification. Teachers appreciate this information, ensuring children playing in the park are safe from severe harm.

3,07 - *Rating Motivation from the workshop with the Local residents May*

The park improvements have increased biological diversity, enhanced water management, and improved accessibility, creating a valuable learning space and tranquil atmosphere. Workshops with teachers and residents highlight the benefits of these changes, including better water quality, improved safety, and educational opportunities.

3. Increased aesthetic

Enhancing Aesthetic Appeal and biodiversity awareness. Local visitors benefit from the renovated aspect of the park, which promotes a sense of belonging to the park, increased awareness through educational signs, enriching their park experience and fostering ecological appreciation.

4,00 - *Rating Motivation from the workshop with the Teachers February*

Teachers find the park highly accessible, making it easy for children to explore tadpoles and wetland areas. They suggest adding an information page to check ground conditions and a restroom with a diaper-changing area. The park's aesthetics are unique in Skellefteå, and a learning trail with QR codes is proposed to enhance educational experiences about the environment and sustainability, like the Pokémon "spirit."

4,00 - *Rating Motivation from the workshop with the Local residents May*
The park features permanent results that live on, such as teaching rooms and a sustainable belief in the future. Although it is nice and good, it lacks a cozy feature that makes the park look cozier and more inviting; something more is needed to frame the park and establish clear visiting points. The focus on biodiversity is evident, and with dry walkways, more people can participate in the measures and installations highlighting this project. The park includes nice features that make it more inviting and beneficial for biodiversity.

4. Biodiversity

Promoting Biodiversity Awareness, pet friendly park. Local visitors benefit from the park's area revitalization, which fosters a deeper connection with nature and local biodiversity while enhancing safety and accessibility.

No rating, did not do this one - *Workshop with the Teachers February*

4,10 - *Rating Motivation from the workshop with the Local residents May*
- Real results in combination with learning spaces.
- Consistent theme throughout the park and not just parts.
- Provides increased awareness among those who view the installations, but the installation itself does not provide much.
- Great for using nature and preserving biodiversity.

The park's permanent features, such as teaching rooms and its sustainable future vision, are commendable, and its biodiversity focus is clear. However, it lacks a cozy element to make it more inviting and needs clearer visiting points. Dry walkways would increase participation, and the existing features make the park appealing and beneficial for biodiversity.

5. Safety and aestetic

Enhancing Safety and Comfort through Smart Lighting Implementation in Park Areas. Local visitors benefit from smart lighting in the park, enhancing safety and comfort for all ages and abilities by improving visibility and security during evening hours, creating a safer environment that encourages families, elderly visitors, and people with disabilities to enjoy park activities even in the dark winter days.

5,00 - *Rating Motivation from the workshop with the Teachers February*
Teachers find the new playful and appealing lighting in the park very important. They feel happy and invited by the fun lighting, especially during dark evenings, as it attracts all ages. Bryggarbacken and Nordanå ice rink are mentioned as other areas with similar cozy lighting and music during the darkest months in Skellefteå.
Additionally, the large sledding slope north of Folkparken, which is frequently used in autumn and winter, could benefit from similar lighting, as it currently lacks illumination.

3,90 - *Rating Motivation from the workshop with the Local residents May*
The innovative lighting in the park has created a safer and more inviting environment, encouraging more visitors. The adaptive lighting is soft and pleasant, and visitors appreciate the ability to control it themselves, which adds to the inviting atmosphere. However, while lighting can make people feel safe, it also has the potential to attract individuals with ill intentions. Therefore, lighting fosters a sense of security but also increases the overall safety of the area.
There are queries on whether this type of lighting could make women feel safer in the park. Additionally, the playful nature of the lighting boosts security by promoting increased activity within the park. Changes in behavior have been noted with the introduction of the lighting, leading to a calmer and cleaner park environment.
Further considerations include reflecting the lighting in more areas to attract even more visitors and examining if the lighting has altered the behavior of park-goers.

6. Education

Integration of Nature-Based Educational Initiatives for environmental awareness and biodiversity Conservation Local visitors benefit from nature-based educational initiatives in the park, such as bee hotels and outdoor learning pods, which foster environmental awareness and conservation efforts.

5,00 - *Rating Motivation from the workshop with the Teachers February*
Teachers appreciate having appealing and time-saving educational materials available in the park, which boosts their confidence in teaching subjects they may not be fully trained in. There is a discussion about the need for signs in English, considering the city's multicultural nature, though some believe translation apps suffice.
Suggestions include making learning trails with QR codes, deepening content in educational boxes for different education levels, and promoting more outdoor teaching that is practical and fun. Challenges in winter accessibility are noted, especially for disabled students, and ideas like a conveyor belt and an "umbrella hotel" for shelter are proposed to increase winter use. Overall, the park's educational initiatives are seen positively, with potential for further development and greater school engagement.

3,10 - *Rating Motivation from the workshop with the Local residents May*
The park's innovative lighting has made it safer and more inviting, leading to a cleaner, calmer environment. Educational initiatives like bee hotels and learning pods promote environmental awareness and conservation, benefiting local visitors and teachers. Teachers appreciate the educational materials, but suggest improvements such as signs in English, learning trails, and better winter accessibility. Community engagement is boosted by features like a designated barbecue area, enhancing well-being and fostering a sense of belonging among visitors. Promoting the park's activities more widely and adding features like an outdoor gym could attract more visitors and increase engagement.

7. Wellbeing

Promoting Community Engagement and Well-being. Local visitors benefit from the park's new designated barbecue area, providing a space accessible to everybody to engage in leisure activities, connect with nature, and promote physical activity and well-being within the community.

4,00 - *Rating Motivation from the workshop with the Teachers February*
The park promotes play and creativity, allowing children and youths to enjoy a natural environment that enhances their physical health. Teachers value the park for outdoor teaching, where pupils can play, train balance, and explore freely. Development opportunities include learning trails as motivators, small gaps for exploration, and a bridge for water sample activities. A toilet would improve the park's facilities. Vitberget around Boda Borg is identified as a potential area for educational development, where families can learn about nature, sustainability, and environmental issues together.

4,00 - *Rating Motivation from the workshop with the Local residents May*
The area needs more communication and dissemination to attract visitors beyond the city residents. Adding more features, such as an outdoor gym, could encourage more movement. The increased use of the sledding hill and barbecue area has been noted, and these features stimulate outdoor learning and understanding of the natural environment. Participation in outdoor activities is beneficial, and this initiative serves as a great example. More schoolchildren are now utilizing the outdoor classroom for their learning activities.

8. Sense of belonging

Facilitating Engagement and Community Cohesion through Park Interventions. Local visitors benefit from park interventions that promote community engagement and cohesion, attracting new residents and potentially boosting property values in the area. In addition, we think it is worth mentioning that the information materials will give visitors a better understanding of the park functions, biodiversity etc. and in that way promote

understanding and engagement. The information can also give a sense of hope that there are things we can do to combat climate change and its effects.

4,00 - *Rating Motivation from the workshop with the Teachers February*
The improvements made by the Varcities project have likely enhanced the area's appeal as a meeting point. While it may not have significantly increased immigration or property values, students from other areas are informed about these places through school visits, fostering community interactions. The area has potential for community events and gatherings, such as music events if a stage is built, and associations could use it for meetings. For example, a Sami day event was organized to attract more visitors. The area, now improved, needs better marketing to highlight its appeal.

2,60 - Rating Motivation from the workshop with the Local residents May
The park improvements have facilitated community engagement and cohesion, attracting local visitors and potentially boosting property values. The park's natural environment and facilities promote physical activity, outdoor learning, and understanding of sustainability. Workshops with teachers and residents have highlighted the park's added value for the community, though better marketing and additional features like an outdoor gym are recommended to increase its appeal. Despite challenges in maintaining engagement, the park's diverse offerings remain highly appreciated.

9. New residents

Attraction of new residents and potentially boosted property values in the area. The residents living nearby and the newcomers (around 400 new apartments) are going to enjoy and visit the area and the park, creating more interest in the part and eventually increasing the commercial value of the buildings of the new area.

2,00 - *Rating Motivation from the workshop with the Teachers February*
"New residents can be informed through their children if their schools visits the park."

4,00 - Rating Motivation from the workshop with the Local residents May
The park is not only an attractive and eye-catching space with lots of nature and recreational activities, but it also enhances the value of the surrounding area, making it more appealing to new residents, including those moving into the 400 new apartments. Workshops with teachers and local residents have highlighted that the park creates added value for the community, improving family life and educational environments.

Material Outcomes

Figure 30 Picture from the workshop

Figure 31 Picture from the workshop

10.2. Quantification of Outcomes

For the second phase of the analysis, two workshops were held to assess the impact of the project, by directly asking the stakeholders to rate the outcomes and what in SROI is called attribution discount factor. The workshop was a moment to further discussions on the outcomes, finalizing the ultimate ToC. Therefore, people answered on whether other external factors or entities provide with the same outcomes hypothesised for the Chania's case study. During this stage, interacting with citizens proved more challenging due to the complexity of the concept of attribution. This difficulty was identified as an area for improvement for future applications in other VARCITIES pilots.
The identification of the financial proxies and of the deadweight factor have been identified through research. Particularly for the proxies, a monetary value has been identified fro each outcome.

10.2.1. SROI calculation

Certain outcomes were consolidated during the calculation process due to their similarities, in order to avoid overstating the projected benefits. The calculated SROI ratio is 1: 3,98, meaning that for every unit of investment, 3,97 units of social value are generated. This result indicates a positive return, demonstrating the project's ability to create significant social impact.

10.3. Lessons learnt

The implementation of SROI workshops in a municipal context has provided valuable insights into stakeholder engagement, participatory methodologies, and sustaining community involvement.

Targeted Outreach and Defined Roles

Effective stakeholder engagement is dependent on the strategic selection of participants; in this setting, teachers were designated to represent students due to their accessibility and contextual relevance. Assigning a dedicated resource to oversee invitations, communications, and follow-ups is critical—without such coordination, outreach efforts and organizational continuity may falter. A focused coordinator is instrumental in maintaining momentum and fostering trust among stakeholders.

Methodology and Preparation

A clearly articulated, practical methodology supports the efficacy of participatory workshops. Well-defined steps for invitations, feedback, and evaluation are essential and should be supported by concise training documentation. Both advance preparation and post-event follow-up are pivotal for successful outcomes. Workshops ought not conclude at the event's end; prompt solicitation and integration of participant feedback ensures sustained engagement and value.

Feedback, Transparency, and Co-Creation

Transparent communication regarding the influence of participant input on decision-making is vital. Workshop timing must allow feedback to genuinely inform project outcomes, thereby avoiding perceptions of token participation. Organizers should be equipped to address unforeseen requests and facilitate expanded dialogue as necessary, all while maintaining alignment with primary objectives.

Workshop Structure and Facilitation Tools

Employing gamified delivery formats and printed materials encourages broader engagement, particularly among more reserved participants. Enhancing interactive elements can further strengthen learning and participation. Structured frameworks guide meaningful discussion and enable systematic data collection, especially when participants' familiarity with workshop topics is limited.

Relationship Building and Sustained Engagement

Establishing trust and cultivating relationships are central to effective co-creation. Smaller-scale, recurring sessions promote familiarity and psychological safety, though they necessitate ongoing effort and long-term commitment to community liaison roles.

Existing Systems and Limitations

Municipal feedback channels, including hotline applications and proposal systems, are effective for infrastructure-related and formal suggestions, but may not adequately capture qualitative or sensory concerns from the community.

Customization and Time Management

Customizing workshop materials and omitting non-relevant questions enhances relevance and comprehension for specific groups. Preserving individual responses safeguards the diversity of perspectives. Careful management of workshop time ensures comprehensive coverage of essential themes.

Continuous Communication

Regular dissemination of updates and transparent sharing of workshop outcomes, such as SROI valuation results, are essential. Ongoing communication measures, including newsletters, help sustain participant investment throughout the duration of the project.

In conclusion, successful SROI workshops require meticulous participant selection, committed coordination, rigorous planning, and continual relationship-building. Clarity, transparency, and responsiveness form the foundation of authentic engagement and meaningful co-creation within municipal initiatives.

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12 Appendix

12.1. SROI Guidelines

In the following the SROI guidelines used in the SROI calculation with the pilot cities.

ANNEX A: Social Return on Investment (SROI) Guidelines

VARCITIES | Work Package 7, Task 7.5

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 869505.

Disclaimer

The guidelines aim to be a practical companion for conducting SROI (Social Return on Investment) analyses within VARCITIES project. It doesn't cover every nuance of the SROI methodology, but it focuses instead on actionable steps to facilitate understanding and collaboration among project partners. Please note, these steps can be tailored to suit each pilot's unique needs. The goal is to provide a practical overview of the framework, results, and timelines involved in conducting an SROI analysis.

Learning outcomes

- Comprehend SROI Objectives: Comprehend and apply the objectives of SROI within the VARCITIES project, including: SROI stages, results, decision-making aid, and application procedures.
  - Master SROI Terminology: Understand and use the SROI terminology correctly.
- Guide Stockholders in Theory of Change: Acquire the ability to formulate and guide key stakeholders in establishing the Theory of Change for the pilot area.
- Estimate Monetary Values for Outcomes: Provide accurate monetary approximations for outcomes hypothesized within the Theory of Change.
- Understand Discount Factors: Acquire knowledge of discount factors: deadweight, attribution, displacement, and drop-off.
  - Gain awareness on future SROI applications: Understand the potential uses of SROI analysis.

The purpose of the Annex

The following guidelines have been formulated to enhance comprehension of the SROI methodology. This is achieved by providing a summary of the method supplemented by project-related examples. The annex clarifies the framework in its stages, and it highlights the relevance of its application within the VARCITIES project.

Table of Contents

Introduction

SROI in brief

Social Return on Investment (SROI) is an instrument that allows the accounting for interventions that have an added social, economic and environmental value. The framework, rooted in Cost-Benefit Analysis (CBA), adopts a business-oriented language same as the Return on Investment (ROI) [1], to present project outcomes through a benefits to costs ratio. It shifts the focus from purely economic considerations to prioritize social impacts [1], [2], elevating their significance compared to traditional analyses.

This rigorous methodology is structured into six stages, each comprising several steps. It allows for the measurement of the social performance of investments made in Visionary Solutions (VSs) for public spaces within the VARCITIES Project. Notably, it integrates stakeholders affected by these actions, accounting for the varied changes—positive, negative, expected, and unforeseen—that stakeholders undergo due to project interventions.

SROI heavily relies on intensive stakeholder engagement, recognizing that the authenticity and strength of the process comes from gathering real data directly from the beneficiaries of project interventions [3].

The aim of SROI within the VARCITIES Project

As the VARCITIES project is founded on the premise that VSs represent innovative strategies capable of enhancing the Health & Wellbeing of citizens, evaluating the project's performance revolves around understanding how these VSs impact local key stakeholders and quantifying the extent and nature of the changes they bring.

The unique aspect of the SROI methodology lies in its ability to address these questions quantitatively [4]. It employs a benefit-cost ratio as a primary indicator to

measure the impact of VSs, while considering the impressions and recommendations put forth by key stakeholders.

SROI expected results

The results expected from the SROI analysis are a series of recommendations meant to guide decision-making processes. The latter are based on data that is both quantitative, i.e., the calculated monetary values, and qualitative, i.e., all the perceptions collected from local stakeholders.
Partners would be able to present the social value generated in a format easily comprehensible not just to political decision-makers but also to the broader civil society. For instance, by expressing the value created straightforwardly, as follows: "For every Euro invested in a learning pod, there is a return of 3 euros in social value." Moreover, to articulate the project outcomes in a clear and accessible manner, simple statements will be used. For example, if VARCITIES implements sensor-equipped electric bikes, the impact can be conveyed as follows: "Through the introduction of electric bikes with sensors, users are expected to increase their frequency of bike travels as they become more conscious of the positive effects on both personal health and the environment. "

How SROI is applied differently in VARCITIES compared to typical SROI applications

The application of SROI within VARCITIES' pilots represents a novel approach compared to its traditional use, i.e., originally SROI was designed for assessing impacts in fields such as education, healthcare, and social services. The adaptation of SROI methodology to urban planning still has limited precedents. However, emerging literature highlights a shifting perspective on economic evaluations, demanding for more holistic frameworks [5]. This new viewpoint emphasizes the need for assessments to extend beyond economic indicators and include a broader spectrum of outcomes that considers also health, wellbeing, social dynamics, and environmental factors.

The final aim is to bridge the gap between economic evaluations and multidimensional impacts inherent in complex urban transformations that, although commonly not accounted for, influence the success of city development initiatives [6], [7].

How SROI can improve decision-making

Using SROI is similar to opening a window to see how our efforts have an influence that goes beyond only financial returns. By evaluating initiatives not just in terms of their financial benefits but also in terms of their social and environmental contributions. This strategy helps in determining the true value the project is providing to society. Therefore, SROI promotes smarter and sustainable resource allocation, ensuring that investments produce meaningful, positive results. It is about making decisions based on solid evidence of societal benefits, collaborating with stakeholders to ensure those advantages are broadly understood, and evaluating potential risks to avoid unexpected consequences. SROI steers organizations towards actions that not only advance their goal but also make a substantial contribution to social well-being by encouraging transparency and long-term thinking. This marks a step towards sustainable projects' success, and creates an established framework for advocating for social benefits of further investing on sustainable projects [8].

How SROI can improve planning

Planning procedures that take SROI into account are similar to giving local actors a compass to guide their efforts in the direction of the greatest social value. The framework helps prioritizing initiatives and allocating funds to actions where they might more greatly benefit communities and environments.

SROI also gives a forward-looking outlook on planning by encouraging the consideration of long-term effects in projects, by directly interrogating local stakeholders' needs and community goals.

In the end, including SROI in planning entails making informed, calculated choices that are in line with the local objective of bringing about constructive social change. It is a

tool that assists the navigation in the challenging terrain of impact-making so that project actions have a significant value added to society and help create a more just and sustainable future.[9]

SROI expected effort from different operators

The overall effort is estimated to be 5,5 Person Months (PM), to be spread among 3 partners and the 3 milestones.

Subdivision of effort by partner:

- SROI experts (Eurac): 2 PM (35%)
- Pilot experts: 3 PM (55%)
- Mediator (PI): 0,5 PM (10%)

Subdivision of effort by milestone and partner:

- Theory of Change (ToC) Identification:
  SROI experts (Eurac): 10%
  Pilot experts: 15%
  Mediator (PI): 3%
- Quantification of Outcomes:
  SROI experts (Eurac): 20%
  Pilot experts: 20%
  Mediator (PI): 3%
- Reporting and Use of Results:
  SROI experts (Eurac): 5%
  Pilot experts: 20%
  Mediator (PI): 4%

Limits of the SROI framework

SROI, despite its strengths, does have limitations that are inherent to the methodology and can be mitigated but not entirely eliminated:

- 1. Subjectivity in Valuation: Assigning monetary or qualitative values to social outcomes involves subjectivity. Different stakeholders might perceive and value outcomes differently, leading to potential biases in the valuation process [10].
- 2. Complexity of Measurement: Quantifying social impacts accurately can be challenging not only due to the complexity of social change, but also by a lack of a standardized one-fits-all process [11], [12].
- 3. Time and Cost Intensive: Conducting a thorough SROI analysis can require significant resources, both in terms of time and costs, for collecting and analyzing data, engaging stakeholders, and conducting comprehensive valuation [11].
  - 4. Assumptions making: SROI involves making assumptions and estimates, which can introduce uncertainties or limitations in the analysis. These assumptions might affect the accuracy of the final SROI calculation.
  - 5. Aligning stakeholder preferences with sustainability principles: this aspect is relevant for urban projects and often challenging to navigate. Sometimes, stakeholders may prioritize immediate social benefits over long-term environmental considerations, creating conflicts between social impact and environmental sustainability [10].

How to apply SROI: 6 stages and 3 Milestones

The SROI framework is generally articulated into 6 stages [2] that are: Stage 1: Establishing scope and identifying key stakeholders; Stage 2: Mapping outcomes; Stage 3: Evidencing outcomes and giving them value; Stage 4: Establishing impact; Stage 5: Calculating the SROI; Stage 6: Reporting, using, and embedding.

In the context of the VARCITIES Project, the comprehensive six-stage SROI framework has been aggregated into three key milestones to streamline practical implementation:

- 1. Theory of Change (ToC) Identification: This milestone encompasses stages 1 and 2 of the conventional SROI framework. It involves establishing the scope of the project and identifying key stakeholders, as well as mapping out the expected outcomes. This step is crucial in laying the foundation for understanding the intended social impact and aligning project goals with stakeholder needs.
- 2. Quantification of Outcomes: This milestone combines stages 3, 4, and 5 of the SROI framework. It involves the rigorous process of evidencing outcomes, assigning

them value, and establishing the actual impact generated. Quantifying these outcomes is essential for measuring the social return on investment accurately.

- 3. Reporting and Use of Results: The final milestone, equivalent to stage 6, focuses on the reporting of findings and the strategic utilization of results. This involves communicating the calculated SROI and embedding the insights gained into decision-making processes and ongoing project strategies.

By condensing the SROI stages into these milestones, the VARCITIES Project aims to simplify the implementation process while ensuring a robust understanding and measurement of social impact for informed decision-making and reporting purposes.

In Figure 1 the SROI workflow chart is displayed. The steps are detailed from left to right, starting with the most general activities, i.e., the "**Milestones**", the second level is the "**Practical items**", i.e., the actions that pilot experts will monitor from the start to the end of the SROI

process, the "SROI steps" represent the most detailed level in which SROI analysis can be divided into, finally, the "Pilot effort" visually indicates those actions on which pilot experts are directly responsible.

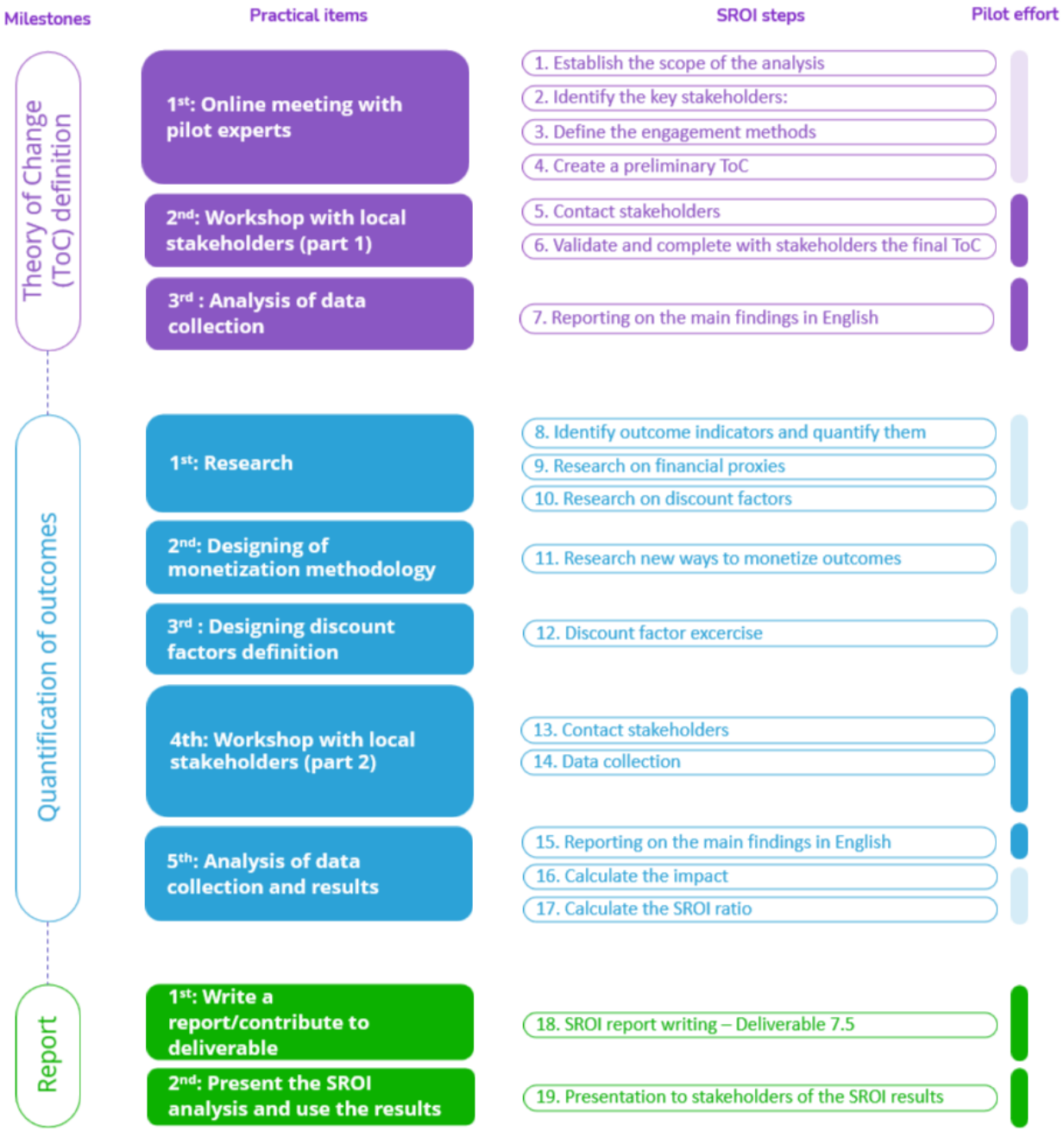


Figure 1. SROI workflow chart

2.1 Theory of Change

"Seemingly to a tree structure, the project outcomes can be compared to the crown that would not flourish without the roots, representing the project activities, and the trunk, resembling the key stakeholders who are the recipients of the proposed solutions."

Theory of Change (ToC) definition

The first milestone is the outline of the so-called Theory of Change (ToC). The ToC is defined as a causal relationship between the key stakeholders, the outputs, i.e., the project VSs, and the outcomes, i.e., the expected changes that stakeholders would experience. This logic model is described by a mind map in which each VS is associated with one or more outcomes Figure 2.

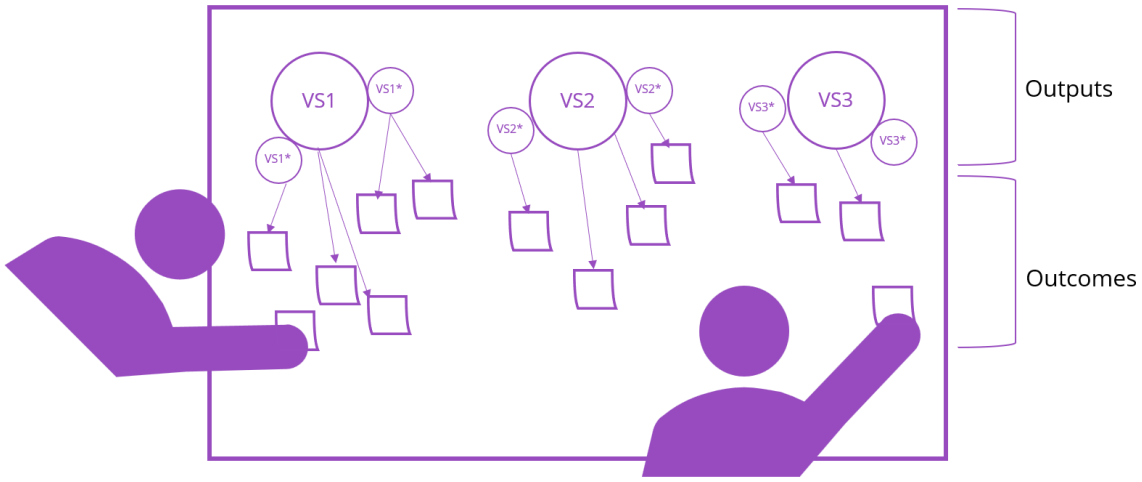


Figure 2. Theory of Change outlining

The ToC is defined after stage 1 and stage 2 of the SROI framework completion. The foreseen practical items are 2:

1st: Online meeting with pilot experts: the kick-off of the SROI activities starts with the understanding of the project by directly interrogating its founders. The pilot experts are the best candidates in describing the activities foreseen, i.e., the outputs, and the goals, i.e., the outcomes.

2nd: Workshop with local stakeholders (part 1): The first ToC draft defined within the meeting with pilot leaders must undergo a stakeholder validation process in which the participants will rate and modify the outcomes, thus outlining a final version of ToC.

1st: Online meeting with pilots

1. *Establish the scope of the analysis*

Before starting the SROI process it is important to set the type of analysis to conduct, as the SROI can be of 2 kinds:

Forecast – the analysis is done before the implementation is finalized, and it aims at predicting the amount of social value that will be generated if the activities successfully achieve their intended outcomes.

Evaluative – this type of analysis is conducted retrospectively, relying on actual outcomes that have already occurred. Therefore, the aim is to capture the situation both before and after the intervention, assessing within a one-year timeframe not only the occurrence of changes but also their extent.

In the VARCITIES Project, a forecast analysis is performed.

Within the preliminary phase of "establishing scope" are foreseen as well as the definition of the expected results of the evaluation process, the acknowledgment of possible risks, and mitigation strategies.

- *Identify the key stakeholders*

Consider stakeholder groups that will directly be impacted by the VSs' implementation, excluding those categories that are only marginally affected, and therefore not relevant enough to influence the analysis result.

2. Define the engagement methods

The most suitable format is the workshop, although the length of the engagement activities and modalities can vary according to pilot needs.

Practical Advice: Utilize workshops as the primary format. Other engagement modalities are envisaged as well: focus groups, interviews, in-person or online activities, etc., in order to allow flexible adaptations to case study-specific needs.

3. Create a preliminary (ToC)

Develop a preliminary ToC based on pilot experts' hypotheses and agreements. Focus on stakeholder groups directly impacted by VS implementation, excluding those categories with marginal impact on the analysis.

2nd: Workshop with local stakeholders (part 1)

4. Contact stakeholders

Reach out to stakeholders using diverse channels, including municipality and associations' websites, social media, QR codes on posters around the city, or flyers.

5. Validate and complete with stakeholders the final ToC

Organize a workshop for each stakeholder group in which the final version of the ToC will be co-created and validated directly by the participants. During this exercise, all outcomes deemed relevant will receive a rating from 1 to 5 and a motivation, either written or orally.

Practical Advice: It is a good practice to audio record the discussions during the engagement activity to not overlook important information that could be essential in the data analysis and reporting phase.

3rd: Analysis of data collection

6. Reporting on the main findings in English

Describe transparently the SROI process, justifying each decision made within the analysis supported by data gathered from stakeholder engagement activities.

The minimum elements to include in the report are:

- Description of the engagement activity
- Tables: 1) Stakeholder group – Output - Outcomes – ratings, 2) Outcomes – Outcome indicators – indicator sources
- Data interpretation

Practical Advice: Synthesize the data in tables following the SROI applicative stages. Generally, each stage can be summarized into a table, and accompany it with a description. Whenever deemed necessary use stakeholder quotes as an enriching element.

2.2 Quantification of Outcomes

“Seemingly to an analyst, the SROI operator will have to meticulously divide the process into single components and pose the right questions to arrive to the most accurate quantitative estimation.“

Quantification of Outcomes

The second milestone is the Quantification of Outcomes. This part of the process faces the technical aspect of assessing intangible benefits.
The expected result of this milestone is the calculation of the SROI ratio based on the monetization of outcomes outlined in the ToC.
Determining financial values for non-market benefits poses a challenge. Therefore, the following practical steps offer guidance in addressing this issue:

1st: Research: Conduct in-depth research to explore valuation techniques and methodologies for outcomes identified in the ToC.
2nd: Designing of monetization methodology: Create a structured exercise to assign financial proxies to non-market benefits, and thus estimate their monetary worth.
3rd: Designing discount factors exercise: Develop methods to apply discount factors (i.e., deadweight, attribution, displacement, and drop-off) to ensure accurate valuation and avoiding overestimation of impact.
4th: Workshop with local stakeholders (part 2): Engage stakeholders in a workshop to validate and refine the outcomes' financial proxies established in the 3rd step. This engagement session involves an interactive approach aimed at determining stakeholders' Willingness to Pay (WTP) for specific outcomes, fostering active participation and collaborative refinement of financial proxies.
5th: Analysis of data collection and results: Analyse collected data and derived results from the exercises conducted in step 4, including insights from the workshop focused on stakeholders' WTP. This analysis consolidates findings for SROI calculations.

1st: Research

- *Identify outcome indicators and quantify them*

Outcome indicators correspond to the unit of measure of the outcomes, and they are associated with the estimated number of stakeholders experiencing changes due to the VS implementation.

Practical advice: Prior to engagement, estimate the target number for each stakeholder category. As during the workshop participants will contribute to define the extent to which the initial stakeholder targets will benefit from VSs. Engaged stakeholders will provide the information by either rating on a scale from 1 to 5, or by estimating the percentage of beneficiaries out of the target number.

Example

Output: setup of a sensory garden in place of an existing parking lot
Outcome: feeling of stress relief
Outcome indicator: the number of people who will visit the sensory garden
Target number: 6000 people/year
Percentage of visitors that will experience the outcome: 30%
Considered quantity: 6000 people/year x 30% = 2000 people/year

7. Research on financial proxies

Financial proxies are monetary approximations of the social value to each outcome described in the ToC.
Multiple techniques available in literature are based on the concept of Willingness to Pay (WTP), Willingness to Accept (WTA) and opportunity cost [2], [13], [14]. The 2 main categories of WTP are the revealed preference value and the stated preference value, among which the following methods are counted:

- Cost saving
- Travel cost
- Choice modelling method
- Contingent valuation
- Hedonic pricing

Practical advice: More than one technique can be combined in the same SROI analysis to find the most suitable financial proxies.

*The quantities provided in the following examples serve exclusively as suggestions.

Example 1

Outcome: Increased awareness on the levels of air and noise pollution and their effects on health
Financial proxy: 1h introductory course on environmental pollutants
Quantity: 15 euros

Example 2

Outcome: improvement of health
Financial proxy: reduction of public healthcare expenditure
Quantity: 120 euros/person/year

Example 3

Outcome: reduction of pollutants due to traffic
Financial proxy: CO_2 equivalent value
Quantity: 30 euros/t

8. Research on discount factors

Upon quantifying the value of outcomes, the next step entails the project's impact determination. This assessment involves defining the portion of outcome value that can be isolated as dependent solely on the project activities and the portion that would have happened irrespective of the project's intervention. Thus, the determination of the impact fraction attributable to the project requires the application of discount factors to the initial value.
Stakeholders are the best candidates in defining and validating the discount related data.

There are 4 discount factors within the SROI analysis:

1. **The deadweight** is the percentage of the change that would have happened anyway in the absence of the project.

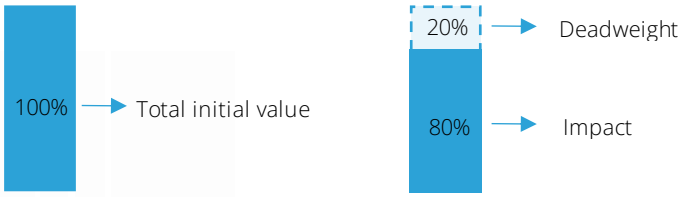


Figure 3. Deadweight representation

2. **The attribution** is the extent of change attributable to the project subtracting the influence of other entities or other activities that have a similar action as the one measured by the analysis.

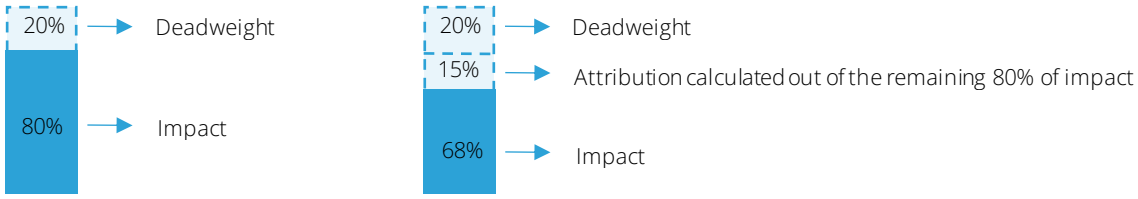


Figure 4. Attribution representation

3. **The displacement** indicates in percentage how much a project's intervention caused a transfer of an issue to another area. It is rarely considered.

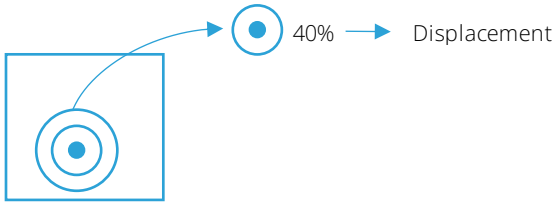


Figure 5. Displacement representation

4. **The drop-off** is a discount rate which refers to the yearly diminishing of an intervention's impact on stakeholders, therefore particularly relevant for projects whose outcomes would extend beyond a single year.

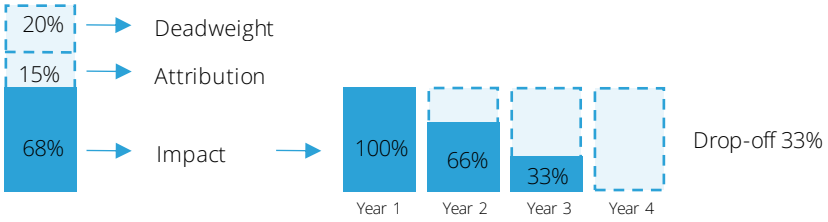


Figure 6. Drop-off representation

Example Deadweight

Outcome: Increased fundings in greening of public spaces
Deadweight: Increased fundings in greening of public spaces in the last 5 years
Quantity: 20%

Example Attribution

Outcome: Increased environmental data
Attribution: Presence on the territory of projects or initiatives that are investigating environmental data
Quantity: 30%

 **Example Drop-off**
Outcome: Increased awareness on air pollution in virtue of using sensors placed on residents' balconies
Drop-off: After the residents stop using the sensors their awareness will be less influenced by the project, instead they will get knowledge from other sources. The impact of the outcome will decay in one year.
Quantity: 100%

2nd: Designing of monetization methodology

11. Research new ways to monetize outcomes

Research and design new methods, including gamification approaches, to assign monetary values to outcomes. Involve stakeholders in gamified exercises during workshops, to understand their perceptions and willingness to assign monetary values to outcomes.

 **Practical Advice**: For outcomes with potential proxies in the market, stakeholders validate, or not, the found options. For particularly immaterial outcomes, propose specific exercises based on consolidated evaluation techniques derived from stated WTP.

 **Practical Advice**: Use simple ways to collect stakeholders' choices over financial proxies. Two main alternatives are:

- **Brief questionnaires.** For each outcome, participants must choose the most suitable monetary value. The questionnaire can be either digital or on paper.
- **Voting by arm raising**. For each possible financial proxy, participants would have to raise their hands based on the value deemed more suitable. However, this method does not allow privacy in answering the questions.

3rd: Designing discount factors definition

12. Discount factor exercise

Address the four discount factors (deadweight, attribution, displacement, drop-off) by engaging stakeholders in exercises to understand and assign deadweight and attribution percentages. Deadweight and Attribution are the factors that usually require stakeholder validation, while Displacement rarely occurs, and the Drop-off can be hypothesised in the design phase for forecast SROI analyses.

Practical Advice: Prepare easy templates and materials explaining each of the discount factors.

Deadweight: validate the values found from research and complete with short questionnaires the missing information.

Attribution: stakeholders must identifying local projects and initiatives that could contribute to obtain the same outcomes, thus the best way is to disseminate a questionnaire where participants would indicate an attribution rating from 1 to 10 based on their experience of local projects and activities, or programs.

4th: Workshop with local stakeholders (part 2)

13. Contact stakeholders

In the 2nd workshop is important to engage the same, or as much participants from the 1st workshop as possible. Therefore, the same criteria for choosing the stakeholders apply: only the groups that will directly experience the effects of the VS implementation should be considered, leaving aside all the categories on which the project would have a marginal impact.

Practical Advice: Reach out to stakeholders using diverse channels, including social media and QR codes spread around the city.

14. Data collection

The data collection from stakeholders is the part of the SROI performance with less certainty, and it depends on precedent design of the engagement activities and material that will be used to gather the necessary data.

Practical Advice: Bring home not only the technical data but capture as much as possible the engagement moment through audio and photo materials. SROI is more than a ratio between investments and social benefits. Additional materials will give a context to technical data and will make the dissemination of results more engaging.

Practical Advice: Use maps and images, and have ready graphic support that could facilitate stakeholders into understanding the concepts of assigning financial proxies, WTP, as well as the meaning of impact calculation through discounting. Have ready examples of intangible benefits quantification and discount factors.

The Workshop with local stakeholders (part 2) can be divided into 2 main parts:

Financial Assignation exercise

The exercise has the aim to guide workshop participants into assigning financial proxies to outcomes.

Practical Advice: Prepare exercises and questionnaire templates, either digital or in paper version, to allow stakeholders to answer promptly. All exercises should be simple and clear.

Discount factor exercise

The exercise has the aim to guide participants into identifying based on their knowledge of the territory, the portion of impact that would happen anyway even without the project.

Practical Advice: Perform the interactive exercises during the workshop to establish the four discount factors and their corresponding implications on impact determination.

5th: Analysis of data collection and results

15. Reporting on the main findings in English

Describe transparently the SROI process, justifying each decision made within the analysis supported by data gathered from stakeholder engagement activities.

The minimum elements to include in the report are:

- Description of the engagement activity
- Tables: 1) Outcomes – financial proxies - sources, 2) Outcomes – deadweight – sources, 3) Outcomes – attribution – sources
- Data interpretation

Practical Advice: Synthetize the data in tables following the SROI applicative stages. Whenever deemed necessary use stakeholder quotes as an enriching element.

16. Calculate the impact

Determine the impact by applying the considered discount factors.

Example

Quantity of outcome indicator (a): 2,000 people

Value financial proxy (b): 30.00 €

Deadweight (c): 30%

Attribution (d): 40%

1. Multiply the outcome indicator by the financial proxy
2. Apply the deadweight
3. Apply the attribution

Impact Year 1: a x b x (1-c) x (1-d) = 25,200.00 €

17. Calculate the SROI ratio

Once all data is gathered calculate the SROI ratio, which is obtained dividing the Present Value indicator (Figure 7) by the total investments, i.e., the inputs (Figure 8).

$$\text{Present Value} = \frac{\text{Year 1}}{(1+r)^1} + \frac{\text{Year 2}}{(1+r)^2} + \ldots + \frac{\text{Year n}}{(1+r)^n}$$

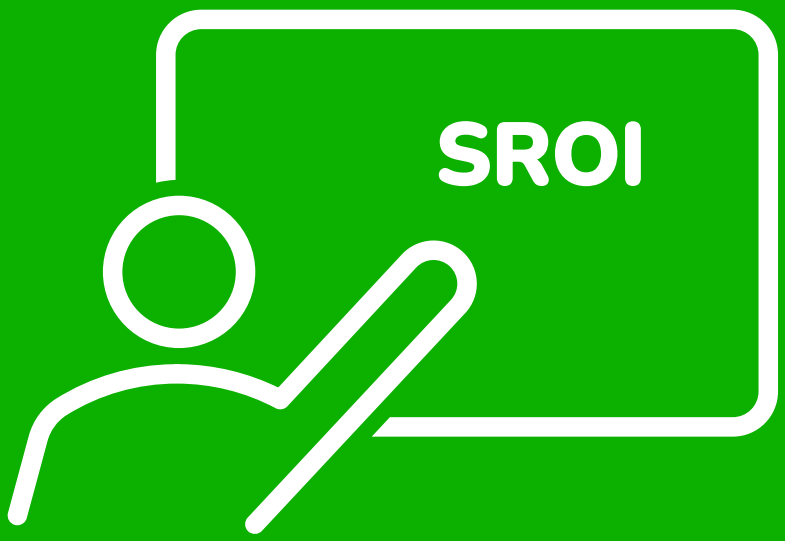
Where **r** is 3,5%

Figure 7. Present Value formula

$$\text{SROI Ratio} = \frac{\text{Present Value}}{\text{Total Inputs}}$$

Figure 8. SROI ratio formula

2.3 Reporting Results



“Seemingly to a policy maker, at the end of the analysis, the SROI operator will be interested in using the results for improving the current project and regulations.“

Reporting and use of results

Once completed the SROI analysis, the last milestone set is the reporting and use of results. In fact, the results obtained have no relevance if not disseminated to local stakeholders: on one hand, to inform the social impact that the project would generate, on the other, to use SROI results as an added value for future public spaces decisions.

1st: Write a report and contribute to project deliverable: The SROI data gather will have to be synthesized into a report that will contain all relevant steps of the analysis. Allowing other researchers or practitioners to follow the process in a different case study.
2nd: Present the SROI analysis and use the results: Create an opportunity to publicly disseminate the analysis results, primarily with the stakeholders engaged and with a broader audience.
Use the results into guiding future decisions and therefore allocating financial resources in those activities that were found to generate great social value to an extended number of stakeholders.

1st: Write a report and contribute to project deliverable

18. SROI report writing – Deliverable 7.5

Gather all findings, including SROI calculations, impact determination, financial proxies, and stakeholder engagement insights into comprehensive reports. Highlight key findings and methodologies used.

Practical Advice: Incorporate graphs, charts, and infographics to visualize SROI ratios, outcomes, and impacts. Use storytelling elements or case studies to enhance understanding.

2nd: Present the SROI analysis and use the results

19. Presentation to stakeholders of the SROI results

The communication of the SROI results is relevant both to those stakeholders who participated to the engagement activities and to the broader community involved in the VARCITIES Project. The dissemination of results will ensure a transparent process. Aside from a report to be shared also on the VARCITIES website, a presentation should be organized locally.

Practical Advice: Do not focus merely on the SROI ratio, that by itself is only a number on which is not possible to base a decision, instead, the ratio should be accompanied by additional information, focusing on a story telling approach of how change is being created. Develop visual aids and engaging communication materials to present the SROI findings in a clear, concise, and accessible manner.

Future developments

The integration of SROI insights and outcomes into decision-making processes would be coupled with future project strategies and improvements.

Practical Box: Collaborate closely with decision-makers, showcasing the way SROI findings can influence resource allocation or policy decisions. Create guidelines for integrating SROI into future planning.
Finally, encourage cross learning among VARCITIES pilots, incorporating feedback, and refining the SROI approach for future assessments.

Practical Advice: Establish a feedback loop for pilots to share lessons learned and propose improvements. Document these learnings for future reference.

Glossary and definitions

Social Return on Investment (SROI)

'Social Return on Investment (SROI) is an instrument that allows the social impact assessment of interventions that have an added social, economic and environmental value.'

Stakeholders

'Individuals or groups affected or involved in the VARCITIES project, including city residents, local governments, businesses, and community organizations, with a particular emphasis on their participation in innovative nature-based solutions.'

Theory of Change (ToC)

'A unique model that outlines how VARCITIES ' activities, particularly nature-based solutions, achieve desired urban results connected to citizen health and well-being.'

Impact

'The VARCITIES project's long-term benefits, with a focus on how innovative nature-based solutions contribute to urban sustainability, citizen health, economic growth, and social cohesion, discounted by the portion of change that would happen anyways.'

Outcomes

'Changes in urban contexts brought about by the VARCITIES project, with a particular emphasis on the impact of innovative nature-based solutions on infrastructure, community participation, job opportunities, and environmental improvements for citizen health and well-being.'

Quantification of Urban Outcomes

'Assigning values or measurements to urban changes caused by VARCITIES ' Visionary nature-based solutions, allowing for easier measurement and assessment.'

Deadweight

'The assessment of the percentage of each outcome that are likely to occur regardless of VARCITIES ' intervention in the urban context.'

Attribution

'The consideration of the part of an outcome related to or resulting from VARCITIES' interventions subtracting the portion of impact generated by other local projects, subjects or initiatives.'

Displacement

'Occurs when residents' advantages from VARCITIES project negatively affect people outside the project area. Therefore, in this case VARCITIES would transfer the issue to another urban setting.'

Drop off

'For outcomes lasting more than a year, the discount rate reflects the fading effect of VARCITIES ' activities on stakeholders.'

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