Project number 875002

URBAN EUROPE

SmartHubs

Smart Mobility Hubs as Game Changers in Transport

WP6. Governance, policy guidelines and knowledge exchange
T6.3. Online training programmes for (open) tools

SmartHubs Deliverable D6.3
Online training programmes for (open) tools

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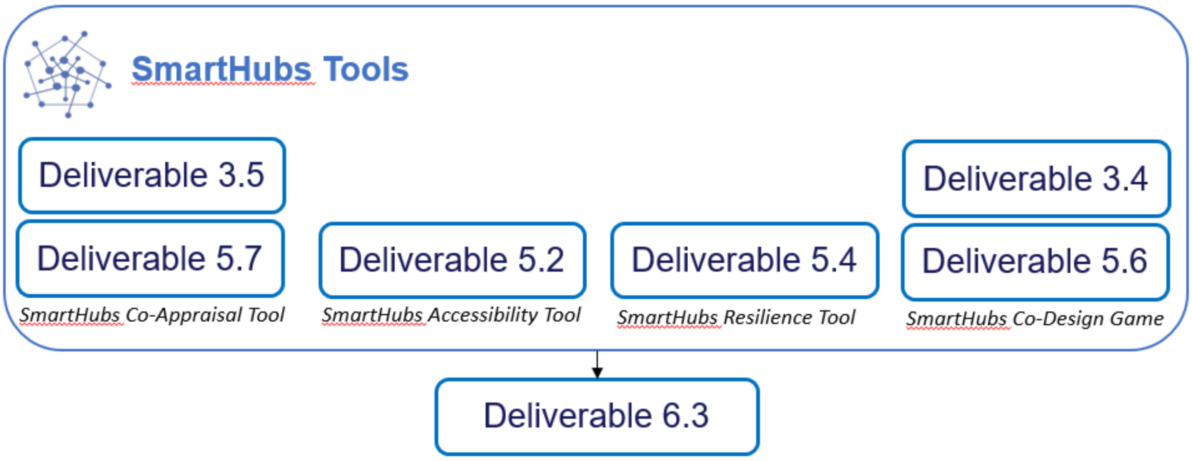
Relation to other SmartHubs deliverables



1 INTRODUCTION

This chapter introduces the context and content of this deliverable, its connection with the Smarthubs project objective and other deliverables.

1.1 Smarthubs tools

Two of the Smarthubs tools focused on strengthening the pool of tools that support co-creation processes for mobility hub design and evaluation. The Smarthubs Co-Appraisal tool developed by VUB provides the framework for the participation and communication of various stakeholders in the selection of the most preferable mobility hub design among various alternatives. The Smarthubs Co-Design game is not a fixed product but an evolving tool that adapts to the stakeholder needs of each application. The tool provides a set of gaming materials, such as tokens, cards, dice, and a design game guide, to facilitate the design process of mobility hubs.

The other two tools enable network-level evaluation of the introduction of mobility hubs. The development of the SmartHubs Accessibility Tool by TUM ensures a user-friendly, easy-to-access tool that enables measuring the accessibility of various amenities by travelling by different transport modes e.g. walking, cycling, and public transport) to and from existing or potential mobility hub locations. The SmartHubs Resilience Tool (SHRT) developed by UNIBO measures the accessibility and network connectivity impacts of mobility hubs on the resilience of urban public transportation networks.

The tools were developed during the last three years aiming to assist the impact analysis of mobility hubs as well as to provide open tools for similar and further future analysis. To encourage and support the application of the tools, there are multiple online information and training materials. Furthermore, many stakeholders from academia, policy and practice have already been trained during the Smarthubs symposiums and more communication events such as conferences.

1.2 Smarthubs task T6.3

Smarthubs Task 6.3 aimed at providing an online training platform for the four Smarthubs tools. Accordingly, the present Smarthubs deliverable D6.3 "Online training programmes for (open) tools" aggregates the necessary information for all tools. Although there are dedicated separate deliverables on the characteristics and Smarthubs applications of the tools (see section above "Relation to other Smarthubs deliverables"), each tool is briefly introduced in this report by presenting their framework, methods and usage requirements. The main contribution of the present report is the concentration of all information and training sources for each tool.

1.3 Structure of the deliverable

The report is divided into six chapters. Following this introduction to the task T6.3 and the deliverable content, each of the next four chapters (Chapters 2-5) is dedicated to one of the Smarthubs tools. For each tool, the applied framework and method(s) are presented. In addition, the up-to-date applications and training events during the Smarthubs project are mentioned. For every tool, the available open online training materials and sources are also listed. The final chapter concludes the report with a discussion of the tools potential for future applications, also in combination with the Smarthubs Open Data Platform.

2 ACCESSIBILITY TOOL

The SmartHubs Accessibility Tool is a user-friendly planning tool designed for planners and practitioners to assess and develop mobility hubs. The tool measures accessibility to amenities using various modes, such as walking, cycling, e-scooters, and public transport (Figure 1).

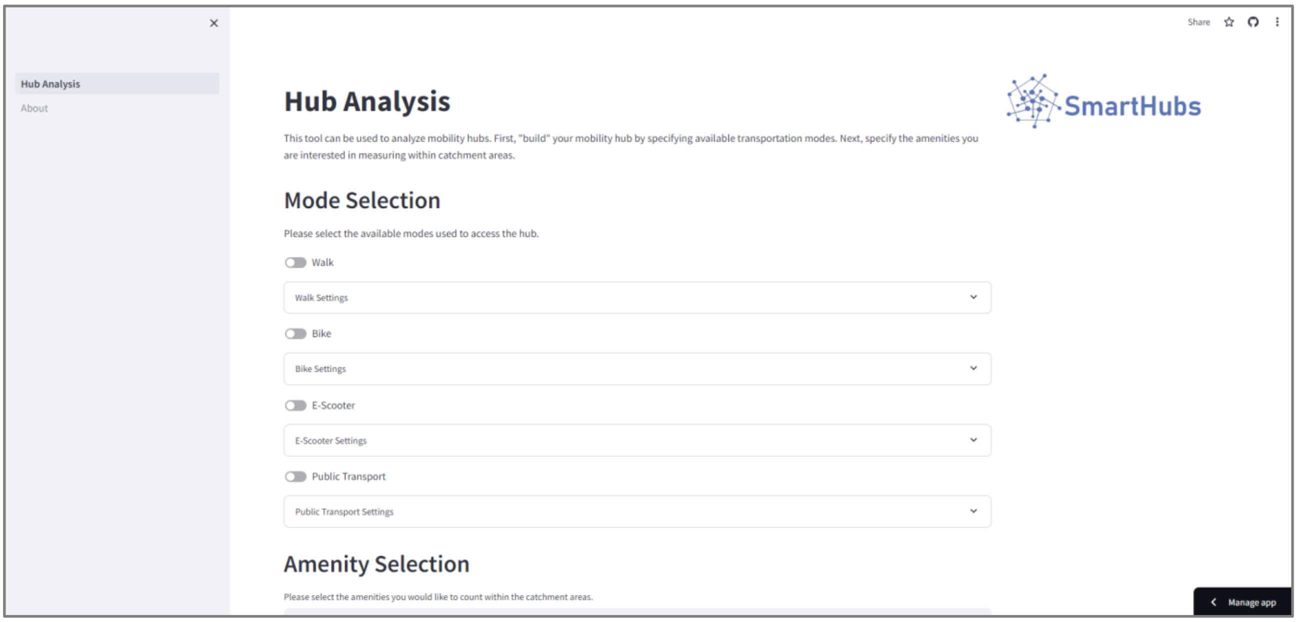


Figure 1: Screenshot of the SmartHubs Accessibility Tool

2.1 Tool framework and method

The aim of the SmartHubs Accessibility Tool is to be a user-friendly, easy-to-access tool that allows users to measure accessibility of amenities using multiple modes (walking, cycling, e-scooters, and public transport) to and from mobility hubs. While the tool performs a relatively simple geospatial analysis that could be done by most people with experience using GIS software, it contributes to the tools available to planners and practitioners by being automated and simple. Users are not required to have experience with GIS software in order to use the tool. The simple user-interface and automated processes of the tool make it approachable and easy-to-use.

Nevertheless, the tool is also useful to those with more advanced GIS analysis skills since the outputs can be downloaded and used in external GIS software for further analysis. In specific, the SmartHubs Accessibility Tool also allows users to download the produced isochrones in the form of a GEOJSON file that can be opened in another program, such as ArcGIS or QGIS. This requires the user to have access to this software and the necessary skills/knowledge required to work with this type of geospatial data.

Depending on the analysis and the transport modes involved in each tool application, some data input might be required. For example, an analysis including public transport mode requires GTFS data, a standard data format for public transport schedules. This can usually be downloaded directly from the website of the public transport operator. More information about GTFS data can be found here.

The online version of the SmartHubs Accessibility Tool can be found here: https://accessibility-tool.streamlit.app/. The online version of the tool has certain limitations. Specifically, there are limitations to the amount of memory that can be used by the tool. In order to get around this, users can download the scripts and run the tool locally on their own machine. The scripts can be obtained from the GitHub repository. Users need to have Python installed.

2.2 Applications

The SmartHubs Accessibility Tool was used to perform the impact assessment for each of the living lab cities. The impact assessment involved developing scenarios for each of the living labs, then using the SmartHubs Accessibility tool to analyze these scenarios. The analyses performed in each living lab can be roughly grouped into two categories: a) scenario comparison, and b) comparison of different geographic locations. It is also possible to use the tool for an analysis that is a combination of these two possible analyses. Below four different analysis

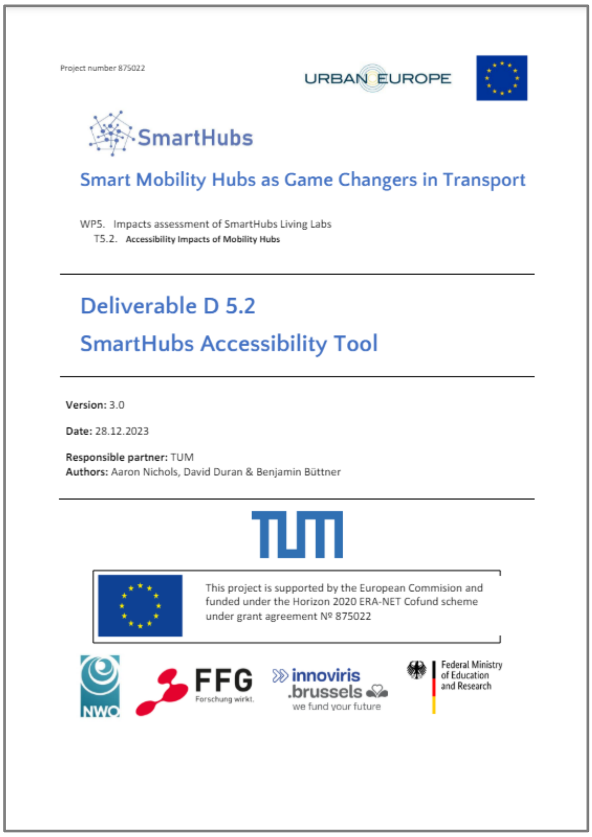
The SmartHubs Accessibility Tool was applied to the living lab cities within the SmartHubs project. However, the tool can also easily be applied to any location in the world. This can be done easily and without complicated data preparation because of the tool's use of open data sources. Additionally, the online version of the tool can be run in any web browser and does not require the user to have additional software installed on his/her system.

2.3 Online training material

Various materials are available to help users understand and use the tool. This includes documentation, online instructions, and video tutorials. Below, the four different information and assistance sources for the Smarthubs Accessibility tool are mentioned.

- SmartHubs Accessibility Tool Deliverable

The SmartHubs Deliverable 5.2 is available on the SmartHubs website (Figure 2). This report explains all of the relevant information about the tool, including how the tool was developed and used within the frame of the SmartHubs project. Additionally, Appendix I of the deliverable includes a step-by-step guide to using the tool.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URBAN EUROPE

SmartHubs

Smart Mobility Hubs as Game Changers in Transport

WP5. Impacts assessment of SmartHubs Living Labs
T5.2. Accessibility Impacts of Mobility Hubs

Deliverable D 5.2
SmartHubs Accessibility Tool

Version: 3.0
Date: 28.12.2023
Responsible partner: TUM
Authors: Aaron Nichols, David Duran & Benjamin Büttner

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Figure 2: Deliverable 5.2. Smarthubs Accessibility Tool

- Within the Accessibility Tool

Detailed information about the Accessibility Tool can be found on the website for the Accessibility Tool. Users simply need to click on the "About" tab to see the user guide. This includes much of the same information that is available in the SmartHubs D5.2.

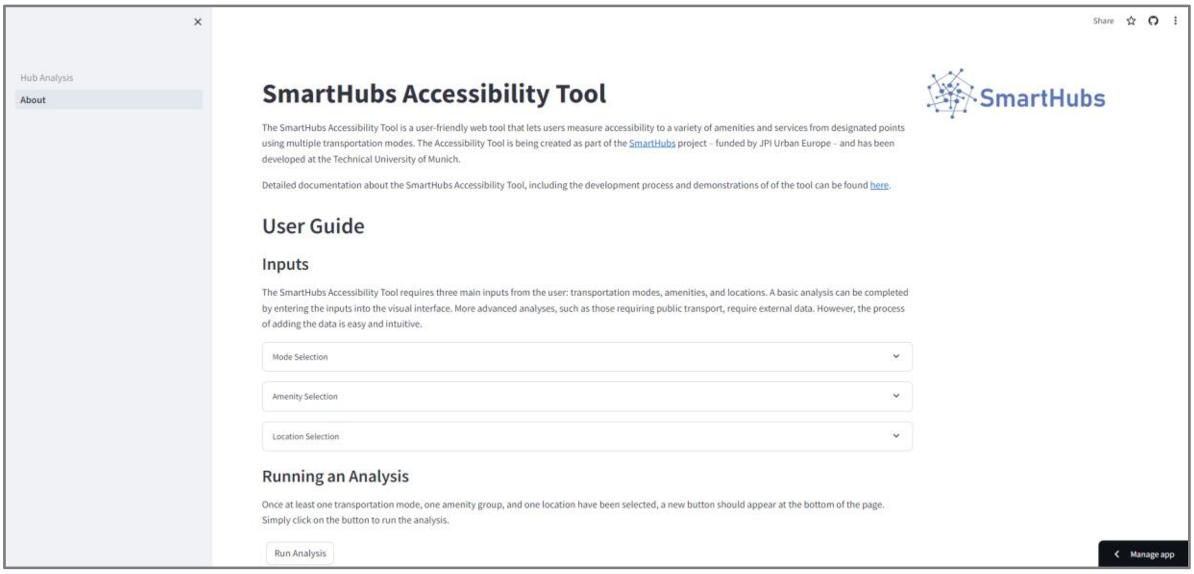

Figure 3: Online User Guide Smarthubs Accessibility Tool

- Video Tutorials

Demonstrations of the Accessibility Tool can be found directly on the SmartHubs website. The videos cover the basic functionality of the tool, advanced functionality, and instructions for how to run the tool locally on a computer.

- Troubleshooting and Support

For troubleshooting and technical support, please contact Aaron Nichols at the Technical University of Munich.

2.4 Overview of dissemination and training activities

The SmartHubs Accessibility Tool was developed in an iterative process that involved creating an initial version of the tool, presenting it to various groups of academics and practitioners, collecting feedback, then making updates to the tool and staring the process over again. This means that different training activities were conducted throughout the development process:

- BMBF Stadt-Land-Zukunft Conference, Berlin

The SmartHubs Accessibility Tool was presented to German academics and professionals at the Stadt-Land-Zukunft conference in Berlin in March 2024. This gave participants of the conference the opportunity to see and ask questions about the tool.

- SmartHubs Training Day

As part of the SmartHubs Training Day on April 8, 2024, participants had the opportunity to use the SmartHubs Accessibility Tool to directly work with the Accessibility Tool to complete a task. Participants were asked to use the tool to analyze 20 potential mobility hub locations in Munich, then select the five best locations based on criteria that they defined.

Additional dissemination activities and training activities have been carried out with the most recent version of the tool.

3 CO-APPRAISAL TOOL

As one of the four SmartHubs tools that support the co-creation process of mobility hubs, the SmartHubs Co-appraisal Tool aims to facilitate such a process by allowing stakeholders to identify the most preferred option among a range of alternatives.

3.1 Tool framework and method

The SmartHubs Co-Appraisal Tool enables the identification of preferred options among several alternatives for implementing mobility hubs. For this, a facilitator must be in charge of performing the six steps of the tool. First, the possible alternatives that will be evaluated are identified and classified. Second, the stakeholders whose opinions should be considered are identified and contacted. In step three, each stakeholder group defines their criteria, and in step four, they give weights to them according to the importance they give to each criterion. In step five, the alternatives are analysed according to the criteria identified. The analysis can be done (1) by identifying indicators and measuring how each alternative performs regarding the given criteria; (2) by involving experts who estimate the performance of the alternatives; or (3) by giving detailed information about each alternative to the participants so they can make the assessment with close guidance of the facilitator. In step six; results are obtained and shown to the participants. In this last stage, consensus-making is encouraged to decide what alternative should be implemented. If necessary, a new alternative could be considered by mixing elements of the two that ranked best.

The results of the tool identify to what extent each option for the development of a mobility hub meets the preferences of stakeholders. A visual representation of the result is obtained in the last step of the tool (see Figure 4). This outcome supports the opinion-forming process of each stakeholder group and can facilitate reaching a consensus among the different stakeholders concerning possible solutions or designs for mobility hubs

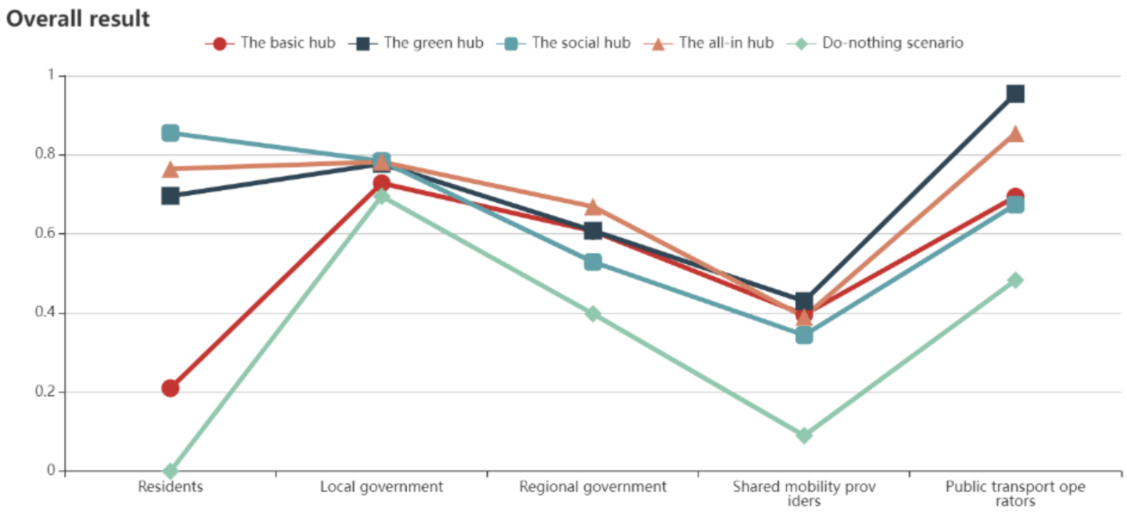

Figure 4. Example of the visual outcome of the SmartHubs Co-Appraisal Tool

The stakeholders who are identified before performing the tools must be invited, and involved in the process. For this, it is recommended to organize two meeting to use the tool. The first meeting, of 60-90 minutes, must serve to perform steps one to four. The second meeting can be used to perform steps five and six (90 minutes), or only step six (45 minutes) in which the results are shown and discussed. For the latter, step five must be performed by the facilitator before the second meeting.

To use the tool, it is necessary to have several alternatives of mobility hubs that can be implemented in a specific location or area. The alternatives need to be clearly defined, and data about their characteristics must be available to perform the tool, especially the step five. An online registration is required to use the web-based tool (www.mamca.eu). The website offers a one-month free version. A premium version is available for further use, and alternative options can be discussed with the MAMCA team. For the latter, please email info@mamca.eu.

The MAMCA tool is available online www.mamca.eu (Figure 5).

Figure 5. Website for the MAMCA Co-Appraisal Tool

3.2 Applications

The tool can be used to conduct a participatory appraisal concerning the development of mobility hubs and decide which option to implement. It has been used in different European cities and for different types of appraisals: a) identifying the best design for a specific mobility hub and b) identifying the best type of network for mobility hubs. It has been applied in the areas of the four Smarthubs living labs in the cities of Brussels, Munich, The Hague, and Vienna to assess alternatives for the design of mobility hubs. Deliverable 5.7 describes the four applications and the results.

3.3 Online training material

There are two different information sources that can guide interested users in applying the tool.

- The SmartHubs deliverable D3.5

The deliverable contains a step-by-step guide for tool application. Screenshots from every step make it easier to understand the necessary steps and the expected result of each step

- The Smarthubs MAMCA tutorial

A 16-minutes training video demonstrates the application of the tool.

3.4 Overview of dissemination and training activities

The SmartHubs Co-Appraisal Tool was developed throughout the project. In various occasions; three Smarthubs events and one conference, the tool was presented and tested with different groups of academics and practitioners. The obtained feedback from the participants and the observers was considered in the development of the tool's functionalities and training.

- SmartHubs stakeholder workshops

In September (14th) 2022 during the Smarthubs Symposium in Vienna, the first workshop was organized. Five practitioners and researchers participated in a 45-minutes session during which an interactive explanation of the tool was provided. On March 29th 2023, in Bologna, a larger training was conducted with 18 participants. The workshop focused on presenting the tool potential and necessary steps. In the final Smarthubs symposium meeting in Munich, in April 2024, nine participants, including researchers, practitioners and a student, had the chance to apply to get information, familiarize and apply the tool to a case study across three 60-minutes sessions.

- Catapult final conference

During the conference in Brussels, (23 February 2023) and interactive demonstration of the tool was provided to eight participant from both the academia and the practice.

4 CO-DESIGN TOOL

The Co-Design Tool is one of the SmartHubs Tools developed in the project. It assists the creation of interactive co-design games to support the planning process of mobility hubs. The results of each co-design game will depend on the specific research question(s) to be answered during the game.

4.1 Tool framework and method

To establish a design setting for the SmartHubs Living Labs, we provided a Design Game Guide (for details see Smarthubs Deliverable 3.4 “Report on recommended co-design technologies”,).

This guide supports the Labs in designing their individual Design Games tailored to the context of their project, Lab, or case study. Within more than 80 pages it describes the process of the creation of a design game, by introducing several key aspects, () defining the characteristics of the game, showing what the key aspects are, why they are important in the process, and how they should be seen as a step to carry out within the whole designing process. Additional questions provided at each step help to progress while designing the game. Summaries and quick check suggestions help designers to be aware of already carried out steps and the highlights as outcomes. The guide also provides space for taking notes during the design process for documenting the ideas.

Figure 6: Key aspects defining the characteristics of a design game created by using the “Blank analog Design Game (Iteration 1) – Version 1.0: TU Wien Mobility Games ADG” package.

In the following, we show the detailed information we captured from the Labs at the beginning of the project, for which an overview is given in Deliverable 3.4 (p.14ff) before we started with the design and development of the design games in SmartHubs. After receiving filled-out templates from each Lab, the following Lab profiles were used as a starting point for creating the Blank analog Design Games at the sites. The template to gather the Lab profiles consisted of the following structure:

- **Context of the Lab** – What are the framing conditions of the Lab? Where is it located? What is the social context of the Lab? What are the solid restrictions and circumstances that need to be considered?
- **Stakeholders and partners** – Which organizations are involved in the Lab? Which stakeholders are relevant to the Lab? What is their relationship to the Lab, and how are they involved? Are there challenges in the interaction with the stakeholders and partners in communication and cooperation?
- **Relevant topics, key contributions, results, and goals of the Lab** – Which issues are mainly addressed by the Lab? What is the focus and the overall goal of the Lab in SmartHubs? Which outcomes have already been produced and are planned to be made by the Lab during SmartHubs?
- **Challenges** – What are the challenges the Lab is dealing with on a daily basis general? What are the reasons for these challenges? Are there approaches and ideas on how to overcome these challenges?

- **Major activities within the Lab** – In which activities and events does the Lab engage – in general, with the stakeholders, with the citizens? Please give some examples. How often does the Lab engage with stakeholders? If there has been no interaction so far, please state this here.
- **Methodology** – Which (research) methods are used, and how are they applied to support the Lab activities? What is your experience with the already applied methods so far? What methodology works well, what is problematic in the Lab, and why?
- **Application of SmartHubs Design Game** – Which topics and goals could be addressed in the Lab using the SmartHubs Design Game? Which locations can be used to gather and to play the SmartHubs Design Game (Mobility Hubs, Living Lab Facilities)? Please use your research questions here as a starting point, but consider that the SmartHubs Design Game can only cover particular questions you formulate.
- **Contact Person** – Who is the contact person (including contact data) of the Lab regarding the application of the SmartHubs Design Game? (We did not include this category in this deliverable.)

4.2 Applications

The result of the design process at four SmartHubs Living Labs (their design games) is briefly summarized in this section (for details, see Deliverable 3.4).

- Eastern Austrian Living Lab (EALL)

The main objectives are to make mobility hubs more attractive through non-mobility services (e.g., events, communication, services). This game can be played by 2-3 person teams, by 2-4 teams, and additionally one moderator or referee (not playing). There are three phases in the EALL Design Game: the setup phase, the game phase, and the final evaluation phase. The game is played in two rounds, one design round and one evaluation round, which could take min. 1-1, 5 hours to play.

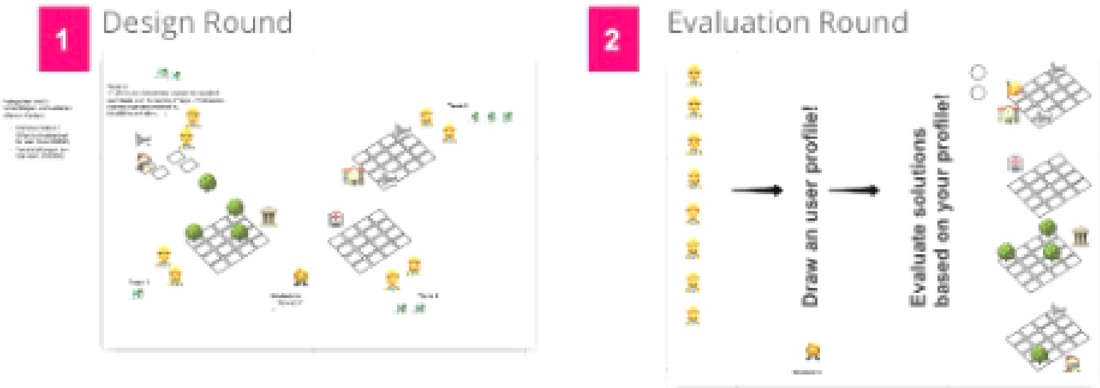

Figure 7: The first version of the EALL Design Game in Miro.

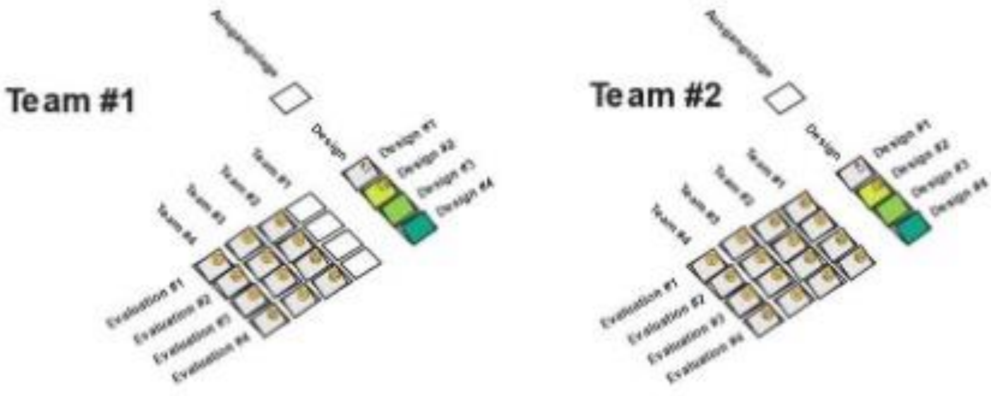

Figure 8: The second version of the EALL Design Game in Miro.

Figure 9: The third version of the EALL Design Game, played by two teams.

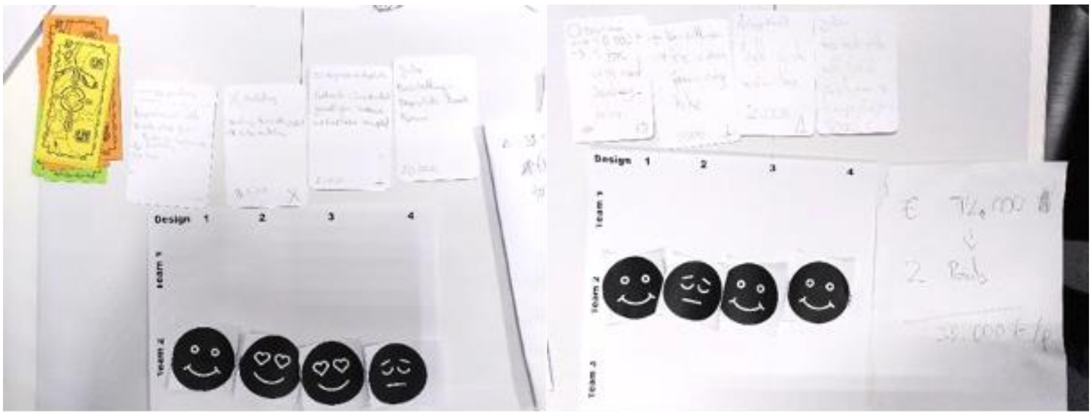

Figure 10: Results of Team 1 (left), and results of Team 2 (right).

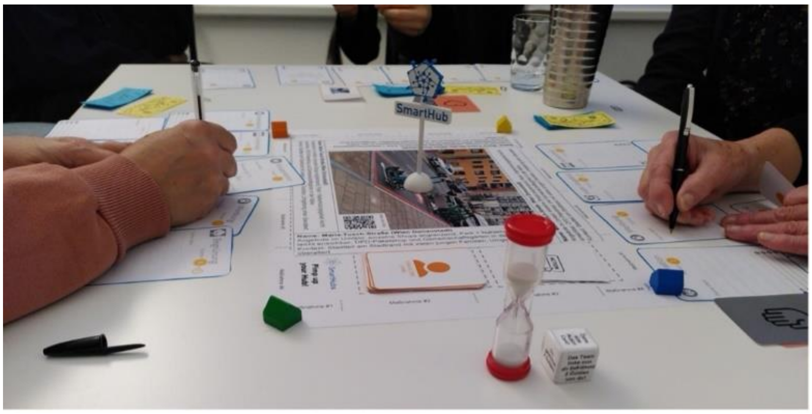

Figure 11: The final version of the game in EALL.

- Brussels / Anderlecht Living Lab

The narrative in this design game is about inclusivity. This narrative is dealt with in two stages: 1) by making the preferred mobility hub from an independent point of view, where each player can decide what to include and explain why he or she makes such choices; 2) by randomly picking a “persona board” per player and making the most inclusive mobility hub for these personas. In the second stage, the previous design must be adapted in such a way that the result will produce a general group score. The new design will also give an individual score to each player depending on the remaining elements they choose (Figure 12, Figure 13).

Figure 12: The game after the first iteration, played and filled in with data during the game.

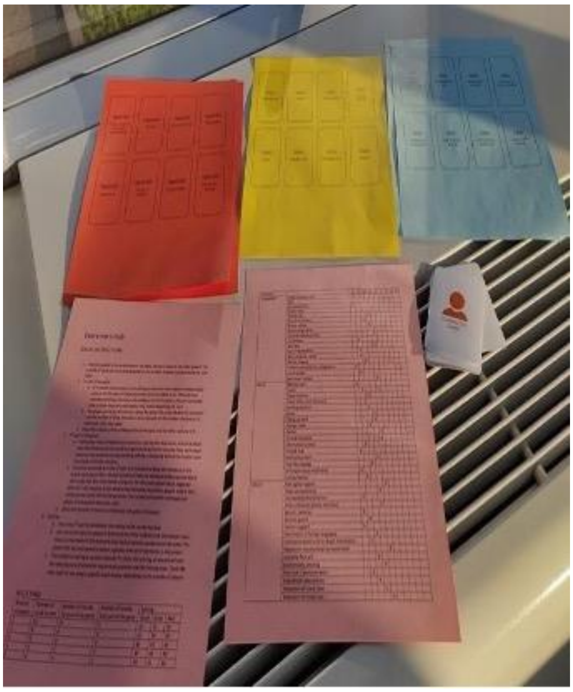

Figure 13: The game after the second iteration, played and filled in with data during the game.

- Rotterdam / The Hague Living Lab

The SmartHubs Rotterdam-the Hague Living Lab project team designed a game to elicit the preferences of users, citizens, and other stakeholders for different mobility and mobility-related elements (e.g., shared bikes, cars, scooters; digital information kiosk) and other functions (e.g., design elements, trees, places to sit) in the re-development of the square Hobbemaplein. Both a board and an augmented reality version of the game were tested in different events (Figure 14, Figure 15). As seen in Figure 14, the board shows a lot of information about the player's background, interests, and ideas, combined with the audio recording which is then analysed by the lab.

Figure 14: The result of a game played on 20.04.2022.

Figure 15: The augmented reality extension of the game designed in The Hague Living Lab.

- Munich Living Lab

The serious board game (Figure 16) is a co-creation game designed to identify the elements that players wish to have in a hub. Furthermore, the game encourages the participants to design inclusive mobility hubs by introducing characters vulnerable-to-exclusion as potential users. The game's goal is to identify the elements that players consider/wish to have in a new mobility hub. The maximum number of elements the players can choose is six, representing the limited spaces and resources that can be part of the hub's design process. Additionally, they are encouraged to negotiate and prioritize, selecting only a few elements from all the provided options.

Figure 16: The played game in the Munich Living Lab.

4.3 Online training material

Detailed training and support material can be found on the project website: https://www.smartmobilityhubs.eu/co-design-tool

4.4 Overview of dissemination and training activities

The Co-Design Tool was used and tested in all project consortium meetings throughout the project duration. Additionally, in four SmartHubs Living Labs, there have been dissemination activities locally, which are reported upon in SmartHubs Deliverables.

5 RESILIENCE TOOL

The SmartHubs Resilience Tool (SHRT) is designed to examine the impacts of mobility hubs on urban resilience, defined as connectivity and accessibility changes after specific disruptions to the public transport network, or as a consequence of new mobility hub implementations. As such, the SHRT complements the functionality of the SmartHubs Accessibility Tool, providing a further framework of analysis for the evaluation of mobility hubs.

5.1 Tool framework and method

The tool comprises two main components (Figure 17):

1. A Connectivity Component, provided as a point-and-click software based on the `R` programming language, also accessible via shinyapps.io, to assess public transport (PT) network connectivity.
2. An Accessibility Component (SpinModel), provided as a login-based interactive webpage, to assess area accessibility.

Figure 17: The SHRT website's landing page

Public transport (PT) connectivity and area accessibility are two concepts that are closely intertwined, as both influence the ease with which individuals can reach specific locations. A well-connected PT network can facilitate the movement of people (or goods), thereby reducing travel times, and in turn, improving area accessibility. The **connectivity component** of the SHRT allows to study PT network connectivity by means of network analysis. Mathematically, a transport network can be represented as a graph in geographic space, describing an infrastructure that allows or constrains movements/flows. A graph G = (V, E) is given by a set V of elements called nodes (vertices), and a set E of paired vertices, whose elements are called edges (links). In the case of a PT network, the nodes are the PT stops, and the links are the physical routes that link them.

In this framework, the three indicators considered in the SHRT are: global efficiency, weighted global efficiency and node betweenness centrality. Global efficiency (referred to the entire network or a subnetwork) is concerned with how easily a passenger can theoretically move from a node to another. The basic idea is that the further apart two nodes are in the network, the less efficient their communication will be. A more informative metric in this context is weighted global efficiency, which refers to how effectively a transport system moves passengers, given the demand for mobility between nodes. Betweenness centrality (referred to a single node) suggests the most important (critical) PT stops. This metric highlights the centrality of those nodes that act as "bridges" between different parts of the network. In other words, if such nodes are disrupted, their unavailability can significantly impact the network's functionality and the travel times of passengers.

The **accessibility component** of the SHRT applies spatial interaction modelling (SIM) to assess area accessibility using origin-destination flow data (e.g. commuting). Different impedance functions (e.g., exponential or power specifications) are employed to take into account the cost of moving from an area to another (e.g., distance, travel time, travel cost). The accessibility analysis adopted in the SHRT is unique, since the parameter associated to the cost variable is determined by the calibration of the model on real flows, instead of being taken as fixed as in most applications (which may bias the obtained accessibility ranking). An accessibility indicator is computed on the basis of the calibrated model. The SHRT helps evaluating urban PT resilience by simulating two kinds of scenarios:

1. Hypothetical disruptions to the PT network;
2. Implementation of new mobility hubs or elimination of existing ones.

In evaluating the changes induced by the above scenarios, a limited variation of the PT network's global efficiency or accessibility indicators can be interpreted as an indication of high resilience. Conversely, a gain in efficiency or accessibility suggests increased resilience. Moreover, the betweenness centrality ranking can suggest where it could be convenient to add further bike-sharing stations, i.e., in the proximity of stops through which many origin-destination routes go by, therefore making the network more redundant and resilient to localized disruptions. To produce its outcomes, the SHRT uses three distinct kinds of data as input (Table 1), depending on the tool component.

Table 1: Data typologies for the SHRT

Input	Mandatory (M) / Optional (O)	Connectivity Component	Accessibility Component
Shapefile of area under analysis	M	x	
PT network, composed of 1) stop coordinates, 2) from-to stop sequence, 3) travel mode, 4) in-vehicle travel time for each pair of stops(1)	M	x	x (only travel time)
Mobility hubs (sharing) network, composed of 1) stop coordinates, 2) travel mode, 3) in-vehicle travel time for each pair of stops(2)	O	x	
OD data (flows of people from one area to another)	M	x	x

Notes: (1) Usually available as general transit feed specification (GTFS) files. (2) The connectivity component can also be used without data on mobility hubs. In such instances, the primary objective would be solely the evaluation of network resilience, rather than investigating the influence of mobility hubs on urban resilience.

The SHRT can be accessed at the URL www.resiliencetool.eu, where the user can choose between the connectivity and accessibility components. The connectivity component can be both downloaded as R code from GitHub or directly in ShinyApps (links on the tool website). The accessibility component (SpinModel) can be accessed via login on the SHRT website. Credentials can be requested from the developers via an online form.

5.2 Applications

The SHRT has been applied in case studies related to the SmartHubs Living Labs, i.e. to the areas of the Brussels Capital Region, the Rotterdam-the Hague metropolitan region, Munich, and Vienna.

In the case study related to each SmartHubs Living Lab, a number of scenarios were simulated, based on suggestions by the Living Lab leaders, therefore considering the specific context of each area and possible transport policy implications. Simulated scenarios vary from localized disruptions to the PT network, to the implementation of new bike-sharing stations, to an altogether removal of all bike-sharing stations (no mobility hubs).

The general finding of the simulations carried out is that bike-sharing stations located in correspondence of PT stops can significantly improve the general resilience of urban mobility to disruptions (i.e. they increase the global efficiency of the network). Furthermore, we show that the effects of disruptions – in terms of the induced reduction in the efficiency of the network – are reduced when bike-sharing services are available, compared to when they are not.

The SHRT can be employed flexibly outside of the context of the SmartHubs Living Labs, and not solely at the urban level. Its primary limitation lies in the computational speed of the connectivity component. The time required to obtain results increases rapidly with the size or complexity of the network. A second limitation pertains to the absence of road traffic flows. This renders the tool marginally useful for analysing the impact on urban resilience of shared transportation options such as cars and mopeds. The ideal options to analyse in the SHRT are bike-sharing and e-scooters. Finally, congestion and the balance between the possible demand for shared bikes in a PT station (in case of a disruption) and the supply of bikes are not considered in the SHRT.

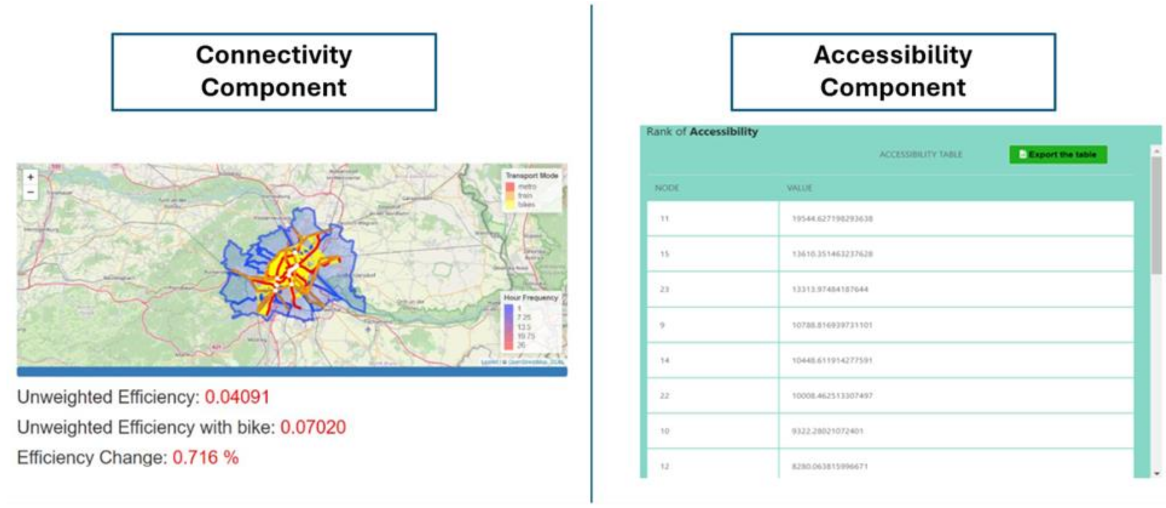

Figure 18: The two components of the SHRT

5.3 Online training material

Training material for the SHRT includes both written documents and video contributions. In particular, the user interested in learning more about the SHRT can access the following materials:

- Deliverable 5.4.

This document describes in detail the SHRT from the methodological viewpoint, as well as the application to the four SmartHubs Living Labs. The document is accessible on the SmartHubs website"?

- SHRT manual.

This document illustrates the functioning of the tool from a practical, step-by-step viewpoint. This document is available via the SHRT website.

5.4 Overview of dissemination and training activities

The SHRT has been publicly shown and tested in two Smarthubs events.

- SmartHubs stakeholder workshops

In the Smarthubs Symposium in Vienna (14th September 2023), the tool-in-development was presented in a small group of two participants. The focus was on describing the tool functionalities and objectives. In the closing Smarthubs meeting in Munich (8th April 2024) an extended workshop was held. During three 60-minutes sessions nine participants (researchers and practitioners) were trained and applied all steps of the tool.

6 CONCLUDING REMARKS

The present deliverable presented an overview of the four Smarthubs tools and concentrated all relevant information regards publicly available material that can support potential and existing users to explore the tool's applications. Together with the Smarthubs Open Data Platform (https://www.smartmobilityhubs.eu/odp) the tools will be accessible and ready-to-use after the conclusion of the Smarthubs project and aspire to contribute to better analyse and investigate the role of mobility hubs and their potential to be game changers for mobility.

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