Driving Urban Transitions



D5.2

State-of-the Art of available tools based on collection

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List of abbreviations

Abbreviation	Definition
LLL	Learning Living Lab
UL15TB	UNLOCK15 Toolbox
TML	Tool maturity level
WP	Work package
T	Task
D	Deliverable
NGO	Non governmental organization
e.g.	For example
tbd	To be decided

Executive summary

The ambition of the UNLOCK15 project is not only to build clear theoretical frameworks, but also to provide practical advice and tools for local changemakers to be empowered for the mobility transition with a focus on the 15min-city concept.

This project-deliverable gives an overview of the collected empowerment tools and reflects on their targets as well as the challenges they address. Besides, the technical background and a documentation on the setup process of the UNLOCK15 – Toolbox (an interactive online-tool) are provided.

The quantitative analysis of the tool-sample present in the toolbox showed that most tools from the tool categories “evidence, vision, action” were collected in the category “vision”. It is also the tool category which has the best developed tools – directly ready for transfer and local adaption. That means that the tools have existing supporting online instructions and their use is well documented. In terms of spatial context, we found that the categories “flexible” and “street level” dominate the tool-sample, with interventions on the “street level” being the current focus of planning professionals and researchers. We deem this the result of many conflicts related to mobility transitions that become evident in public space.

The majority of tools collected are targeting institutional Lock-Ins. This focus of the toolbox can be explained by how the toolbox was created: The first target group of the toolbox are the Learning Living Lab partners in the cities Almere, Augsburg, Sete, Porto and Vienna. Many of the main challenges formulated by the local stakeholders are connected to institutional Lock-Ins.

Finally, the report critically reflects on the collection process and criteria, sketching first key learnings as a basis for the next project steps. For example, crowd-mapping of tools showed a much higher need for clear collection-criteria than a “curated” tool-collection by one team, the allocation and combination of tools in a defined process design proved to be crucial, and analogue formats are essential for local practitioners to make use of the collected tools.

1. Introduction

The Learning Living Labs (LLLs) are the heart of the UNLOCK15 project. Located in five different countries, these are places where changemakers come together and work on challenges they face. The project team defines changemakers as people who work to shape their city for the better (in the sense of achieving elements of the 15min-city concept) through collective action. These people can be found in various places: in the administration, in local politics, in science departments and in local neighborhood initiatives. As part of the LLLs during the last year, these changemakers developed **strategies and tools**, that helped them to overcome local challenges. By tools, we mean concrete activities that changemakers can carry out to get closer to the 15 min city. Strategies help us understand how these tools are combined into transition pathways (more context on transition pathways can be found in the project deliverable 2.1 - Duran-Rodas et al. 2026).

To spread the insights of this process and thus to **empower** other changemakers the project team developed the online UNLOCK15 toolbox. Empowerment, in the context of UNLOCK15, is defined as the process through which actors gain the real and felt/imagined capacity to shape transition directions, decisions and implementations (Oberman, 2026). This deliverable gives insight into the technical setup (chapter 2 and 3) and the content of this toolbox (chapter 4). It also draws a bigger picture of the collected tools by quantitatively analyzing them (chapter 5) and reflects critically on how the tools were collected and applied (chapter 6).



Figure 1: Stakeholders discussing local challenges with the tool "Flowers of Proximity"

2. Project context and setup process

The following section gives an overview of the toolbox-setup process until the end of July 2026. This process needed to address defined project objectives, react to dependencies with other work packages (WP) - especially “WP3 - Learning Living Labs (LLL)” and ensure usefulness for the local practitioners.

The form of an online-database (see tools.unlock15.eu) was chosen (over other options like tables, pdfs...) as simultaneous editing is easier, changes are tracked, there are more layout options and some analysis can be realized directly in the platform.

2.1 Objectives of the tool collection-process

Project related objectives

Two strategic objectives, as defined in the proposal which was submitted at the end of April 2024, are setting the main purpose for the setup of the UNLOCK15-Toolbox:

- Objective 3: Compile, develop, and test tools to empower citizens in the transition to the 15mC.
- Objective 4: Compile, develop, and apply methods to co-create common local narratives and possible futures.

Objective 3 is directly addressed by WP5 - “Empowerment tools for unlocking transitions towards the 15-Minute City”, Objective 4 is addressed by both WP5 and WP6 - “Co-creation of the dreamed 15mC Scenarios”.

The WP5 consists of

- one task (T) which gives the overall framework for collection, evaluation and development of tools (T 5.1)
- three tasks which bundle the collection and development of tool type segments (T 5.2 – 5.4)
- one final task with a focus on evaluation and learning connected to the tools in the toolbox (T 5.5)

This Deliverable 5.2 will deal with the results from T 5.1 and T 5.2 – 5.4 – documenting the setup-process of the actual toolbox, the collection process and an overview of the tools currently available.

Overall, the setup process had the following relations to other WPs – together forming what is internally called the UNLOCK15 “tool-forge”:

Table 1: Contributions of other work packages

WP-number	Work package title	Contribution to toolbox
1 / 2	Lock-Ins of the automobile regime / State of the art: Mobility transitions	This WPs are identifying tool needs and potential strategies to unlock present Lock-ins to focus the tool collection process.
3	Learning Living Labs	The LLL-coordinators have been running local tool need surveys, collected local tool ideas, observed local challenges and finally defined process designs as a framework for tool application.
4	Analysis of needs and lock-ins in the LLLs	This WP generates an overview on the local lock-ins as a basis for the selection of tools in the context of defined process designs.
6	Co-creation of the dreamed 15mC Scenarios	As mentioned above, WP6 develops tools which also will be documented in the toolbox and support the collection of tools in a certain tool type segment.
7	New stories and narratives to unlock the 15mC: Policy, recommendations and knowledge exchange	This WP will ensure the communication of evaluation results and learnings related to tools covered in the UNLOCK15 toolbox. Online and offline trainings on tools in the toolbox will realized in cooperation between WP5 and WP7.

Specific objectives for the toolbox setup

The specific objective for the UNLOCK15-toolbox is not only to collect tools to be applied by the main user groups - local interest groups, local government, local administration – but also to break silos between these groups. These tools, coming from bottom-up initiatives or top-down approaches, should be usable by all user groups. Breaking these silos through “out-of-the-bubble” inspiration is a specific objective of the UNLOCK15 Toolbox. This serves as an important basis for innovative approaches needed to tackle local lock-ins.

2.2 Development steps and involved partners

To ensure a good workflow with the other WPs, we organized the setup of the UNLOCK15 Toolbox in 4 phases (see table 2 below).

Table 2: Overview on setup phases for the UNLOCK15-Toolbox

Phase number	Phase title	Duration	Description	Status
0	Toolbox layout and data structure	06/2025 – 12/2025	As a first step, an explorative collection of tools was realized, including a workshop with the whole consortium in March 2024. Based on this overview, the basic layout of the toolbox was collaboratively defined in connection with the overall data structure. In an iterative approach, especially the specific data structure (properties, possible values) of the tool-prototype pages were described in a template prepared by mobyome. Based on this decisions, the technical implementation took place (see section 3 for more details) including the setup of the domain (tools.unlock15.eu).	completed
1	Tool prototypes and expert-database	01/2026 – 07/2026	The tool-prototypes should give a rough idea how to use a tool and which ressources are needed. Local partners were invited to browse through the database and choose tools for their particular process design. Following feedback from the consortium, some minor adaptions in the data structure were realized. Additionally, experts who can help with the application of tools are identified by the project consortium and their contact data made available in the UNLOCK15 toolbox.	completed
2	Tool learnings and detailed descriptions	08/2026 – 12/2026	For the tools applied in the LLLs, a summary of the learnings from application (via videos and short texts) will be collected by the LLL-coordinators in the toolbox – hand in hand with a more detailed description of the tool itself.	ongoing
3	Toolbox-trainings	01/2027 – 10/2027	The tool prototypes and UNLOCK15-tools now serve as a knowledge basis for interested stakeholders. To ensure easy local uptake, online and offline local tool trainings are organized on certain “tool-packages” connected to typical challenges.	planned

This deliverable 5.2 covers the phases 0 – 1. The main partners involved in these phases and their main tasks were:

- mobyome: WP-leader, coordination of technical development, tool collection, quality management, communication with local stakeholders regarding tool needs (Vienna)

- Universidade do Porto (UPORTO): feedback on data structure, tool collection, communication with local stakeholders regarding tool needs (Porto)
- Technische Universität München (TUM): feedback on data structure, tool collection, communication with local stakeholders regarding tool needs (Augsburg), guidelines how to capture local learning during tool application
- Chaire Entrepreneurship Territory Innovation, IAE Paris Sorbonne (Chaire ETI): feedback on data structure, tool collection, communication with local stakeholders regarding tool needs (Sete)
- Windesheim University of applied science (WUAS): feedback on data structure, tool collection, communication with local stakeholders regarding tool needs (Almere)
- Universität für Bodenkultur Wien (BOKU): feedback on data structure, tool collection, evaluation concept

2.3 Methodology

Depending on the tasks relevant for each phase, the following methods were applied:

- Phase 0: Desk-research, internal brainstorming workshop (see figure 2), Miro as visualization tool, semi-structured expert interviews
- Phase 1: Semantic-media Wiki (the toolbox), self-hosted Lime-Survey instance to collect tool needs from LLL-partners, co-creative workshops with local stakeholders, semi-structured expert interviews

The methodology for the tool evaluation in particular will be described in detail in the upcoming Deliverable 5.3 (due by fall 2027).



Figure 2: Internal workshop on tool-definition and inventories in March 2025

3. Technical design

In the following sections, more detailed information will be provided on the backend, powering the entire UNLOCK15-Toolbox (UL15TB) – available via **tools.unlock15.eu**. The original inspiration and first structural-blueprint was derived from the platform mobil-am-land.at, operated by mobyome KG. Subsequent implementations by mobyome were also useful to discuss the basic layout and functionalities:

- "SmartHubs Open data plattform" (see data.smartmobilityhubs.eu/wiki/Main_Page), realized by mobyome for the SmartHubs project as contractor in close cooperation with TU Vienna (funded through the Driving Urban Transitions partnership 2022 call)
- "DREAMS interactive knowledge plattform" (see dreams.mobyome.at/wiki/Main_Page), realized by mobyome as task leader in cooperation with the work package and Living Lab leaders (funded through the Driving Urban Transitions partnership 2023 call)

If you are interested in more details on the technical background than described below, feel free to reach out to unlock15@mobyome.at – we are happy to share our learnings.

3.1 Semantic media wiki and extensions

The following descriptions are based on the documentation of the "SmartHubs Open data platform" as published in the project deliverable "D 6.5 Documentation and analysis of the SmartHubs Open Data Platform" (Kirchberger et al., 2024). The foundational technical setup is the same for these two platforms. For UL15TB, the programming was realized by Tobias Haider and Matteo Stark from mobyome KG (based on the data structure). The basis is provided by a Semantic-media Wiki, a framework for multi-relational databases which allows data to be structured and displayed in various forms. This technology is an extension of the MediaWiki, which powers Wikipedia. For a detailed overview on the whole set of technologies (provided as open-source software) used for the UL15TB see: tools.unlock15.eu/wiki/Special:Version

Additional open-source extensions are used for the UL15TB to meet the project requirements, e.g.:

- Semantic Organization (developed by mobyome KG): enables user management
- Semantic Result Formats: adds large number of further result formats

The following so-called skins (which enhance the design of the frontend) are used, e.g.:

- Tweeki (developed by mobyome KG): helps to implement "bootstrap" functionalities
- Vector: modern version of MonoBook with fresh look and many usability improvements

All changes in this open-source software necessary for UNLOCK15 were made available to the public (following the Open-source principle) using GitHub – see for example: github.com/thaider/Tweeki

3.2 Functionalities

The UL15TB is continuously being developed following change requests from the

consortium and planned development steps (see table 2) – the following table 3 gives an overview on the functionalities implemented in the UL15TB by End of July 2026:

Table 3: Functionalities

Functionality	**Available for**	**Description**	**Example page**
User types	Admins	The plattform can be used by viewers without login. Editors need to have an account to enable change-tracking for all contents (who changed what when?). Administrators can create accounts for editors and access additional service pages.	tools.unlock15.eu/wiki/Special:ListUsers
Search	Users	In the top right corner, a search field allows to enter terms to find particular tools.	tools.unlock15.eu/wiki/Main_Page
Creating or editing a tool	Editors	Editors can create or edit tools in a simple web-form with explanatory texts, based on the data structure first developed in Phase 0 (and adapted in Phase 1).	tools.unlock15.eu/wiki/Special:FormEdit/semorg-toolbox
Filter lists of a certain tool type	Users	Beside the main tool-list, sub-page show only tools from certain tools types (explained in the next section) – e.g. all evidence-tools: tools.unlock15.eu/wiki/Evidence. As for all tool lists, the tools can be further filtered based on relevant criteria.	tools.unlock15.eu/wiki/Tools
Export database	Users	To allow more detailed analysis and use of the UL15TB-data for other purposes, an automated export provides a csv.-file (always using the most current data)	tools.unlock15.eu/wiki/Tool-export
Download visualizations	Users	Visualizations which are used to illustrate the single tools can be downloaded in different resolutions.	tools.unlock15.eu/wiki/File:Counting_humans.png

4. Empowerment Tool collection

The aim of the toolbox is to empower changemakers. **Empowerment**, in the context of UNLOCK15, is defined as the process through which actors gain the real and felt/imagined capacity to shape transition directions, decisions and implementations (Oberman, 2026). As emphasized in Deliverable 2.1 – this includes enabling local actors to "understand system dynamics, build coalitions, contest priorities, and sustain action across political cycles" (Duran-Rodas et al. 2026). The project team defines **changemakers** as people that try to shape their city for the better (in the sense of achieving elements of the 15min-city concept) through collective action. This includes people that are part of bottom up initiatives as well as politicians and people that work in the administration. Two strategies shaped how the project team collected empowerment tools:

On the one hand we collected tools by learning from the **practice** (see section 2.3). For example, we learned from our partners that street games worked really well as a tool to get to know people from communities that are hard to reach for our LLL partners. We then suggested applying it in another LLL that is facing a similar challenge. This transfer of tools worked out really well and should be enabled through the UL15TB (especially in the following phases 2 and 3 – see table 2). That way the project team collected tools and facilitated learning between the LLL partners. Part of the project team also attended workshops from network-stakeholders like "Wir machen Wien", a platform to empower initiatives, to gather tools from practitioners (see wirmachen.wien/blog/von-berlin-und-ljubljana-lernen-drei-neue-workshops/ - WirMachenWien, 2026).

On the other hand, the project team collected tools by asking our LLL partners from city administration and bottom-up initiatves which tools they know, which challenges they face, and by researching tools that could help. During our search for relevant tools, we found the existing toolboxes listed in table 4 helpful:

Table 4: Overview on relevant toolboxes

Toolbox name	**Tool focus**	**Operator**	**Link**
The Commons / The social change library	Bottom up movement building	ActionSkills	commonslibrary.org
Partizipation.at	Understanding participation from a decision makers perspective	ÖGUT – Österreichische Gesellschaft für Umwelt und Technik	partizipation.at
aspern.mobil LAB	Evidence tools	Technische Universität Wien Institute of Visual Computing and Human-Centered Technology, Multidisciplinary Design & User Research	www.mobillab.wien/tools

TRAINING for CHANGE	Bottom up movement building	Training for Change	www.trainingforchange.org/tools/?topic%5B23%5D=23&searchbox=
transformatorin	Planning transformation from a decision makers perspective	Forschungsbereich für Verkehrsplanung und Verkehrstechnik (FVV), Technische Universität Wien	www.transformatorin.at/toolbox-navigator
ORGANISIERT EUCH!	Bottom up movement building	Urban Equipe, Kollektiv Raumstation	organisiert-euch.org/tools
URBACT	Planning transformation from a decision makers perspective	URBACT Joint Secretariat	urbact.eu/toolbox-home
LINA	Designing site-specific tools to demystify retail vacancy and empower local stakeholders with best practices	Faculty of Architecture of the University of Ljubljana	lina.community/projects/47f9c497-d3e3-47ea-aefe-ba5d86f19bb6/
Placemaking europe	Bottom up participation	Placemaking Europe	placemaking-europe.eu/toolbox/
MOBILbericht	Planning transformation from a decision makers perspective	Fachgebiet Integrierte Verkehrsplanung, Technische Universität Berlin	mobilbericht.mobilitaet.tu-berlin.de/
City toolbox	Bottom up movement building	KUNSTrePUBLIK e.V.	www.citytoolbox.net/
META accessibility	Evidence tools	Technical University of Munich - Chair of Urban Structure and Transport Planning	www.accessibilityplanning.eu

As these sources together provide an almost endless list of tools, we applied selection

criteria to identify relevant tools for our use case (see especially the following section 4.1).

We are always happy to receive further tool-recommendations via E-Mail using the following mail: unlock15@mobyome.at.

4.1 Selection criteria

To ensure the quality of the tools, the project team introduced selection criteria that a tool needs to fulfill in order to be included in the toolbox (see table 5). The team at mobyome is responsible for the quality management using these criteria.

Table 5: Tool selection criteria

Usability criteria		**Tool target criterias**	
UC1	Public-available documentation of the tools for easy transfer	TC1	Tools need to contribute to the empowerment of changemakers
UC2	There should be no duplications of very similar tools	TC2	Tools need to be specific
UC3	Tool-maturity level min. TML2 (based on Software Maturity levels – Shepherdson 2019) • TML1 - Initial usability; tool use is not recommended. • TML2 - Use is feasible; the tool can be used by skilled personnel but with considerable effort, cost and risk. Assessment of effort, cost and risk shall be made before use is attempted. • TML3 - Use is possible by most users; with some effort, cost, and risk. A risk assessment should be made before use. • TML4 – tool is usable; with little effort, cost, and Risk • TML5 – Demonstrable usability; there is clear evidence that the software is widely used by many users	TC3	The application of tools needs to be within the sphere of influence of change makers
UC4	Level of effort for application: max. high	TC4	Be able to describe hypothesis on “unlock”-potential
UC5	Skill level needed for application: max. high		

4.2 Tool types Vision, Action, Evidence Tools

The goal of the toolbox was not only to share a variety of empowerment tools, but also to embed them within a bigger strategy of how to combine the tools. From the experience of our LLLs and from literature (Adam et al., 2023) we derived three tool types that together make a winning strategy: Vision tools, Action tools, Evidence tools.

Table 6: Description of tool types

Tool type	Description	Link to tools of this type
Evidence	This type of tools help to collect evidence, that supports the envisioned transformation. Some tools also allow crowd-based approaches to involve citizens in a broad manner. Evidence helps to convince decision makers to back-up change.	tools.unlock15.eu/wiki/Evidence
Vision	In this category tools are collected that help to create a vision of the transformation the user is aiming for. A strong vision is key for driving change because it helps to grow as a movement and to shift public opinions. This category also includes tools that help groups to envision how they want to work together.	tools.unlock15.eu/wiki/Vision
Action	Small steps towards the realization of local change can help to make the vision tangible and also easier to be discussed. Tools for action help to make the impact of change tangible and involve local communities.	tools.unlock15.eu/wiki/Action

Depending on the specific case, these tool types are ideally combined into an overall process design / Campaign plan (see tools.unlock15.eu/wiki/Tools/16).

4.3 Tool profile structure

As table 2 in chapter 2.2 explains, the first draft of categories originated in the Toolbox phase 0. They were further developed through internal feedback loops and external feedback loops with the partners. Table 7 below describes the data structure (list of attributes that editors fill in in an online-form directly in the UL15TB) as of the end of July 2026. Based on the analysis for this report and on new evidence and experiences, further minor changes are planned. You can access the most current version of the tool-form (only editable by editors and admins) via this link: tools.unlock15.eu/wiki/Special:FormEdit/semorg-toolbox.

Table 7: Data attributes to describe empowerment tools

Category	Values	Shown to users	Why
Short description	-	yes	The engaging short description with practical insights aims to motivate users to try the tool out.

Unlock-hypothesis	-	yes	The unlock hypothesis describes how the tool can help to unlock one of the three Lock-Ins.
Lock-In layers (1)	• institutional • infrastructural • behavioral	yes	This category shows which Lock-In the tool mainly targets
Lock-In cluster (2)	• Lack of Motivation/Intention & Habits • Personal and Social Beliefs • Attitudes • Characteristics of the Alternative • Perceived Experience & Evaluation • Spatial Organization • Transport infrastructure and street design • Transport technology and services • Governance incumbency • Political agency • Economic investments	no	The Lock-In clusters explain the Lock-Ins in greater detail. They are derived from literature. They are not shown to the users because we re-framed them in “challenges”. This steps makes the tools more tangible for people outside of academia.
Tool maturity level (3)	• TML1 • TML2 • TML3 • TML4 • TML5	no	This category describes how far the tool is developed and how much risk the tool usage involves. This category served as a selection criteria, see table 5.

Challenges	• Slow bureaucratic processes • Lack of funding • Lack of a collaborative culture • Stuck in behavioural habits • Lack of access to hard-to-reach groups • Lack of active mobility culture • Lack of a vision for change • Car centered school transport • Incomplete cycling and walking infrastructure	yes	The challenges have two development steps: On the one hand they are derived from the daily struggles of changemakers in the LLLs, which were enquired via a survey. On the other hand they were allocated to the Lock-In layers and clusters. The aim of the category is to make the toolbox relatable for users.
Link for further information about the tool	-	yes	The toolbox includes a lot of tools with an existing external description. The links make these further information on the tool context available.
Link to tool materials	-	yes	This link provides direct access to necessary materials like PDFs or the actual online tool.
Level of effort for application	• very low • low • medium • high • very high	yes	This category is important so users find tools that fit their resources.
Skill level needed for application	• very low • low • medium • high • very high	yes	This category serves as an estimation for the skill level that is needed, so users are aware of this before testing tools.
Suitable spatial context	• street level • neighborhood • district • city-wide • flexible	yes	This category shows in which spatial context the tool can be used. This is a valuable information for the application of tools.
Spatial limitation	• Yes • no	yes	Some tools are spatially limited to a city or region. This category brings awareness to this limitation before users starts using the tool.
Visualization	-	yes	A visualization is needed to make the tool tangible for the users.

Tool type	• action • vision • evidence	yes	The toolbox is based on the assumption that the combination of action, evidence and vision leads to success. This is why every tool is assigned to one of the three types.
Toolbox users	• NGOs/local interest groups • local government • local administration	yes	The tools were collected with the LLL participants in mind. The participants can be summarised in three groups: NGOs/local interest groups, local government, local administration. For an easier search the tools can be filtered for these user categories.
LLL-Application	• Vienna • Augsburg • Sete • Almere • Porto	yes	Later on in the process, videos will be available for the tools that were used in LLLs. Because of this category tools can be selected that were applied and have additional information.
Languages	-	yes	Some tools are available in other languages than English, which lowers the barrier to use the tool for some users.
Experts for this Tool	-	yes	For some tools experts with e-mail addresses are deposited, which can be contacted (see tools.unlock15.eu/wiki/Experts).

The sources for the attributes marked with a number in the table 7 above are as follows:
(1) Lock-In layers: adapted from the carbon lock-in concept (Seto et al., 2016)

(2) Lock-In cluster: developed by the UNLOCK15 project team, see Deliverable 1.1 (Charalampidou et al. 2026)

(3) Tool maturity level: based on Software Maturity levels (Shepherdson 2019)

The following screenshot (figure 3) is an example for the tool profile structure in the UL15TB that is displayed to the user (see tools.unlock15.eu/wiki/Tools/19).

Figure 3: Tool profile

5. Overview and description of collected tools

5.1 Overview on collected tools per tool types

To document the status of the 55 collected tools by July 2026, the tables below give an overview on the empowerment tools documented in the UL15TB – structured by tool type (see section 4.2).

Evidence tools

Many of the collected tools originate from a scientific context or were developed by researchers – this ensures standardized methodologies and comparability (e.g. 15min-City online Maps, MCube Indicator Guide). Additionally some tools allow evidence to be collected in a participatory way (e.g. Collaborative heat maps, Low effort survey in public space).

Table 8: Evidence tools recorded in the UL15TB by July 2026

Tool name	**Challenges**
15min-City online Maps	Slow bureaucratic processes
Centralized participation platform	Lack of funding, Lack of access to hard-to-reach groups
Collaborative heat maps	Slow bureaucratic processes, Lack of a vision for change
Collecting data about parking occupancy	Slow bureaucratic processes
Community mapping	Lack of funding, Lack of a collaborative culture, Lack of a vision for change
Doorstep chats	Lack of access to hard-to-reach groups
Joint Survey between initiatives and district politics	Lack of a collaborative culture
Low effort survey in public space	Slow bureaucratic processes, Incomplete cycling and walking infrastructure
Mapping and analyzing facades	Slow bureaucratic processes, Incomplete cycling and walking infrastructure
MCube Indicator Guide	Slow bureaucratic processes
Measuring the 15-min city: Flowers of Proximity	Lack of a vision for change, Incomplete cycling and walking infrastructure
Measuring the speed of public transport	Slow bureaucratic processes
Observing and visualizing human behavior in public space	Slow bureaucratic processes, Lack of a vision for change, Incomplete cycling and walking infrastructure
Petition: Collect signatures to back up your local vision!	Slow bureaucratic processes
Staging evidence for safer school streets	Car centered school transport, Incomplete cycling and walking infrastructure

Vision tools

While some tools focus more on the organisational side of a vision – helping groups to organize themselves better – other tools help to create tangible visions to convince decision makers (e.g. Developing a convincing story for your campaign) or other groups (e.g. Make your city bloom! Before/After Visualization).

Table 9: Vision tools recorded in the UL15TB by July 2026

Tool name	**Challenges**
A shared digital ToDo-List to get you vision on track	Lack of a collaborative culture
Align on Your Impact Goals	Lack of a vision for change
Building durable groups with low hierarchies	Lack of a collaborative culture
Creating a team culture	Stuck in behavioral habits
Developing a convincing story for your campaign	Lack of a vision for change
Efficient decision making in low hierarchy settings	Lack of a collaborative culture
Forecasting change	Lack of a vision for change
Getting to the core of human behavior	Stuck in behavioral habits
Headlines from the future	Lack of a vision for change
Learning public participation hub	Lack of a collaborative culture
Local project advisory board	Lack of a collaborative culture
Make your city bloom! Before/After Visualization	Stuck in behavioral habits
Make your vision achievable with a Campaign plan	Lack of a vision for change
Making processes in public administration more transparent	Slow bureaucratic processes
Newspaper of Tomorrow	Lack of a collaborative culture, Lack of a vision for change
Onboarding framework	Lack of a collaborative culture
Plenary for sharing emotions	Lack of a collaborative culture
Power Mapping	Slow bureaucratic processes, Lack of access to hard-to-reach groups
Public Engagement Onion	Lack of a collaborative culture
Task & Maintenance: What Makes Groups Work?	Lack of a collaborative culture
Tools to help communicate within a group	Lack of a collaborative culture
Understanding your target groups	Lack of access to hard-to-reach groups

Action tools

One part of the action tools showcases new uses of public space in a fun and visible way (e.g. Human pop up bike lane or Placemobil - Tactical Urbanis). Others foster a collaborative culture as an important basis for local actions (e.g. Regular table for district politics and initiatives).

Table 10: Action tools recorded in the UL15TB by July 2026

Tool name	**Challenges**
Art Spin bike tour	Stuck in behavioral habits, Lack of active mobility culture
Bikebus	Lack of active mobility culture, Car centered school transport
Crosswalk action	Slow bureaucratic processes, Lack of a vision for change, Incomplete cycling and walking infrastructure
Crowd Funding	Lack of funding
Gamification of climate friendly behavior	Stuck in behavioral habits
Human pop up bike lane	Slow bureaucratic processes, Lack of a vision for change
Making specific demands that are backed up by evidence	Slow bureaucratic processes
Mobility heroes	Lack of active mobility culture
Mobility Parcour: Trying out micro mobility	Lack of active mobility culture
New local collaborations to boost change!	Lack of a collaborative culture, Stuck in behavioral habits, Lack of active mobility culture
Placemobil - Tactical Urbanism	Slow bureaucratic processes
Platform for free meeting spaces	Lack of funding
Presswork to spread your vision	Lack of active mobility culture
Regular table for district politics and initiatives	Lack of a collaborative culture
Streetdesign table	Stuck in behavioral habits, Lack of a vision for change
Streetgames	Lack of access to hard-to-reach groups
Tree Budget Graz	Lack of funding
Window Banner	Slow bureaucratic processes

5.2 Analysis of tool characteristics

The distribution of tools collected per tool type comes close to one third per type. There is a slight higher number of vision tools present – this can be explained by a bigger number of tools for internal group organization also covered in this type – a challenge which was observed across all LLLs in various contexts (bottom-up organizations as well teams in the public administration). In contrary, there was slightly less focus in collecting tools for evidence as this a field of tools which is over represented already in other toolboxes.

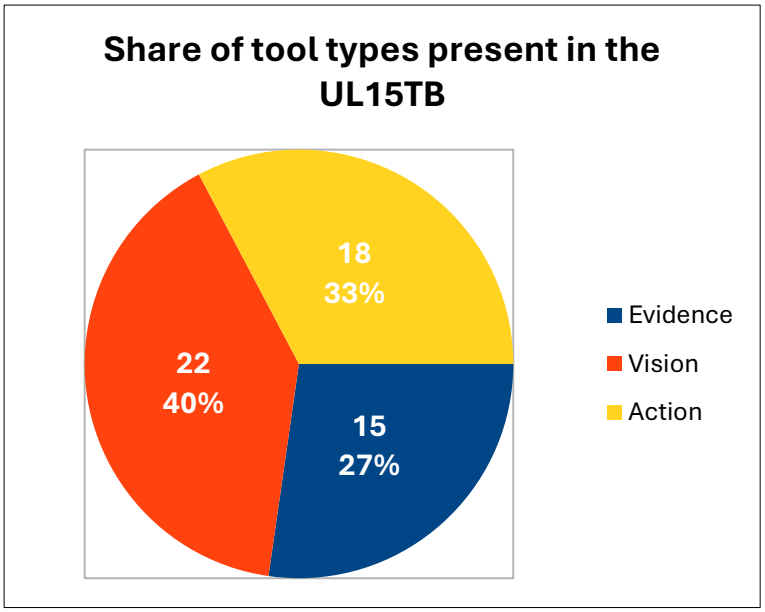


Figure 4: Share of tools per tool type

It can be seen positive that more than 50% of the tools are flexible in their suitable spatial context. This makes them versatile in application, depending on the challenge present. As many problems connected to mobility transition get visible in public space, around one quarter of the tools is mainly suitable to applied on street level. Connected to the focus of the project, only 3 tools are designed to be used on a city-wide level.

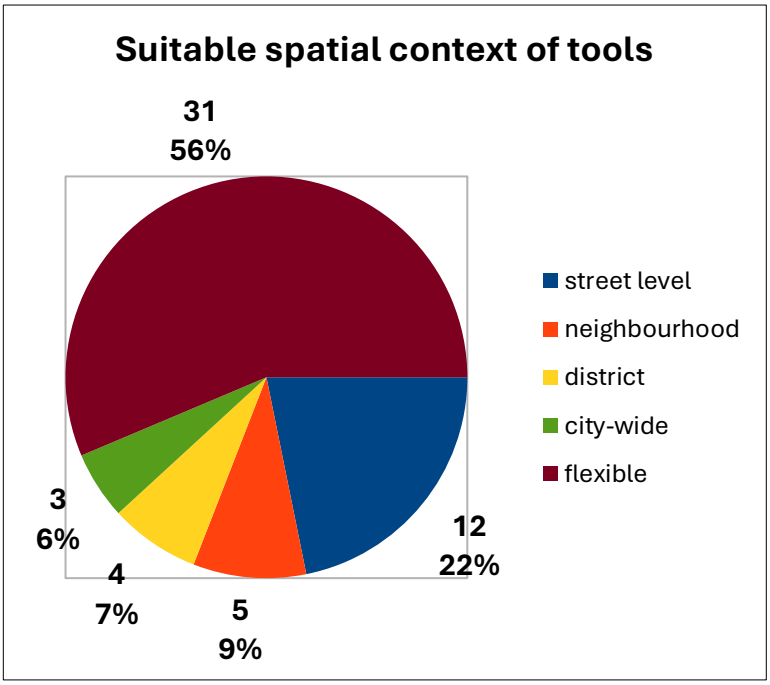


Figure 5: Suitable Spatial context of tools

As discussed in section 4.1 (table 5), tools need to reach at least a tool maturity level of 2. 22% of the tools only fulfill this minimum requirement. On the other hand, more than 50% of tools are very "mature" and allow direct usage without high efforts for adaptions (having the right skills as a user). This is a good basis for transfer of the tools to other context aside of the UNLOCK15 LLLs. To use this potential, online and offline trainings will be developed in phase 3 (see table 2).

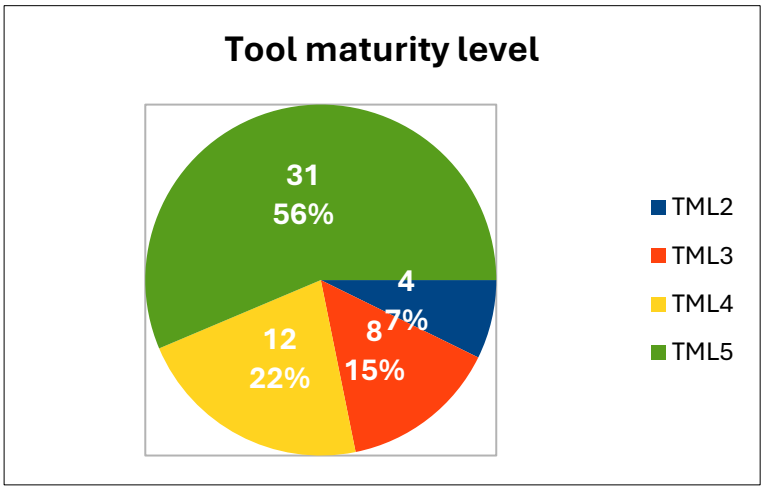


Figure 6: Tool maturity level

5.2 Analysis of tool targets

Most tools are addressing multiple lock-in clusters. The Top 5 clusters covered are part of the institutional and behavioral lock-in layers. This connects to the criteria of empowerment which needs to met by all tools in the UL15TB. As one of the key challenges in the LLL is the political agency, almost one quarter of the tools are addressing this lock-in clusters.

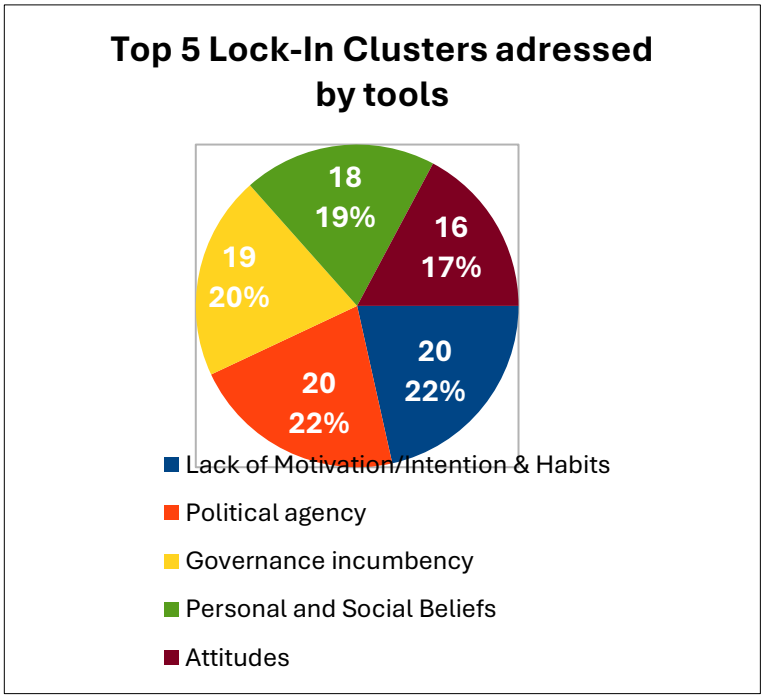


Figure 7: Top 5 Lock-in Clusters adressed

A third of all tools collected contributes at least to the challenges “Lack of a vision of change”, “Lack of a collaborative culture” or “Slow bureaucratic processes”. Challenges which are less addressed are more “niche” topics like “Car centered school transport” or challenges which are hard to be solved by an isolated tool only like “Lack of access to hard-to-reach groups”. Indirectly many tools would contribute also to the challenge “Incomplete cycling and walking infrastructure”, but only 6 tools (e.g. “Observing and visualizing human behavior in public space”) directly contribute so solve this challenge.

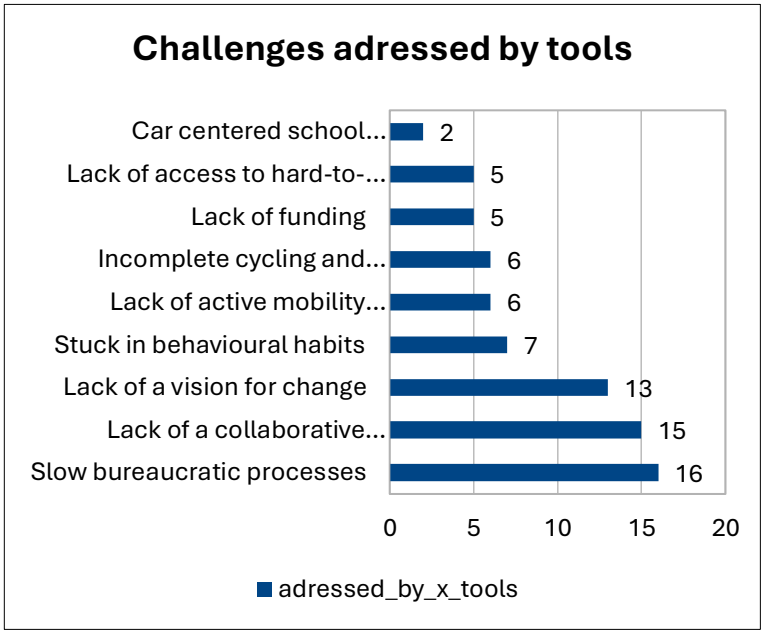


Figure 8: Challenges addressed

If we take a more detailed look at the five most often identified combinations of challenges and tool types, 11 vision tools contribute to solve the challenge “Lack of a collaborative culture”. On the other hand, mainly action and evidence tools address the challenge of slow bureaucratic processes. This combination analysis also helps in quality management of the data present in the database – experience based expectations connected to certain tools get more visible and can be discussed in the UL15TB.

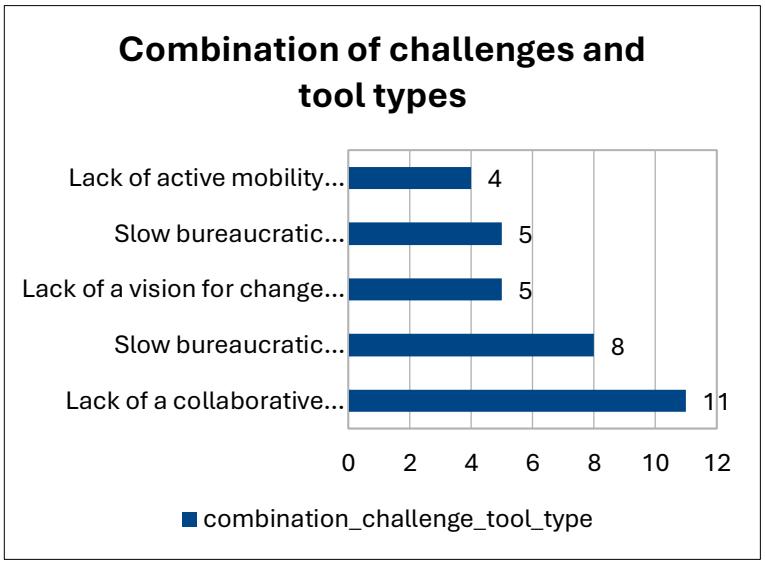


Figure 9: Combination of challenges and types

The combination of challenges and lock-in layers showcases that the main challenges (see figure 8) are connected to the institutional lock-in layer. In total the UL15TB provides many tools which address this layer – as often identified as one of the more central lock-in layers in the LLLs.

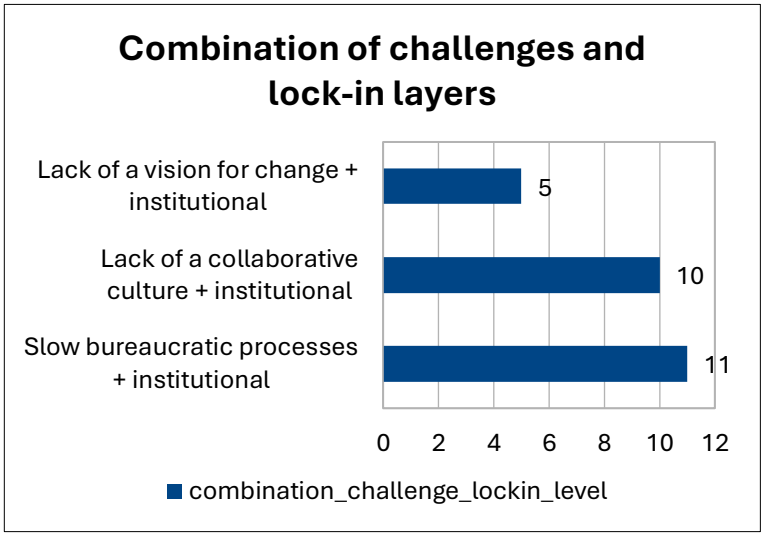


Figure 10: Combination of challenges and lock-in layers

5.3 Hypothesis on mechanisms of unlocking lock-ins through tools

The hypotheses that were defined for each tool didn't need to follow a certain methodology or structure (a text field was provided in the online-form). This also limits the possibilities for analysis. For this report no detailed qualitative analysis was carried out due to a lack of resources. For the following deliverable from WP5 (D 5.3), the hypothesis for the tools applied in the LLLs can be compared with the realized effects after application of the tools. Also a combined analysis with the results from D 4.1 (Silva 2026) regarding identified factors to unlock certain lock-ins could help to verify the unlock-hypotheses for different tools. What stands out when reading the single hypotheses is that building a connection / chain of effects from a tool to the relatively abstract lock-ins seems to be challenging for the tool editors as concrete lock-ins are seldom mentioned.



Figure 11: Wordcloud of unlocking hypotheses

5.4 Synthesis of analysis

Overall, the analysis reveals the focus of the project – and makes implicit search and selection criteria more visible. This helps in the internal reflection and gives guidelines for future tool additions. The implicit search criteria - mainly focusing on adding tool types where demand was formulated by LLL-partners – can be seen as a main critical point (see section 6 for reflection on this learning).

The analysis of the TMLs made clear that many ready-to-use tools are available – but they are often not easily accessible to, or known by, target groups (a key challenge which UNLOCK15 tries to solve through dedicated online/offline trainings).

Follow-up analysis could dive deeper into the unlock-hypotheses or try to understand possible matching criteria (which tools from different tool types could be combined in a process / campaign?) to help in the allocation of tools in local processes.

5.5 Tool development and limitations in tool availability

Already in the proposal phase it was clear that the project team wanted to build on existing tools, but still identify gaps in tool availability which should be closed through the development of small additional tools (within the project scope). For this adaption and development process, a draft for a Miro-canvas was designed as orientation and coordination tool. The adoption by the LLL-teams (especially coordinators within the UNLOCK15 core-team) is still limited, partly also due to very different timings of local applications (some had already finished when the tool canvas was introduced, while others are still far in the future). As next step, the use of the canvas will be evaluated by the project team.

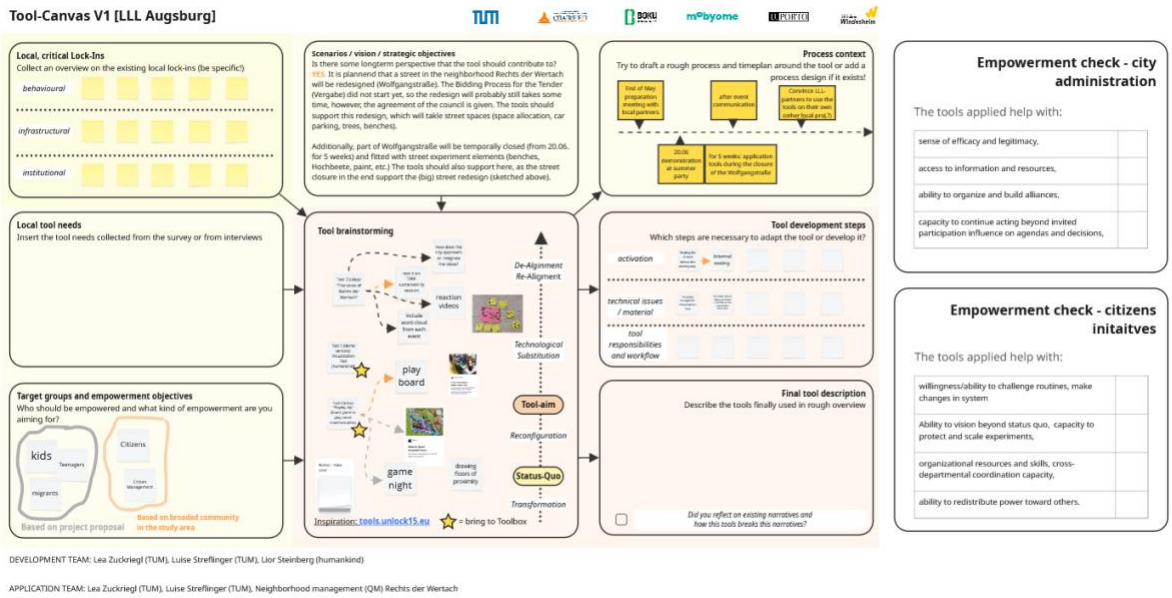


Figure 12: Draft for a Tool-Canvas

For the following challenges there are still very few tools which address them in an easily transferable way – table 11 gives an overview on aspects less addressed. If you know a tool that addresses these challenges and is ready for transfer (see selection criteria in section 4.1) please let us know via unlock15@mobyome.at.

Table 11: Limitations in tool availability

Challenge	**Less adressed aspect**
Lack of a collaborative culture	Alliances between changemakers are the powerful to speed up mobility transitions. But how do you built and sustain alliances between civil society, science, politics and administration? The tool "regulars table" and "project coordination group" are examples. The project team sees potential in more tools that tackle this aspect.
Lack of access to hard-to-reach groups	Furthermore, the project team sees potential in more tools for on street action that makes people get in touch with their neighbors and potentially with "hard-to-reach groups". For sure, there are tools out there, but it seems they are not as thoroughly documented as for example tools for a "lack of vision". Some actions could be adpated from artistic-approaches like some project from the social design (see for example http://socialdesign.ac.at/projects) showcase.
Lack of active mobility culture	How can you make active mobility cool and desirable in a group of people that relies heavily on cars as a prestige object? This question was brushed by some tools but not yet fully covered. Attractive test offers combined with new technologies (e.g. e-cargo bikes) can be a starting point.

6. Process related learnings from the setup phases

Throughout the process of the phases 0-1 (“Toolbox layout and data structure” to “Tool prototypes and expert-database”) the project team gathered learnings that concentrate on two dimensions – with a focus on the process (learning on the tool application in the LLL will be included in the following deliverable 5.3):

6.1 Learnings from the tool collection process

At the start, we decided that the main information to be collected in the toolbox is connected to the tool targets (target-groups, lock-in clusters,...) and usability criteria (language, documentation, tool-maturity level). Throughout the tool collection, it became evident that the structure needs to be adapted to allow better filtering for users (e.g. based on existing challenges) and to structure the tools based on their process-related role (see tool-types in section 4.2). By that point in time a majority of the tools were already collected – so the change in data structure included some extra work and some inputs were no longer relevant, as they were dropped or no longer displayed. The learning here is to take more time for **pre-testing data structures** “offline” by applying them to a bigger set of tools (e.g. still collecting in a table document in the exploratory phase) – before bringing this structure “online” into its final form (“tool-profile”).

Connected to this learning, it was difficult to translate the theoretical framework of “Lock-Ins” and the scientific research into the applied context of the toolbox just by mapping Lock-In clusters to tools. As mentioned above, the “challenges” were introduced later on which serve as a kind of **intermediary concept** to help with “translation” into practice. For example, the tool “Collecting data about parking occupancy” adresses the Lock-in cluster “Personal and Social Belief” and the challenge “Slow bureaucratic processes”.

As the toolbox should be used by changemakers, **barrier free language** is essential. In the first round of tool description in the toolbox, less attention was paid to this aspect and there were no clear guidelines on barrier free language. Giving good examples and defining some baisc rules for the description of tools would have saved time in the quality management later on.

In spring 2026, when the tool collection would have had its peak based on the work plan, the partners were occupied with parallel, resource intensive tasks with WP 4. Thus a lot of the partners had no or little resources for the tool collection. Resources could only partially be shifted across tasks within the WP. As a learning for project designs, **peak-loads** in the project-workplan should be identified by a detailed resource planning to be equalized across the timeline where feasible.

Regarding the tool collection sources, the main focus was set on online toolboxes and tools applied in the LLLs – and only partially on collecting tools from practitioners including LLL-partners. This only happened because part of the project team attended a workshop from the platform “Wir machen Wien”. They had invited an urban design studio to talk about how to collect evidence. It turned out to be very helpful for the LLL challenges and tool collection. When researching practice-related topics such as empowerment tools, we suggest focusing more on action research **approaches** (for this specific context see for example Kirchberger 2017 – only available in german) which would include attending more of these events or even to organize such events ourselves and invite practitioners – and reflecting on our participation from a research-process perspective.

More on a technical side, we noticed that the semantic media wiki as a **tool for decentral data collection** did not work so well. It seemed that partners experienced it as a barrier

(additional log-in data, orientating in the platform, ...). It thus inhibited the direct tool collection – "hints" for tools needed to be sent to mobyome or be added to an online-table to be then integrated into the UL15TB. We suggest that for similar kind of tasks a pros and cons evaluation should be carried out to choose the right tool depending on the context. For example, using a table document for data collection by partners in an early phase can be more successful – and data can be transferred to the final system later on.

To summarize the **learnings from the tool collection in a nutshell**:

- ensure enough resources for pre-testing of data structures
- use intermediary concept to translate research outputs into applicable knowledge
- integrate barrier free language as a standard through checklists and good examples
- identify peak-loads in project-plans through detailed resource-planning and try to equalize them across the project-timeline
- consider action research approaches as a methodological setup for applied research projects
- take into account usability-barriers which can occur with certain web-based tools for decentral data collection

6.2 Learnings from the Toolbox dissemination

The future objective of the UL15TB is to inspire changemakers to adopt new tools in their local projects. The different channels for dissemination of the UL15TB contents will be developed in phase 3 "Toolbox-trainings" (see table 2), but some learnings have already been identified.

As a central learning, more regular **user-testings** (e.g. through thinking-aloud protocols - see msg systems ag 2026 as example) need to be integrated in the design process to ensure good usability of the toolbox by the target groups. In the early phases, usability still played a minor role, as LLL-coordinators (core-partners from the project) helped translating the contents of the UL15TB to the LLL-partners.

As part of the learning and evaluation plan (T5.5) videos in horizontal format are being made about the application of the tools to capture learnings. They will be uploaded on the UL15TB and be used on other channels like the project webpage or YouTube. This format is not usable for social media, which would be also one of the channels to reach change makers (tbd in phase 3) – and inspire them directly through the video (without the direct need to attract them to the UL15B). The difficulty is sharing links to external websites on social media. This always creates a detour, because the algorithms are designed to keep users on the platform. It is therefore worth considering whether a format is possible in which the website is not needed at all. This would mean that the tool collection results in short attention grabbing social media videos that can be shared over existing social media accounts and thus reach a wider audience. In that scenario additional info about the tool could be placed in the caption. This learning connects to the above mentioned pro and cons evaluation regarding the application of certain technologies. Another learning here is to always map potential other usages of data and materials produced besides the direct WP or task to still be able to ensure "**Interoperability**".

The project team learned from one LLL that a website is not the right medium to discuss and select the tools in a group setting. We are now aiming to incorporate a function, where the toolbox users can export the tools as PDF and print them out. The idea is that an analogue version of the toolbox is better fitted for workshop formats as tools can be located in a concrete timeline and necessary changes / adaptions can be directly noted down in a discursive way.

This feature could be used in addition to the following format (which has already been

successfully applied in different variants in the LLLs Vienna and Porto): to discuss and choose suitable tools, the WP5 lead developed a workshop called "**process design**". As part of the workshop, the group, that wants to choose and apply tools, fills out a timeline for the next year guided by these key questions:

- What is the goal they want to reach within that year?
- What are important dates for the group?
- What are Evidence/action/vision tools that could help? When would they need to take place?
- What are the next steps and who is responsible for each step?

This simple workshop setting can be used regularly and helped to gain clarity in the group.

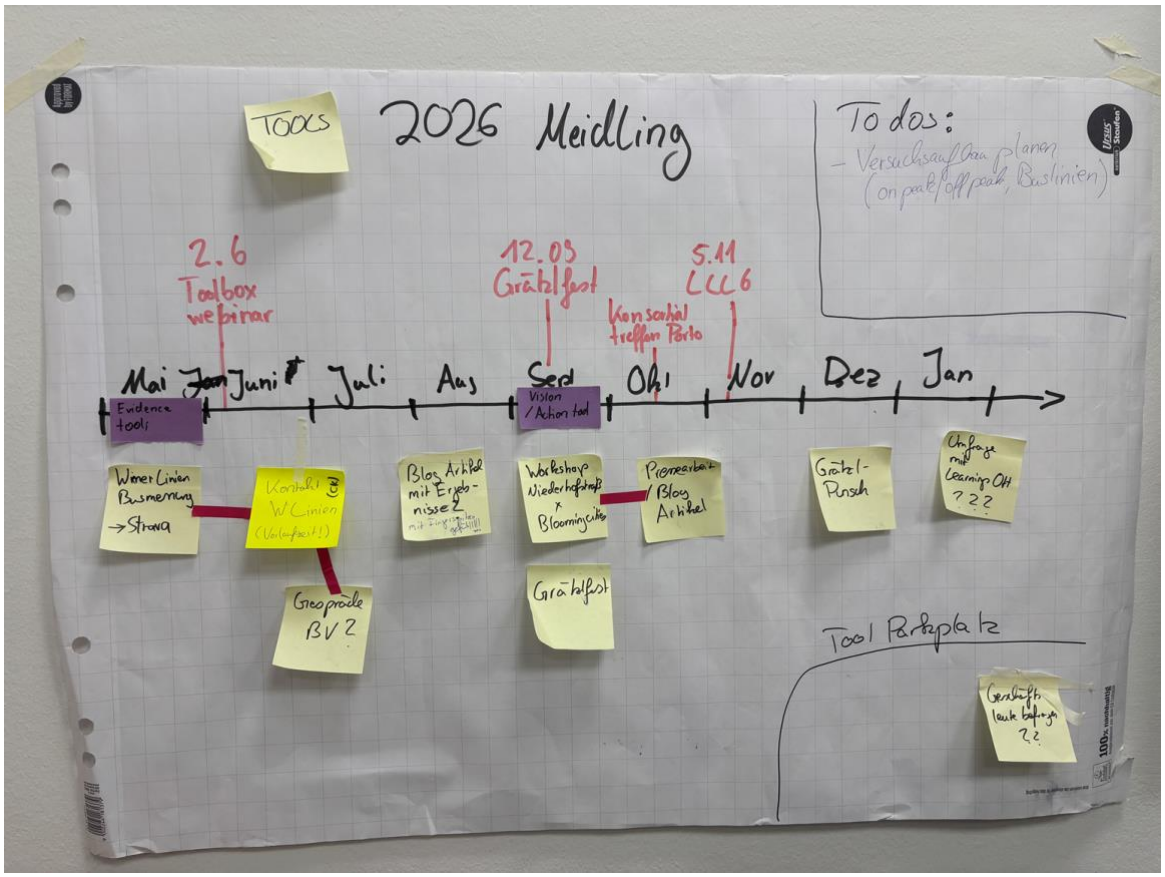


Figure 13: Picture of the process design from the LLL Vienna

To sum up the **learnings from the toolbox dissemination**:

- ensure resources for user-testings at the right moment in the design process
- check for the interoperability of data and material for other purposes and adapt the collection processes if needed
- for any online-product, discuss with your users if an analogue version could be helpful for their purposes
- keep in mind the process perspective and offer methods to connect results and knowledge to concrete time plans

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