



D: *REAL-WORLD EXPERIMENTS* UNDER OBSERVATION

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What transformative potential arises from the three real-world experiments of the STADTREGAL, HOW DO YOU ROLL? and the STUTTGARTER LUFTBAHN?

Using empirical data and results, we consider whether ...

... the STADTREGAL triggered an exchange between social groups?

... HOW DO YOU ROLL? showed that sustainable mobility is fun?

... the STUTTGARTER LUFTBAHN inspired people to think differently about mobility?

DESIGNING CHANGE!? ON THE ROAD TO A SUSTAINABLE CULTURE OF MOBILITY

Processes of transformation lead to structural changes in society, i.e., mobility, consumption, and technology. The *Reallabor* (real-world laboratory) approach seeks to consciously enact change with the goal of making society more sustainable.¹ Bringing together practitioners who are pioneers in their fields, it empowers them to implement more sustainable ways of living.² The *Realexperimente* (real-world experiments) are crucial to this process, and thus a fundamental part of the *real-world laboratory* approach.³

The *Reallabor für nachhaltige Mobilitätskultur* (Real-world Laboratory for Sustainable Mobility Culture) addressed two overarching research questions:

- How can we encourage an urban debate about mobility?
- How can we shape the transformation to a sustainable culture of mobility?

We address these questions using the empirical results of the three *real-world experiments* carried out by architecture and

1 Griebshammer, R., Brohmann, B. 2015: Wie Transformationen und gesellschaftliche Innovationen gelingen können: Transformationsstrategien und Models of Change für nachhaltigen gesellschaftlichen Wandel.

Umweltbundesamt (Hrsg.), Dessau-Roßlau. Accessible in German at: https://www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/wie_transformationen_und_gesellschaftliche_innovationen_gelingen_koennen.pdf, p. 6.

2 Baumheier, U., Vogelpohl, A. 2010: Realexperimente als Katalysatoren für Quartiersprozesse: Eine resümierende Evaluation. In: Läßle, D., Mückenberger, U., Oßenbrügge, J. (eds.): Zeiten und Räume der Stadt: Theorie und Praxis, Opladen, Budrich Verlag, pp. 183–202.

3 see: Schneidewind, U., Singer-Brodowski, M. 2014: Transformative Wissenschaft: Klimawandel im deutschen Wissenschafts- und Hochschulsystem, 2. leicht verbesserte und aktualisierte Auflage, Marburg, Metropolis.

city planning students at the University of Stuttgart in collaboration with members of the Centre for Interdisciplinary Risk and Innovation Studies (ZIRIUS), also at the University of Stuttgart.

The following section describes the methods used in the study, with the individual results of each *real-world experiments* first described separately, followed by the overarching insights of the overall study.

EVERY JOURNEY BEGINS WITH A FIRST STEP—METHODS AND APPROACH

We applied a range of methods from the social sciences and city planning, with the specific methodology applied to each experiment determined by the features of that intervention.

FIELD OBSERVATION⁴

Partially standardised observations (StadtRegal/Stuttgarter Luftbahn/HDYR)

We carried out various types of observation in order to empirically document changes in the spheres of action. In contrast to everyday observations, observations in empirical social research are systematic, targeted and verifiable.⁵ In addition to the methods outlined by urban planner Jan Gehl, we also developed a variety of standardised forms for documenting observations.⁶ In the case of the StadtRegal, we applied a combination of standardised observation forms with space for open comments and a mapping (see below), while the Stuttgarter Luftbahn and HDYR were observed during control periods before and during the interventions. All observations were non-participatory, to avoid participants altering their behaviour in reaction to the work of the observers.

⁴ A detailed description of the survey methods and evaluations can be found in the detailed documentation compiled by ZIRIUS, available online at: www.zirius.uni-stuttgart.de

⁵ See: Bortz, J., Döring, N. 2006: *Forschungsmethoden und Evaluation für Human- und Sozialwissenschaftler*. Berlin, Springer.

⁶ See: Gehl, J., Svarre, B. 2013: *How to Study Public Life*. Washington, Island Press.

Counting (StadtRegal/Stuttgarter Luftbahn/HDYR)

According to Gehl, everything that seems important can be counted during an observation.⁷ In the case of the StadtRegal, we counted the people who crossed the Österreichischer Platz and how many people, from which social groups, were on the square. In the case of HDYR, we recorded the number of vehicles/means of transport in use before and during the event, including the diversity of these means, as well as the number of participants in the event. For the Stuttgarter Luftbahn, we recorded the number of passers-by, the number of people who showed clear interest in the clock tower, as well as their reactions.

Mapping (StadtRegal/Stuttgarter Luftbahn/HDYR)

Mapping, in which people's activities and exact locations are observed and recorded on a sketch or map of the site, comes from city planning.⁸ The team recorded the activity around both the Luftbahn and StadtRegal using standardised observation sheets. For HDYR, the team sought to initiate a conversation, using large posters to prompt participants to record their own answers to the questions "How do you roll?" and "Where would you like to roll?" with lines on the posters.

Diary Keeping (StadtRegal/Stuttgarter Luftbahn)

Students involved in the StadtRegal and Stuttgarter Luftbahn experiments recorded their general observations and personal experiences in a diary.

QUALITATIVE CONTENT ANALYSES

Newspaper Article (StadtRegal)

We digitally compiled, coded, and analysed all newspaper articles about the StadtRegal project that appeared between July 2019 and the end of September 2019, as well as articles dealing with the problematic situation at Österreichischer Platz in connection with events held by the initiative Stadtlücken e.V.⁹

Qualitative Interviews (StadtRegal)

The initiators of the StadtRegal carried out three interviews with participants, which were transcribed, topically coded, and

⁷ Gehl, Svarre 2013: 24.

⁸ *ibid.*

⁹ For the methodology, see: Kuckartz, U. 2007: *Einführung in die computergestützte Analyse qualitativer Daten*. 2. aktualisierte und erweiterte Auflage, Wiesbaden, Verlag für Sozialwissenschaften, p. 83ff. For information on the Stadtlücken initiative, see: www.stadtluecken.de

analysed.¹⁰ The interviewees addressed the newly established network, the changes they perceived as having sprung from the project, as well as the necessary conditions for and chances of establishing the StadtRegal as a permanent fixture.

Social Media Posts (StadtRegal/Stuttgarter Luftbahn)

We compiled the comments posted to the social media accounts (Facebook, Instagram) of the *Real-world Laboratory for Sustainable Mobility Culture, StadtPalais Stuttgart, StadtRegal, Stadtlücken, and Stuttgarter Luftbahn*. Both posts and links to cooperation partners were considered. Our team analysed the content of the posts, rather than conducting a quantitative analysis (in terms of likes etc.).

(Partially standardised) Survey

We used an activating survey method, in which participants are encouraged via open questions to consider their social environments in terms of their needs, points of view, and interests, to survey participants in and visitors to HDYR and the Stuttgarter Luftbahn.¹¹ The short, open-ended surveys inquired into people's views on mobility. A separate reflections survey was available to cooperation partners of the Stuttgarter Luftbahn to gather their thoughts on the experience.

STADTREGAL—AN ATTEMPT FOR BREAKING DOWN BARRIERS AND BUILDING COMMUNITY

Research Questions/Goals

Building on the concept of a parklet and the assumption that the mobility transition will lead to more free space in cities, the StadtRegal represents an attempt to find out how to democratically design this transition in spatial usage while integrating as many societal groups as possible into the process. The StadtRegal therefore included a variety of uses to create this space for discussion. These included public cooking facilities with running water, a storage space for salvaged groceries, a

¹⁰ Kuckartz 2007: 83ff.

¹¹ On the method: Lüttringhaus, M., Richers, H. 2013: Die Methode der Aktivierenden Befragung. In: Stövesand, S., Stoik, C., Troxler, U.: Handbuch Gemeinwesenarbeit: Traditionen und Positionen, Konzepte und Methoden. Deutschland-Schweiz-Österreich. Theorie, Forschung und Praxis der Sozialen Arbeit, 4, pp. 384–390.

sleeping space for rough sleepers, a shelter with a cargo bike, first aid materials, and a bench.

In order to assess the impact of the StadtRegal, the students posed the following guiding questions for the project:

- What changes can we observe at Österreichischer Platz?
- (How) can private uses be implemented in public space?
- What discourse did the StadtRegal trigger?
- Which social groups used the StadtRegal and how did they interact with each other?
- How could the StadtRegal help a space in transformation to be more accepted as a part of the cityscape?

Österreichischer Platz: From Eyesore¹² to Space for Experimentation

Österreichischer Platz (literally: Austrian Square) is both a metro station and a “non-place” on the border between city districts—but actually, it is a car park over the B14, a dual carriageway, and below the Paulinenbrücke, a bridge. In 2016, the initiative Stadtlücken (literally: “city gaps”) set up a souvenir shop to sell reminders of this place that, in the minds of city residents, actually doesn't exist. The initiative's work led to the car park being repurposed as a site for experimentation and a wide range of uses including outdoor film screenings in summer, choir rehearsals, and even a bouldering block. The StadtRegal joined this long line of experiments on the site curated by Stadtlücken, with the bridge overhead serving as a roof, along with a kiosk in use during the initiative's events.

POTENTIAL FOR CHANGE

... on a spatial level

The students involved in the real-world experiment asked:

- What changes can we observe on the site?

Many new potentials for change were on view during the StadtRegal experiment. How many people used the space, and the way they traversed it changed over the course of the experiment.

¹² See: Ayerle, N. 2019d: Wem gehört der Österreichische Platz? In: Stuttgarter Zeitung, 24.09.2019 and Kleisz, E.-M. 2019: Experiment. In: Manuskripte: Anstöße SWR1 BW / Morgengedanken SWR4 BW, 26.09.2019.

The students' observation forms and the qualitative interviews delivered the following insights:

- A total of 653 people were observed over the entire survey period. On average, 27 people were in the space during the experiment - significantly more than the average of 16 people before. During the experiment, especially in the mornings between ca. 8 a.m. and 10 a.m., the square was busier than before (average 15 to 22 people). During and after events in the square (e.g., Commons Kitchen's cooking activity on 16.7.19), a comparatively large number of people were counted, but even at other times without events there was a similarly high number of people!
- Qualitative interview partners confirm that, in their individual perceptions, people stayed in the space longer and that more people visited the square overall. They were not exclusively rough sleepers and/or drug users.
- Occasionally, older people and children were also in the square. The people observed were a diverse mix, including people talking, sitting/standing together, drinking alcohol, tourists, athletes, students, people involved in the Stadtlücken association, homeless people, (probably) unemployed people, and social workers.

The students' early observations, as well as the addition of the bouldering block and the summer weather, indicated that the increase in the number of people using the space was not all down to even more rough sleepers or drug users, although people from those groups may have been using the space for more extended periods than before. This highlights the possibility for tensions and the importance of perspective for how the changes are perceived: while neighbours might become frustrated with the noise of more rough sleepers using the space, the rough sleepers themselves would certainly have a different take on the situation.

How people traversed the space also changed during the experiment, with passers-by remaining on the edges of the space rather than walking straight through. This may owe to the (unintended) perception that the (larger) number of people in the space around the StadtRegal were a closed group. Illustration 2 shows the main routes people took within and around the space—the distinction between users of the Stadtregal, bouldering block etc., and passers-by thus becomes even clearer.

... from an urban societal perspective

- What discourse did the StadtRegal trigger? What social groups used the StadtRegal and how did they interact?

The StadtRegal helped kick off a discussion about Österreichischer Platz that, contrary to expectations, took place more in local newspapers and publications than on social media, and reflected a very diversified range of local opinions.¹³ The discussion included a range of voices, from the initiators of the project, to rough sleepers and drug users, to people living nearby, as well as civil society actors and local political actors. Debates on what to do with Österreichischer Platz weren't new—Stadtlücken's events (e.g., the outdoor cinema, a pride party) had already been attracting considerable numbers of people—but the Stadtregal exacerbated the situation. Local residents and business owners voiced concerns about noise and a lack of public toilets. Also notable was a debate on gentrification and the broader question of whom the square, and public spaces in general, belong to.

But to what extent did these different social groups actually come together in the project? Empirically speaking, social mixing took place primarily in the context of the StadtRegal kitchen, especially the cooking sessions organised by Commons Kitchen. Otherwise, the different groups tended to use the site

¹³ The articles analysed are very different in terms of content and style. Some rather reflect what the StadtRegal aimed at and how it was structured. Other articles present the opinions of a wide variety of actors and thus describe the situation and the discourse around Österreichischer Platz. The following articles were evaluated in addition to those already mentioned:

Ayerle, N. 2019a: Ein Möbel, das Menschen verbindet: Stadtlücken am Österreichischen Platz. In: Stuttgarter Zeitung, 12.08.2019.

Ayerle, N. 2019b: Anwohner klagen über Lärm und Dreck: Österreichischer Platz in Stuttgart. In: Stuttgarter Zeitung, 04.09.2019.

Ayerle, N. 2019c: Österreichischer Platz: Weiter Ärger um Paulinenbrücke. In: Stuttgarter Zeitung, 11.09.2019.

Heißenbüttel, D. 2019: Möbel als Brücken. In: Kontext Wochenzeitung, 07.08.2019.

Klöpfer, S. 2019: StadtRegal: Das neue Projekt am Österreichischen Platz. In: Stadtkind Stuttgart, 19.07.2019.

side-by-side, rather than together. However, an intensive exchange did develop between the initiators, the social workers from St. Maria, and the rough sleepers and drug users.

In the end, the StadtRegal did achieve its goal of spurring a discussion about social justice at Österreichischer Platz, proving the ability of such projects to create a discursive space (for more on discursive spaces, see Zine A).

How could the StadtRegal help a space in transformation to be more accepted as a part of the cityscape?

Results of the newspaper analysis:

- Österreichischer Platz is still often viewed as an eyesore.
- The site has been used by Stadtlücken e.V. for events for the last 1.5 years.

Results of the qualitative interviews:

- The interview partners found that the StadtRegal helped change their perspective and lowered their reservations.
- The rough sleepers and drug users expressed great gratitude and experienced empowerment in the course of the StadtRegal project.

The StadtRegal must be viewed within the wider context of Stadtlücken's interventions at Österreichischer Platz. The newspaper articles and the city's passing of a budget resolution for 2020/2021 to cement the engagement at the site do indicate that the StadtRegal helped make the rough sleepers and drug users more visible, leading to political results. But the question of whether the project increased acceptance of the site can only be answered in the context of the various perspectives on it. The personal experiences of those involved, plus the voices from politics and civil society, do indicate that they favour an opening up of public spaces for all. However, some of the voices connect this process with (sometimes contradictory) preconditions on how to provide all groups with access to vital urban spaces. A further research project could apply methods to help the different groups and voices arrive at a consensus.

How can private uses function in public spaces?

The StadtRegal showed how private uses of public spaces can work: through the commitment of the users and occasional interventions by the initiators or social workers to create an organisational structure.

The empirical observations and lists showed:

- Kitchen, Fairteiler (food redistribution) and sleeping accommodation were used on all observation days: Cornelia Krieger from St. Maria was on site almost daily; the list for the overnight sleeping space confirms that the emergency shelter was used regularly.
- The Medmobil was on site on five observation days in the course of the real-world experiment. The first aid cabinet was regularly refilled by MedMobil.
- The cargo bike was not borrowed during any direct observation period, but was borrowed four times towards the end of the project.
- Seating was always used, when available.
- The police patrolled the site regularly; there were sometimes loud conflicts.
- The kitchen was tidied up and cleaned, the square swept, the Fairteiler checked, and the sleeping space kept in order; there was criticism that the rubbish bins were overflowing.
- Some passers-by looked interested, though very few approached those present to ask about the StadtRegal.

Table 1: Overview of the StadtRegal's aims and whether they were achieved:

GOAL METRIC	SUCCESS?!	REASON
Self-preservation and organisation— User engagement	Partial	There was self-initiative (e.g. users made their own coffee and set up a coffee cash box). However, there was also a need for people to establish rules in case of disagreements.
Active use	Achieved	The StadtRegal and all its features were intensively used throughout the 6 weeks of the project.
Development of new uses	Achieved	Users established a used clothing exchange. A newspaper stand was set up. In addition, low-threshold social advising also took place (pop-up <i>Sozialstation</i>).
Synergies (interaction among different social groups)	Partial	Groups who would otherwise not have much contact came together via the StadtRegal, especially during the joint cooking sessions.

One user making use of multiple functions	Achieved	Rough sleepers particularly made use of multiple StadtRegal functions (e.g., kitchen, sleeping space, first aid supplies, bench).
Build a network among social welfare organisations	Achieved	The organisations held discussions with the city. Contact between rough sleepers and the initiators continued after the project. MedMobil, Release, and St. Maria formed a new network.
Social exchange and discussion	Achieved	Though little discussion took place on social media, local newspapers discussed the StadtRegal with great nuance and from various perspectives. The local council also took up the topic, leading to a budget resolution that includes an additional social worker position for the residents of the square. The project thus achieved a permanence beyond its initial goals.
StadtRegal becomes a meeting point/event venue	Achieved	Regular events took place (Commons Kitchen) along with planned events (discussion sessions, grand opening, etc.) and spontaneous events (waffle-making by the students).
StadtRegal as a term	Not achieved	„StadtRegal“ did not establish itself as a fixed term in any further discussion over the six weeks. Nevertheless, the rough sleepers and drug scene were included in the decision by the local council. In this sense, the idea of the project was carried forward.

Tolerance (conflict management)	Partially achieved	Police were called. Police presence was seen as positive by some people for the sense of security they provided, e.g., in stopping drug dealers. Nevertheless, police patrols decreased overall and an understanding developed (especially among people such as supervisors and students who were frequently on site) on how to deal with conflicts.
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HOW DO YOU ROLL?—HOW SUSTAINABLE MOBILITY CAN BE FUN

RESEARCH QUESTIONS/GOALS

The team chose the roundabout/bridge above Österreichischer Platz for a two-hour demonstration in the form of a roller rink/disco. The space was devoted entirely to non-motorised means of travel during this time: skaters, cyclists, skateboarders, pedestrians, etc. In doing so, the organisers sought (1) to highlight all the ways of getting around that are normally excluded from (inner-city) streets by cars, (2) to create a space for fun movement that spurs new ideas about sustainable mobility, and, (3) to achieve a new awareness for the site, which is otherwise completely dominated by the automobile.

The following questions guided the team in planning and executing the real-world experiment:

- (How) can more attention and acceptance be created for minority/alternative means of travel on city streets?
- (How) can we make urban mobility fun?
- Just like the two real-world experiments StadtRegal and Stuttgarter Luftbahn, the HDYR mobility demonstration sought to increase public awareness and discussion of the topic of mobility. To this end, the team formulated the following goals to answer the questions above:
- To draw attention to roller skaters (as a symbol for minority means of transport in road traffic) and other alternative means of transport/to make such minority means of transport visible.

- To initiate and stimulate a discussion on the topic of mobility.
- To create space and motivation to try things out and “roll differently”.
- To promote and highlight having fun with movement and mobility.
- To win (back) flexibility in the streets.

THE SPACE – PAULINENSTRASSE AND THE ROUNDABOUT AT ÖSTERREICHISCHER PLATZ (OBSERVATIONS)

The automobile infrastructure consisting of the Paulinenbrücke (bridge) with a dual carriageway and the roundabout at Österreichischer Platz, with another large roadway underneath it and a former car park sandwiched in between, are a prime example of post-war modernism and the automotive city in Stuttgart. None of the levels correspond to the classical European urban form of a “square”. The space’s usual exclusion of everyone but car drivers—and thus the decision to banish cars from it for the (short) demonstration—are highlight the deeply antidemocratic and classist nature of the status quo in terms of how this and other public spaces are used, and who gets to use them.

RESULTS

MORE DIVERSITY ON STUTTGART’S STREETS! (SURVEY)

People showed constant interest in the information stand with the survey, collection box, mapping posters, and flyers throughout the entirety of the event. Of the ca. 150 participants taking part in the event, 74 submitted completed surveys, usually with extensive answers. The average age of the participants was 27, with a range of 17 to 58 years old.

We inductively summarised the answers to the open questions into the categories **expansion and improvement of cycling infrastructure** (40 mentions), **reduction of automobile traffic and demands for (more) car-free zones** and times (21), **more acceptance and consideration in street traffic** (8), **more space for alternative forms of mobility** (7), **more possibilities and room for skateboards, skaters, and e-scooters** (7), and finally **improvements to public transport** (3).

When asked about the personal contributions they could make to “more diversity on Stuttgart’s streets”, the survey participants’ answers showed that they thought you can and should act to bring about change, as well as the will to do so among the participants. Their answers can be summarised using the following categories: **forgoing use of a car/more walking and cycling** and **using public transport** (28), **political engagement**

and activism (17), **being an example to and motivating others** (11), and **generating awareness** (3).

All feedback directly pertaining to the HDYR event was positive, with notable comments such as “very worth repeating!”, “cool, do it bigger, do it more often!”, and “really great. should take place min. 1x a month”.

Nearly all participants in the survey provided feedback on the value of HDYR and similar events. Notable in the survey responses here is the way they mirror the original goals of the real-world experiment. This is especially visible in the largest category, **generating awareness/change (of consciousness)** (27 respondents), which points to the utility of the format in promoting new ways of thinking and new impulses for debate about for whom and how we use public spaces. The category **diversity is fun** (11) points to the success of the format in showing how alternative forms of transport and movement are fun, through the enjoyment of the event itself. Relatedly, the categories **community connects** (6) and **Spielräume** (literally room for fun, but also room for manoeuvre) **as a motivator** are also connected with a positive emotional and fun approach to the question “How can we spark an urban debate about mobility?”. The response category **critique of automobile traffic** (10) mostly criticised the overly large share of public space that cars take up, corresponding closely with the category **public space** in which the claim that “the streets belong to everyone!” is of vital importance.

Where do you roll? Where would you like to roll? (Mapping)

The mapping survey showed that the places where the participants currently ‘roll’ are relatively limited compared to the spaces where they would like to. Sometimes, the current and desired routes are the same, but the maps clearly show that some participants want access to short-cuts that already make travel easier for cars—including roundabouts like the one at Österreichischer Platz.

POTENTIALS (FOR CHANGE) AND CONCLUSION

The mobility protest format used by HDYR proved useful in generating awareness of minority means of travel on the streets. Further similar events with similar goals would be needed to reach a sustained acceptance and awareness of these forms of travel. The survey, mapping, and information stand further succeeded in firing a discussion on how to advance a debate within the city about mobility. The high participation in and lively answers gathered via the survey show that many people have ideas, want to share them, and are actively prepared to do something to change things.

Table 2: Overview of HDYR’s aims and whether they were achieved:

GOAL METRIC	SUCCESS?!	REASON
Awareness/visibility for skaters (as a symbol of minority forms of transport on city streets) and other alternative forms of transport	Temporarily achieved	The event generated a concept of the street space that sharply contrasted with its usual automobile-dominated usage.
Encouraging a conversation on sustainable mobility	Partial	High rates of participation in the survey, as well as the content of the responses, and the large numbers of visitors to the information stand show the participants’ engagement with the topic during the event. They were enthusiastic to contribute their ideas and desires. Beyond the event and participants, the project achieved less visibility—only one press report and very little social media activity.
Space and motivation to try new things and “roll differently”	Achieved	The high participation in the event and the roller skate rental, as well as the many comments during the event and written feedback made clear that people were having fun while trying something new.
Having fun with mobility	Achieved	
Gaining (back) flexibility in the streets	Temporarily achieved	It was possible to block the street to cars during the mobility protest, leading people to use the space during the event for diverse forms of movement and transportation.
		The survey showed people’s desire and hope for similar (more frequent or regularly scheduled) events.

THE STUTTGARTER LUFTBAHN—FROM A FICTIONAL PAST TO A NEW UTOPIA?

RESEARCH QUESTIONS/GOALS

The Stuttgarter Luftbahn—loosely based on the writings of Jules Verne—centred on a utopian story. The group described the fictional history of the Stuttgarter Luftbahn, which in their telling was created by engineers between 1895 and 1929. The four-metre tall clocktower erected in front of the StadtPalais—Museum for Stuttgart presented a reconstruction of an “actual station”. The goal of the real-world experiment was to seek new ways of discussing and creatively thinking about mobility. The utopian story formed the basis of a number of actions that took place around the clocktower between October 2019 and March 2020.

The students addressed two overarching questions:

1. Can a construction and utopian story catch the attention of passers-by enough to cause them to (re-)think mobility?
2. How can we creatively use utopian stories to spark a discourse/debate about mobility?

The idea was to present the Luftbahn in such a way that people would think it had really existed, leading them to reconsider mobility in out-of-the-box ways. The students set themselves the following goals in the experiment:

- The clocktower and story of the Stuttgarter Luftbahn should gain public interest and attention.
- The project should spark a broader public debate.
- It should lead people to have new ideas about sustainable mobility.
- A utopia should become (spatially) visible in urban space.

The tower was erected in front of the StadtPalais—Museum for Stuttgart, a location that is an important transfer point for public transport users, while also very near to important arterial roads, government buildings, cultural institutions, and the city’s main shopping street.

RESULTS

Who was there?

Over the observation period of 17 hours, the team counted 1719 passers-by, an average of 101 per hour—mostly pedestrians.

What happened? How did people interact with the experiment?

The passers-by were surely not a representative sample of the population. Many were visitors to the museum, while many others were clearly in a hurry, perhaps on their way to the nearby transport stop. And a sizeable share were certainly people who regularly pass by—people who live nearby, or people on their way to work, for example. From our observations of the passers-by, we developed categories to describe how they reacted (if at all) to the clocktower. The categories are not exclusive, some passers-by had reactions that fit into more than one category.

The majority of people showed no reaction (**walk past**). 30 percent of people visibly reacted (**see and notice**), while around 8 percent stopped to have a closer look (**observe & seek information**). Most reactions seemed neutral, with some visibly positive and very few negative. The categories show that the clocktower attracted attention, but also that more information is unavailable for most passers-by—it is impossible to know how many people who showed no visible reaction actually did perceive the clocktower as interesting or pleasing to look at. Some even engaged in conversations, the content and impacts of which we are unable to assess (**exchange & discussion**). The final category, **interact with the object**, was unplanned, with people using it to sit on or as a climbing frame for children. This indicates, however, less interest in the story being told and more the effect of the object itself.

Survey Results

Nine completed surveys were received. The survey forms were available in the entry of the StadtPalais, with many more being taken as information than were returned. The completed surveys indicated that people learned of the Luftbahn through various channels (passing by, via social media, and through the seminar “Provisional Architecture” offered by the StadtPalais museum). The respondents indicated that the clocktower got them thinking about mobility, generating a wide range of desires and ideas about utopias. Most people responded positively to the project, though the answers indicate that they could have used more explanation about the Stuttgarter Luftbahn.

What happened online?

The Stuttgarter Luftbahn’s Instagram account attracted positive feedback, mainly on the aesthetic of the images. There was no nuanced discussion or any signs of engagement with the imagined history. One negative comment on Facebook questions the history of the Luftbahn, asking how it could have been possible in Stuttgart.

Cooperation Partners’ Written Feedback

To reflect on the Stuttgarter Luftbahn, the teams at the StadtPalais Stuttgart and Theater Rampe completed a written assessment of the project. The answers indicate an appreciation of the aesthetic value of the installation and interest in the clocktower and information panels. The reactions to the information panels at the Theater Rampe were mixed: some visitors were incredulous, others chuckled and appreciated the well-staged story, while others took the panels as a literal history. Accompanying events to generate more discussion and debate may have been helpful here. The visitors to the StadtPalais didn’t ask many questions, and the desired discussion on mobility in Stuttgart failed to materialise. One visitor was so enthusiastic that they said they would like to create a Wikipedia article on the history of the Stuttgarter Luftbahn.¹⁴ Finally, many visitors failed to make the connection between the panels at the theatre and the clocktower at the other location—informational panels at the site of the clocktower itself would have been helpful.

What potentials for change result from ...

... a clocktower on location?

Can a structure and a utopian story lead passers-by to think about mobility? At sites like the StadtPalais museum, people passing by often expect to see installations, perhaps leading many to view the clocktower as “just” an art installation. And so of course it is difficult to spark a reconsideration of mobility simply by catching people’s attention with a clocktower. At the theatre, people are expecting a well-staged story, so perhaps it should come as no surprise that we could observe a full spectrum of reactions in that setting. Without the structure and information/story together in one location, it was, however, difficult to spark a deeper process of reflection or debate on mobility.

... a specific way of asking about mobility?

Can utopian stories be creatively used to spark a debate on mobility? The carefully formulated survey responses and thoughtful questions posed at the theatre indicate that this worked well. The written assessments by the cooperation partners provided further evidence for this, though it is not

¹⁴ The project team phoned the visitor to clear up any misconceptions they may have had about the nature of the imagined history. Even after learning that the Luftbahn was “just” a story, the person remained interested and wanted to discuss the project with the initiator.

possible to know the precise motivations for the visitors' interest in the truth behind the story (urban history? A specific interest in Stuttgart? Air travel? Mobility?).

Table 3: Overview of the **Stuttgarter Luftbahn's** aims and whether they were achieved:

GOAL METRIC	SUCCESS?!	REASON
The clocktower and story of the Stuttgarter Luftbahn receive public attention.	Partially achieved	People approach the object in different ways (via social media, visit to StadtPalais). The clock tower irritates some people (mumbling the name, talking about it in their group). It is not possible to judge whether the historical mobility story succeeded in establishing a connection to today's mobility debate in all cases.
To spark a broad public debate.	Not achieved	There were few comments on social media. No one sent the "yellow card" comments to the city administration. No newspapers took up the project or its thematic.
To kindle new ideas on sustainable mobility.	Not achieved	The survey showed that the idea caused some visitors to think about mobility. Survey responses show a range of desires, but no new ideas were generated.
To make a utopia (spatially) visible in the urban space.	Partially achieved	People noticed the clocktower and some even commented on it. They were unable to connect the story/history with the clocktower, however.

INSIGHTS FROM THREE REAL-WORLD EXPERIMENTS

The Real-world Laboratory for Sustainable Mobility Culture attempts to initiate a shift towards sustainable mobility in Stuttgart, posing the question of how this can be achieved. The real-world experiments represent one way of seeking answers to this question.

What did the three real-world experiments achieve?

Sparking a discourse: The real-world experiments encourage an exchange of opinions, interests, and perspectives.¹⁵

... The StadtRegal stimulated a discussion on site among all participants and in the local newspapers, with an exchange of opinions and views on the situation at Österreichischer Platz, in turn influencing decisions taken in the municipal council. ... During the event, HDYR encouraged participants to think about and share their own contributions to sustainable mobility, and the Stuttgarter Luftbahn led to conversations among very interested people.

Empowerment: People should be empowered to be able to do things independently (again).¹⁶

... Above all, the project empowered students, who had to deal with the topic. They then contributed what they had learned to others. In carrying out the real-world experiments, they came into contact with a wide range of participants and were able to (successfully) implement their ideas. ... The project empowered the people at Österreichischer Platz, who are pushed to the fringes of society by homelessness and drug use. They gained a voice and visibility within the framework of the StadtRegal, which helped anchor the activities of social workers at the site.

¹⁵ Kuhn, R., Alcántara, S., Lindner, D., Puttrowait, E., Sonnberger, M. 2018: Gemeinsam experimentieren: Gesellschaftlichen Wandel gestalten und verstehen. In: Reallabor für nachhaltige Mobilitätskultur (ed.): Stuttgart in Bewegung: Berichte von unterwegs. Berlin, Jovis Verlag, p. 61.

¹⁶ Cardigo, C., Rita, P. 2011: Fostering Sustainable Consumption Practices Through Consumer Empowerment. In: European Advances in Consumer Research, 9, pp. 502–503.

... The mobility demonstration empowered participants to use and try out different means of transport as an alternative to the car and to make those visible in everyday life. The HDYR real-world experiment showed the diversity of means of mobility and gave a face to neglected means of transport in the context of a protest action.

Change in the framework conditions: This effect is a change in the legal situation or legal standards.

... A budget resolution for 2020/2021 for further work at Österreichischer Platz showed that the StadtRegal helped local politicians to take a position against further gentrification of the area. Stadtlücken e.V. has had a significant influence on the design of the square and the StadtRegal helped to make its position clear to some of the local people.

Innovative use of public space: The projects redesigned public using an innovative (temporary) concept.

... The StadtRegal developed into a low-threshold counselling centre in a public space (pop-up social station).

... The closure of one side of the street on the Paulinenbrücke and the roundabout as part of HDYR demonstrated (similar to Critical Mass or Picnic on the B14) the spatial dimensions of the streets by showing an alternative use beyond (purely) car traffic and, in doing so, the variety of different means of transport as well.

How can we encourage an urban debate about sustainable mobility?

All three real-world experiments aimed to use different approaches and possibilities to initiate the discussion. In doing so, they were able to realise the challenge with varying degrees of success.

... HOW DO YOU ROLL? aimed at an emotional component, to bring about a personal change through fun and each participant's own experience of movement. This was successful for the duration of the experiment.

... the STADTREGAL focused on socio-political issues and gave people on the fringes of society increased visibility. It succeeded in stimulating discussion and getting things moving. However, achieving these goals necessitated a controversial debate about the diverse interests and needs of the various people on site and how they deal with the complex situations there and beyond.

... the STUTTGARTER LUFTBAHN aimed at a cognitive component to trigger a different or new way of thinking about mobility with the help of literature, fiction, and imagination in combination with a high-quality built object. This was a complex challenge that would have required more explanation and guidance in some places to fully achieve its aims.

One of the biggest challenges along the way was ...

... to base the implementation of the real-world experiments on the voluntary commitment of individuals. The capacities and time resources of the students and cooperation partners were finite.

... to reach more people (groups) whose affinities are not directly related to mobility and sustainability.

... to combine the practical implementation of the real-world experiments with the theoretical demand placed upon them, which always requires flexibility, the ability to learn, and "an openness to surprises."¹⁷

¹⁷ Groß, M., Hoffmann-Riem, H., Krohn, W. 2005: Realexperimente: Ökologische Gestaltungsprozesse in der Wissensgesellschaft. Bielefeld, transcript Verlag, p. 21.

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