

---

# LIVING LABS AS CLUMSY SOLUTIONS

A CASE STUDY OF REGIONAL CYCLING ROUTE DALFSEN – ZWOLLE

---

*Marijn Siebum*

*S5773873*

*14 June 2024*

*Groningen*

## Abstract

Transport planning is dominated by a pro-growth narrative. This is problematic since unlimited growth is not possible according to some academics (Lamker and Schulze Dieckhoff, 2022). This study takes the urban living lab cycling route Dalfsen – Zwolle to link the use of living labs to achieving a clumsy mobility solution. Urban living labs are a tool in which the urban environment is used to experiment collaborate and learn (Neef et al., 2017; Rădulescu et al., 2022; Scholl and Kraker, 2021; Voorwinden et al., 2023). Clumsy mobility solutions is a concept developed by Ferreira and Von Schönfeld (2022) to counter the dominance of growth in transport planning. This is achieved through diversifying the worldviews involved in transport planning practices. Urban living labs and clumsy mobility solutions share similar goals with regard to sustainability and a diverse set of stakeholders. This study uses a qualitative research approach. Four semi-structured interviews were conducted with the four main stakeholders of the living lab Dalfsen – Zwolle. The data should reveal what worldviews were present in the living lab and how the process went. It was found that three of the four worldviews were represented in the Dalfsen – Zwolle living lab. However, there was little discussion between the stakeholders indicating a lack of diversity in worldviews. The case of Dalfsen – Zwolle shows that an urban living lab does not automatically lead to a clumsy mobility solution. It is suggested that organisers of future living labs deliberately seek stakeholder with opposing worldviews to participate in the project.

# Contents

Abstract .....	2
Introduction .....	4
Post growth and clumsy mobility solutions .....	4
Urban Living labs .....	4
Living lab Regional cycling route Dalfsen – Zwolle .....	5
Relevance .....	5
Aim and research question .....	5
Theoretical framework .....	7
Clumsy mobility solutions .....	7
Urban living labs .....	8
Conceptual model.....	9
Methods .....	10
Data collection.....	10
analysis .....	11
Results .....	13
Worldviews .....	13
Relation to clumsy mobility solutions.....	14
Living lab process .....	15
Conclusion.....	16
Worldviews in Dalfsen – Zwolle .....	16
A clumsy process?.....	17
Clumsy mobility solutions aspects .....	17
Discussion .....	18
Suggestions.....	18
Limitations .....	18
Reflection .....	19
References .....	20
Appendix A interview guide .....	21
Appendix B consent form and ethics .....	22

# Introduction

Planning has long been dominated by a pursuit of economic growth. Opposing this pursuit, there are scholars that urge that humanity must stay within planetary boundaries (Lamker and Schulze Dieckhoff, 2022). More growth will eventually lead to the depletion of earth's resources, which in turn has negative social, cultural and ecological impacts (Lamker and Schulze Dieckhoff, 2022). Transport planning has been no exception from the dominance of economic growth (Bertolini and Nikolaeva, 2022; Ferreira and Von Schönfeld, 2022). Transport planning is still dominated by the assumption that transport growth leads to more jobs, higher wellbeing and happiness (Ferreira and Von Schönfeld, 2022).

## Post growth and clumsy mobility solutions

Ferreira and Von Schönfeld (2022) claim that the pro-growth transport narrative will come to a point of rapture. One of the reasons they claim this, is that the relationship between economic growth and transport growth is not straightforward. Transport improvement typically leads to more mobility, which in turn can lead to congestion. This can leave some geographical areas and social groups as benefitted while others suffer from the negative effects (Ferreira and Von Schönfeld, 2022). Another reason they give is that improving mobility does not consistently lead to a positive outcome. Accessibility decreases since individuals have to engage in extensive, frequent and costly traveling (Ferreira and Von Schönfeld, 2022). An example of this is urban sprawl, where accessibility to basic amenities worsens and people become more dependent on traveling by car. To oppose this dominant pro-growth transport narrative, Ferreira and Von Schönfeld (2022) suggest that planning should be diversified. They propose using clumsy mobility solutions (CMS) as an alternative for the current growth oriented transport planning. CMS is based on the theory of clumsy solutions, where governance intentionally tries to include opposing worldviews to spark discussion (Verweij et al., 2006). CMS provides ground for a diverse set of worldviews to oppose the dominant narrative of growth, and allows for antagonistic debate between the worldviews (Ferreira and Von Schönfeld, 2022). To achieve CMS, planning needs to be diversified with actors that have different worldviews. The goal is to have actors that oppose each other's beliefs to spark discussion and come to a solution that is sufficient to all actors (Ferreira and Von Schönfeld, 2022; Verweij et al., 2006).

## Urban Living labs

Similar to the goals of CMS and post-growth, is the concept of urban living labs (ULL). ULL are policy tools that use the urban environment to experiment, collaborate and learn (Voorwinden et al., 2023). An ULL can be used to get a diverse set of stakeholders to collaborate in the urban environment (Neef et al., 2017; Rădulescu et al., 2022). One principle of an ULL is that actors should be open to the beliefs of other actors (Neef et al., 2017). This is similar to the goals of a CMS, where a diverse set of actors is required, and need to be able to discuss their beliefs to come to a solution. These two concepts have not been linked in academic literature yet, though it can be argued that a living lab can be a tool for clumsy mobility solutions

given their similar goals (Ferreira and Von Schönfeld, 2022; Rădulescu et al., 2022; Voorwinden et al., 2023; Waes et al., 2021).

## Living lab Regional cycling route Dalfsen – Zwolle

This research takes a Dutch ULL related to transport planning. The case that was chosen is the regional cycling route Dalfsen Zwolle. This ULL was aimed at learning from collaboration between governments (Popkema et al., 2018). These include the municipality of Zwolle and Dalfsen, as well as the province of Overijssel. Figure 1 shows where the route is and how it connects between the city of Zwolle and the town of Dalfsen. The local university of applied sciences, Windesheim was also involved. They were responsible to safeguard the learning process and initialized the living lab (Popkema et al., 2018). The goal of this living lab was to learn from collaboration in transport planning, get more people to cycle and to learn how an ULL can be used as a method to innovate (Popkema et al., 2018).

The transport related nature of this living lab makes it suitable to research the relation of this ULL to CMS. Using this ULL as an example, it can be researched how effective this living lab was at being a CMS. Since there was no intention in this case to be a CMS, it can be analysed to see what type of worldviews were present and if there were any discussions between opposing worldviews at all.

## Relevance

The results of this research can be used to use ULL intentionally to achieve a CMS. This way transport planning practices can move from the current growth narrative, towards a more diversified post-growth narrative.

## Aim and research question

This study aims to better understand the relation between ULL and CMS. It should become clear how the ULL case of Dalfsen – Zwolle relates to CMS and what could be done in future ULL to be a tool to achieve CMS. The main research question of this report is: *“To what extent did the living lab Dalfsen Zwolle meet the requirements of being a clumsy mobility solution with regards to integrating multiple worldviews and facilitating discussion?”*

1. Which clumsy mobility solution worldviews were present in the living lab and which one was dominant?

This question aims to find out if there was one worldview more dominant than the others, or if any of the four worldviews was left out in the process. This can indicate how diverse the project group was.

2. How did discussions between worldviews influence the process of this living lab?

This question is aimed at figuring out how the discussions went and if worldviews ever clashed in this living lab.

3. Which aspects of clumsy mobility solutions were present in this specific living lab?

This question combines the answers of question 1 and 2 to indicate what aspects of

CMS was actually present in this specific living lab. This can be used to answer the main research question.

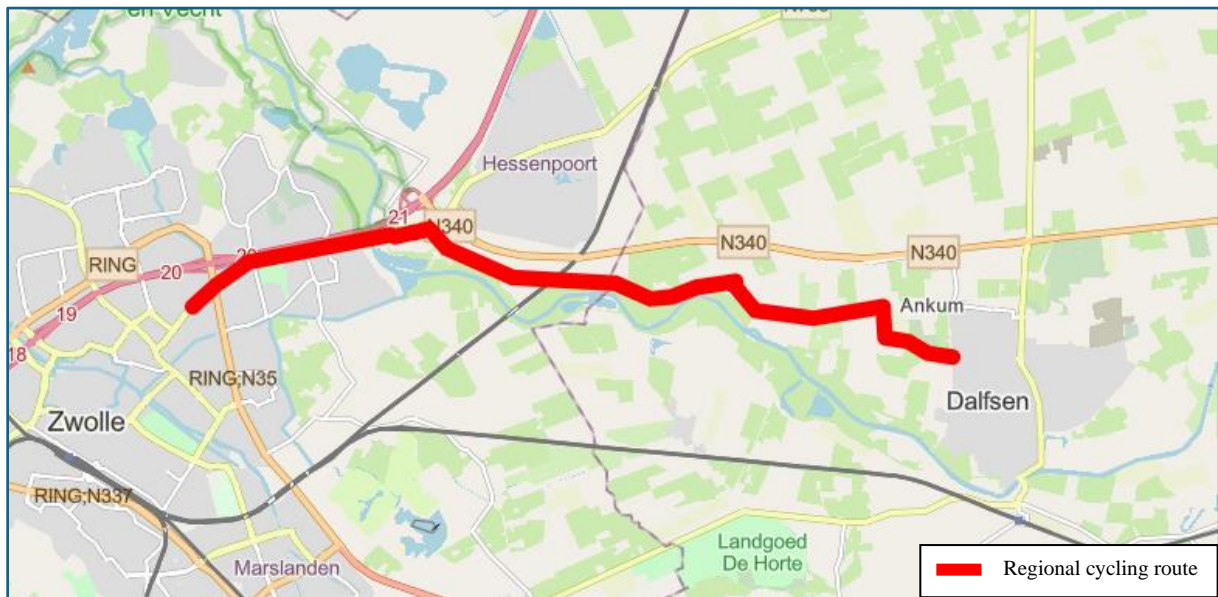


Figure 1 Cycling route Dalfsen - Zwolle, made using ArcGIS web

# Theoretical framework

## Clumsy mobility solutions

The term clumsy mobility solutions is derived from the term clumsy solutions as was developed by Verweij et al. (2006). Clumsy solutions are a way of organizing, perceiving, and justifying social relations with solutions that include multiple ways of perceiving the world (Verweij et al. 2006). Clumsy solutions describe how a process or organization is open to conflicting opinions and discussion. A process that is smooth and has little room for discussion is defined as monologue by Verweij et al. (2006). Opposite to a monologue process, is clumsiness. The term clumsiness is deliberately counter-intuitive because it suggest that governance intentionally combine opposing ways of organizing, perceiving and justifying social relations (Verweij et al., 2006). A good clumsy solution is a process that is bumpy, because it allows for constructive dialogue (Verweij 2023; Verweij et al. 2006). The clumsiness is a process with noisy, discordant and contradictory dialogue (Verweij et al. 2006; Verweij 2023). Verweij et al. (2006) state that clumsy solutions are a way to implement policy in a world with different perceptions. In the case of clumsy mobility solutions developed by Ferreira and Von Schönfeld (2022), there are four main world views. Figure 2 shows a typology of transport-related worldviews. According to Ferreira and Von Schönfeld (2022), these are the transport-related worldviews:

**Accelerators:** People with this worldview value economic growth, innovation, and efficiency. They prioritize the engagement of engineers and economists for transport planning. Travel time saving is an important goal for people with this worldview. This worldview is currently the most dominant in transport planning (Ferreira and Von Schönfeld, 2022).

**Rebels:** People with this worldview oppose that of accelerators. They do not value economic growth for transport planning. They value improvisation, spontaneity, and self-organization. Planning itself is not important for people with this worldview. Ferreira and Von Schönfeld (2022) describe that rebels want to make decisions based on what people know and feel.

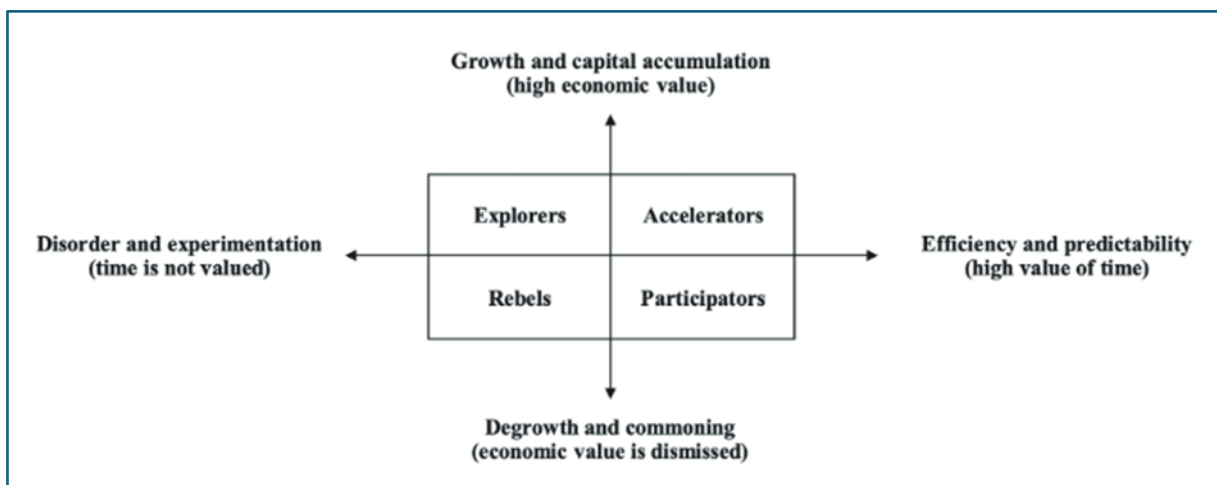


Figure 2 A typology of worldviews for transport planning. From Post-Growth Planning: Cities Beyond the Market Economy, Savini et al., 2022, p 88.

**Explorers:** This worldview values improvisation and experimentation. Unlike the rebel worldview, explorers see those values as a means to achieve local economic growth. People within this worldview combine top-down and bottom-up approaches to transport planning.

**Participators:** People who have this worldview want the transport system to be logical and predictable, but they don't value economic growth. They value bottom-up governance approaches and social-, environmental- and sustainability goals.

Ferreira and Von Schönfeld (2022) describe the future of post-growth planning as a practice that makes place for all the previously described worldviews. They call this a clumsy mobility solution (Ferreira and Von Schönfeld, 2022). They also describe that achieving this is difficult since the worldviews are extremely different and even antagonistic (Ferreira and Von Schönfeld, 2022). However, achieving clumsy mobility solutions that represent a suitable compromise between these worldviews can increase support and promote a transport sector characterized by humanity, complexity, and diversity.

Clumsy mobility solutions can be recognized by compromises that have been made between the different world views (Ferreira and Von Schönfeld, 2022). It is also possible that no single solution is found, but a range of parallel solutions provide a suitable compromise for all world views.

## Urban living labs

ULL are a concept in which an urban environment is used to experiment, collaborate, and learn (Neef et al., 2017; Rădulescu et al., 2022; Scholl and Kraker, 2021; Voorwinden et al., 2023). Dekker et al., (2021, p210) state: "Policies are not planned and implemented top-down but co-created with intended beneficiaries in an open-ended process of innovation." Living labs are a policy tool which can be used to experiment and even go outside of the legal framework since it is temporarily active (Voorwinden et al. 2023). This means that ULL are not necessarily bound by all legal restrictions and can also be used to challenge institutional 'rules'. A reason for this is that ULL are mainly a tool for innovation and learning (Neef et al. 2017; Voorwinden et al. 2023). This is also a reason why ULL have become more popular in planning practice (Rădulescu et al. 2022). It allows policymakers to experiment with innovative ideas and evaluate them, and then a formal discussion can be conducted. In return, this can gain political support for the 'product' of the living lab (Rădulescu et al. 2022).

However, an ULL does have its challenges. Waes et al. (2021) mention that in some living labs, the tasks of practitioners were unclear. Their roles and responsibilities were not properly articulated, which led to stakeholders expecting others to take a certain role. Another challenge is getting political support for the living lab. Political support is needed to go outside a legal framework, but having no political support is a barrier for the living lab (Neef et al. 2017). This also applies for funding, which Schol and Kraker (2021) have described as a frequent challenge for living labs.



Living labs can be categorized into four types (Leminen, Westerlund, and Nyström 2012). These four types are utilizer-driven, enabler-driven, provider-driven and user-driven. Utilizer-driven is a type of living lab where a company develops a living lab to develop its business. The enabler-driven living lab is set up by organizations mostly in the public sector, like governments. The provider-driven living lab is set up by developer organizations like educational institutes, universities, or consultants. The User-driven living lab is set up by the user community and aims to improve their everyday lives.

### Conceptual model

The conceptual model as shown in Figure 3 shows the relation expected between the concepts of ULL in relation to clumsy mobility solutions. ULL provide ground for multiple actors to participate in transport planning practices. Therefore, they could also provide the means for different worldviews to participate. All four worldviews must be included for it to be a clumsy mobility solutions. On the other hand, the collaboration allows for discussion and for compromises to be made. This is shown in the conceptual model as the transport planning process, which indicated how the process went. A process that can be identified as a clumsy mobility solution is known for having compromises and discussions between the actors regarding their aspirations and ambitions. These aspiration requirements are based on their transport-related worldviews. A clumsy mobility solution takes into account the different values of actors which lead to compromises. In a living lab, there is a relationship between the actors involved and the possibility for the transport planning process to be a clumsy solution.

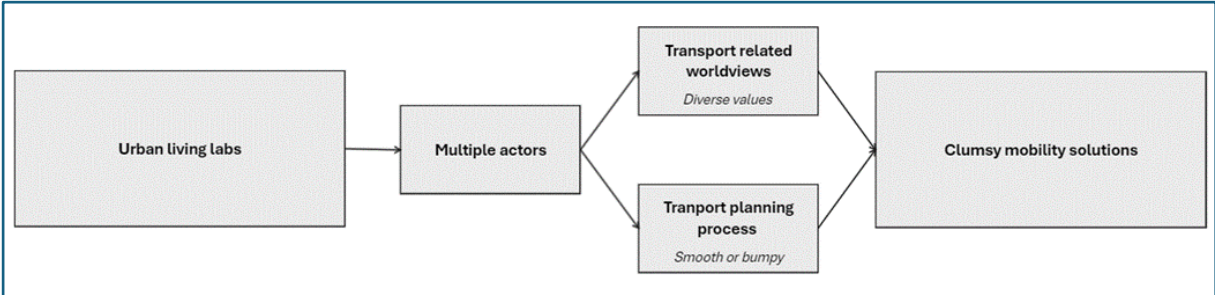


Figure 3 Conceptual model. Own work

## Methods

The research approach of this study is qualitative. The motivation for this is that a qualitative approach allows for an in depth analysis of the motivations and values of the participants in this case. Their values and beliefs have certain reasons which don't explicitly come forward in a more generalised, quantitative research. The context of their motivation is important for linking it to the four worldviews presented in clumsy mobility solutions.

The case of Dalfsen – Zwolle fits withing the methodology, since it is no older than 10 years. This makes researching the case easier, because the participants most likely are still working in the field and it is not too long ago that the data would be imprecise. Another reason is the fact that this living lab has been well documented, as it was part of the Smart Cycling Futures program (Popkema et al., 2018).

### Data collection

Data collection was done through semi-structured interviews. The interview guide as seen appendix A allowed the researcher to gain insights into the values of each participant and how they experienced the process of the living lab. The semi-structured method allowed to go deeper into the responses of the interviewees. Asking further questions allowed the researcher to gain more context behind a certain claim, which could then be used to find out what worldview might be related to a certain value.

### Interviewee selection

The interviewees were selected based on their participation in the living lab. They needed to be active for at least a year in the living lab, preferably from start to end. This would ensure that the participant had enough knowledge on the process and discussions that happened during the living lab. Their role in the living lab was proactive and they were prominent representatives for their organisation. Their active role is determined if they went to meetings, worked on this project and were generally the first to be contacted by the other participating organisations. Their current role at the organization was not relevant, only the role they had during the living lab. The first contact was made with researchers from Windesheim, since the researcher knew them personally. The participant from Windesheim was asked if they could share contact information from possible participants of the three other organizations. This allowed the researchers to recruit interviewees that met the requirements that were mention earlier.

The four selected interviewees were a traffic engineer, mobility advisors, and an academic. They were all involved in the living lab and represent the province of Overijssel, Municipality of Dalfsen, Municipality of Zwolle and Windesheim University of Applied Sciences. These were the four main organisations involved in this living lab (Popkema et al., 2018).

**Ethical consideration**

The Interviews were recorded, transcribed, and safely stored in the Google Drive provided by University of Groningen. Each interview lasted between 25 and 40 minutes. The recordings were deleted from the personal devices right after transferring them to the drive to ensure the safety of the data. Each interviewee got a pseudonym and their organization is not explicitly stated in the data. Appendix B shows how the data collection and protection was done using the GDPR guidelines.

**analysis**

The collected data was analysed using a deductive analysis. The concepts have been placed into a deductive code tree as seen in Figure 4. This code tree expands on the concepts discussed in the theoretical framework. The concept of clumsy solutions is split into the transport typologies with all four worldviews. Under the different worldviews are the values of each typology. On the other branch of clumsy mobility solutions is the process, which can be either a smooth or a bumpy process. This can be identified by discussions or concessions that were present in the project. The data was coded using Atlas.ti software. The concept of clumsy mobility solution was divided into the process and the typologies. Each worldview has been given its codes that represent the values of that worldview.

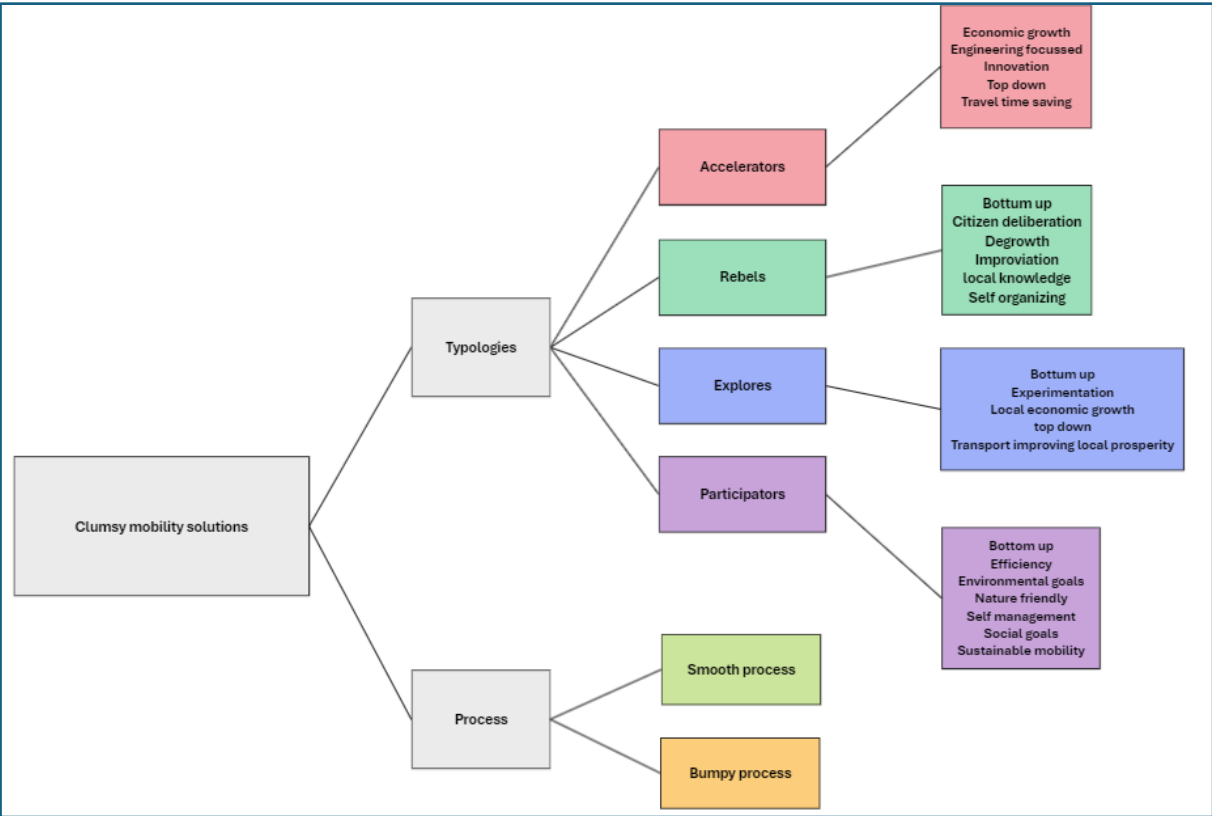


Figure 4 Deductive code tree. Own work

**Coding**

The assignment of the codes was done when a certain claim or answer fit the code and the overlapping worldview based on the context. The coded data was used to determine which of

the worldviews was more present and which ones were less present. The context of these values is important, since possible biases in the interview might influence the amount of times a specific value gets mentioned. To counter this, the questions were open and further questions were not suggestive to one specific value. Context is important, since some values might not appear a lot but can still have a major influence. That is why the context of each value is taken into consideration. The codes falling under process are used to determine if compromises were being made and if there were conflicting opinions during the process of the living lab. Things that could indicate a smooth process are little discussion between the participants and it was easy to get along with the other participants. Things that can indicate a bumpy process are discussions and a lack of understanding between the participants.

# Results

## Worldviews

The worldviews that were mostly present in the ULL Dalfsen – Zwolle were the participator, explorer and accelerator. The only worldview that was not seen a lot in the data was the rebel worldview. A possible reason for this is that rebels are described by Ferreira and Von Schönfeld (2022) as finding notion of planning problematic in itself. In contrast to the reason why this living lab was set up, guiding the planning of a mobility project. The values of rebels that were present were mostly in the wish of participant to involve citizens for their knowledge.

*“We also tried to get citizens involved, to get their vision and take them into consideration.”*

The participator worldview was very present in their values of sustainability and social goals. Participants mention that cycling can be more efficient than car mobility, not because it is faster, but because there are societal gains and less spatial stress due to parking. Mobility advisors and traffic engineers had a different interests in values related to this worldview. That difference was mainly in efficiency and the social and environmental goals. Mobility advisors valued that the route would attract more cyclists and make people switch from the car to the bicycle for their commute. The traffic engineer was more concerned with the safety and comfort of the cyclists. A wider cycling route with smooth asphalt would make cycling safer and more comfortable.

*“We wanted to make the route more comfortable and safer.”*

For a living lab about cycling it makes sense that this worldview is present in the values that are found. Cycling is considered more environmentally friendly than car traffic and good cycling safety and comfort are important factors to satisfy possible cyclist (CROW, 2016).

The explorer worldview came forward mostly through the value of experimenting and combining top-down approaches with bottom-up approaches. A living lab is in principle a place for experimentation and learning. It makes sense that this value was present among the participants, since they were all willing to participate in the experiment. The combination of both top-down and bottom-up approaches are valued in the wish for participation of citizens and businesses. Especially the mobility advisors valued the participation of more than just the government organizations. The value of local prosperity and local economic growth were also mentioned. This came mostly from the idea that the business park along the route is ideally situated for commuting by bike. It is less than 15km to cycle there from both Dalfsen and Zwolle, which the participants consider close enough to be done by bicycle. The project even tried to involve the businesses to promote cycling to their workers with loans or e-bikes.

*“We were interested in how we can learn to collaborate with other stakeholders.”*

Considering that the accelerator worldview is the most dominant in planning, it makes sense that it was also present in this project. Especially engineers were concerned with the hardware of the route. It was stated that they were focussed on engineering and getting the route realised, and less with the living lab itself. It was even stated that the living lab itself did not contribute much to the route and that it could have been done without the living lab. Another example of this worldview being dominant was that the subsidies for cycling infra were only granted if it could be proven what the economic benefits are. And next to that the municipality also has to make plans to stimulate cycling to be granted a subsidy. This is a value of top-down planning.

*“We took the lead in the realisation of the route, because otherwise it would not have been done.”*

## Relation to clumsy mobility solutions

Looking at the data, there are examples of the living lab representing some CMS worldviews more than others. The explorer worldview is present because it values experimentation and local prosperity. It makes sense that a living lab attracts values from that specific worldview, since the whole concept is about experimenting and learning. The project subject being a cycling route can also influence the value of local prosperity, since a better cycling route can improve accessibility in that area. The principles of ULL regarding experimentation probably has led to the explores values to be present in this living lab.

Cycling as the main subject is possibly the reason why the participator worldview was present. This worldview values sustainable mobility, as well as environmental and social goals. According to the participants, cycling is very good at achieving environmental and social goals. Examples they gave are less room needed for car parking and healthier citizens. The theory of ULL also states that sustainability and social goals are important in living labs. The similarities between ULL goals and the participators values might be a reason why its values were present among the participants.

The accelerator worldview was present in the professions and organization during this living lab. The accelerator values engineering as a way of planning, so it makes sense that a living lab that includes engineers will show values of engineering preferences. Although the traffic engineers were less concerned with the living lab itself, and more with the realisation of the route and its practical characteristics. The living lab also shows signs of institutional influences of the accelerator. Since it is the most dominant worldview in planning, it makes sense that it showed up in the living lab Dalfsen – Zwolle. It was mostly present as a top-down way of planning, granting subsidies only under certain conditions and the need for economic benefits of the cycling route.

With these worldviews being present in this living lab there was already a diverse set of values among the participants. However, one worldview was barely present. The values of the rebel are underrepresented in the living lab Dalfsen – Zwolle. Since the rebel finds the very notion of planning itself problematic, it makes sense that it won't be very present in an ULL. This is

because an ULL is a planning tool in principle. However, the rebel not being present does not have to mean it should be left out. ULL allow for a diverse set of stakeholders to work together. Deliberately including a stakeholder with a rebel worldview is possible in the set up of the living lab. Living lab Dalfsen – Zwolle did not have any stakeholders that dominantly had this worldview.

## Living lab process

The participants of living lab Dalfsen – Zwolle experienced a split between ambitions of different professions. The traffic engineers involved in the living lab were less concerned with the lab itself and more with the physical route. While the academics and mobility advisors had ambitions to do more with experimentation and learning. One of the participants said the following about the split in ambitions:

*“The collaboration between the two domains was not sufficient. They tried to bring the two domains together, but the collaboration could have been better.”*

This regards the ambition of academics and mobility advisors to learn something from the living lab, while in contrast other employees from the organizations only cared about finishing the route. One participant claimed that there was a lot of talking, but no one tried to take the lead in the actual realisation of the route. Another participant claims that this split between professions could be due to a ‘language’ difference.

*“The people concerned with behaviour change don’t understand the language of the designers, so they might underestimate their contribution.”*

Bringing the different professions together had its troubles. Some found that there was too much talking and too little progress being made, while the others did not feel like their ambitions were understood. On the other hand, it was seen that the professions between themselves had a smooth process.

According to CMS theory, a good solution would be discordant, noisy and a contradictory dialogue. In the case of Dalfsen – Zwolle, there was little evidence that the process was discordant, noisy or had contradictory dialogue. At most there was a language difference between professions and a lack of understanding each others ambitions. There is no evidence that opposing worldviews had discussions about their goals and ambitions. This could be because the participating organizations were quite similar in the sense that three of them are government organizations and one research institute.

# Conclusion

## Worldviews in Dalfsen – Zwolle

*Which clumsy mobility solution worldviews were present in the living lab and which one was dominant?*

Three of the four worldviews as described by CMS were dominantly present in the living lab Dalfsen – Zwolle. Each of those three worldviews were present for a few possible reasons. Firstly the participator worldview, which values sustainability, well-being and social goals (Ferreira and Von Schönfeld, 2022). The living lab Dalfsen – Zwolle was about cycling, which the participants regard as a sustainable mode of transport. The subject of this living lab being a cycling route is likely a cause why this worldview is represented here. Participating in a project focused on developing a cycling route is likely because the participant care about the benefits of cycling. This could potentially indicate that the subject of a living lab matters for a participant to take part in the project. A living lab with a subject that is more about economic benefits could have attracted participants from a different worldview. This can mean that the subject of this living lab could be the reason why the stakeholders show values from the participant worldview.

A key goal of ULL is to experiment and learn in the urban environment (Neef et al., 2017; Voorwinden et al., 2023). Similar to the values of the explorer worldview presented in CMS. Explores value experimentation that improve local prosperity and local economic growth (Ferreira and Von Schönfeld, 2022). The explorer worldview was also present in the living lab Dalfsen – Zwolle. The similar goals and values between ULL and the explorer worldview could potentially be a reason why it showed up in the case of Dalfsen – Zwolle. The explores value towards experimentation might be a reason for it to participate in a living lab. The concept of an ULL fits within their values to experiment in the local environment. In the case of Dalfsen – Zwolle both experimentation and local prosperity were values that the participants had.

Ferreira and Von Schönfeld (2022) state that the accelerator worldview has been dominating transport planning. In the case of Dalfsen – Zwolle, this worldview was also present, but not more dominant than the other two mentioned above. The case of Dalfsen – Zwolle had a variety of professions working on the project, including traffic engineers. One of the key values of the accelerator worldview is their preference for engineering in transport planning (Ferreira and Von Schönfeld, 2022). The presence of traffic engineers in the Dalfsen – Zwolle living lab likely contributed to the accelerator worldview being present.

The rebel worldview was underrepresented in the Dalfsen – Zwolle living lab. A reason for this could be that the rebel worldview opposes planning practices, while ULL are a planning tool. The fact that this worldview was the least present might indicate that the diversity among the stakeholders was not sufficient enough to include all worldviews equally. Getting all the worldviews involved most likely requires a more deliberate approach to diversify the stakeholders when setting up a living lab.



## A clumsy process?

*How did discussions between worldviews influence the process of this living lab?*

The data showed that between the stakeholders there was some misconceptions between ambitions and goals. Mobility advisors and academics were more concerned with the goals of the living lab and behaviour change in cycling, while traffic engineers were more concerned with the route itself and the realisation of the route. There is no evidence that the stakeholders involved had discussions that were noisy, discordant or had contradictory dialogue, as is required for a clumsy solution (Verweij et al., 2006). The dialogue that was found showed merely a lack of understanding each others 'language'. A possible reason why there was little discussion between worldviews is that the four main stakeholders involved are quite similar. There are three government organizations and one research institute. It was mentioned that the lack of a diverse stakeholders could influence the worldviews present in this living lab. For a ULL to have a noisy, discordant and contradictory dialogue, it would need to have a diverse set of stakeholders that can oppose each others values and goals.

Since there was little discussion between worldviews in the living lab Dalfsen – Zwolle, it also had little influence on the process. The living lab did not reach the required dialogue between worldviews to be considered a proper CMS.

## Clumsy mobility solutions aspects

*Which aspects of clumsy mobility solutions were present in this living lab?*

The living lab Dalfsen – Zwolle had some aspects of a clumsy mobility solution. At least three of the four worldviews had values present in the living lab. The living lab did not manage to represent all four worldviews. The most likely cause is that the living lab was not set up to have a diverse set of worldviews from CMS. Although three of the worldviews presented themselves, the stakeholders themselves were similar. The academics and mobility advisors are probably more likely to fit into the explorer worldview, since they wish to learn something. While traffic engineers are probably more likely to be accelerators. The participator worldview was mostly present because the subject of the living lab was cycling, which is sustainable and can contribute to social and environmental goals. The participator worldview values sustainability and has environmental and social goals. It is unclear if any stakeholder would actually fall within the participator worldview. The reason that the participator worldview was represented might just be because it was the main subject of the living lab Dalfsen – Zwolle. Regarding worldviews, the Dalfsen – Zwolle living lab did not manage to fully be diverse enough to be a CMS.

The lack of diversity is also noticeable in the process of the living lab. There is no evidence that suggest there was contradictory dialogue or discussion. The only thing that was found is a lack of understanding each others ambitions. This does not meet the required level of discussion to be considered a CMS, where opposing worldviews clash with their beliefs and values.

## Discussion

The Dalfsen – Zwolle living lab managed to represent three of the worldviews described by CMS. Although three worldviews had their values represented, a diverse set of stakeholders was not present. The living lab was also not set up to have a diverse set of stakeholders that would include all worldviews. A true CMS as described by Ferreira and Von Schönfeld (2022) would include all four worldviews which would lead to discussion and compromises in the project. Therefore, the living lab Dalfsen – Zwolle did not reach the criteria to be considered a proper CMS.

## Suggestions

The case of Dalfsen – Zwolle shows how a ULL can have some aspects of CMS, but ultimately not reach a proper CMS due to a lack of diversity in the stakeholders involved. Other living labs might have the same results, since living labs specifically set up as CMS have not been organized yet. The living lab Dalfsen – Zwolle took place from 2017 to 2018. This was well before the concept of CMS was published by Ferreira and Von Schönfeld in 2022. Therefore, the organisers of the living lab had no way of intentionally trying to create a CMS. The benefit from this is that the case could be analysed to see how a ULL can unintentionally function as a CMS. The drawback is that a living lab can show to not meet the requirements of a CMS like the case of Dalfsen – Zwolle. An ULL could still be a good tool for a CMS. Both ULL and CMS share goals of a diverse set of stakeholders and sustainability (Ferreira and Von Schönfeld, 2022; Neef et al., 2017; Voorwinden et al., 2023). Future living labs can be set up in such a way that it has a diverse set of stakeholders with different worldviews. A living lab like that can then be analysed to see how well a ULL can be a CMS if the organisers focus on diversifying the worldviews involved. Linking together ULL to CMS intentionally can then be studied on its effectiveness.

## Limitations

The interviewees were all involved and met the criteria to participate in this research. However, they did all indicate that the project was happened a while back. This could have influenced the accuracy of the answers or the completeness of the data. Most data between the interviews was similar in claims, so it can be considered accurate enough. The interviewees also indicated that the end of the project was unfortunate during the COVID-19 pandemic, which led to the project being finished unusually.

Another limitation is possible biases that the participants had. A traffic engineer is probably more biased to talk about design, while a mobility advisor might lean more towards transport patterns. The interviewed representatives from each organisation all had a different function. This minimizes the bias that could come from one specific profession.

## Reflection

It was interesting to see how a ULL would relate to CMS. Using interviews was a strategy to find out more about the beliefs of the people involved. In a follow up study the interview can be guided more towards finding out how the collaboration between stakeholders went. This would allow for a deeper understanding of the collaboration and the opinions on it by the stakeholders.

This research used the concept of CMS which has not been mentioned much in literature. Ferreira and Von Schönfeld (2022) is the only article that describe CMS, which is based of clumsy solutions by Verweij et al. (2006). This made it that the concept of CMS was based on these two articles only. This had some practical implications that made researching this concept a bit more difficult than the other concept of ULL, which has a plethora of literature.

## References

- Bertolini, L., Nikolaeva, A., 2022. *Post-Growth Planning: Cities Beyond the Market Economy*, 1st ed. Routledge, New York. <https://doi.org/10.4324/9781003160984>
- CROW (Ed.), 2016. *Design manual for bicycle traffic*, Record. Crow, Ede.
- Dekker, R., Geuijen, K., Oliver, C., 2021. Tensions of evaluating innovation in a living lab: Moving beyond actionable knowledge production. *Evaluation* 27, 347–363. <https://doi.org/10.1177/1356389021997848>
- Ferreira, A., Von Schönfeld, K.C., 2022. Beyond the rule of growth in the transport sector, in: *Post-Growth Planning*. Routledge, New York, pp. 80–93. <https://doi.org/10.4324/9781003160984-9>
- Lamker, C., Schulze Dieckhoff, V., 2022. *Post-Growth Planning: Cities Beyond the Market Economy*, 1st ed. Routledge, New York. <https://doi.org/10.4324/9781003160984>
- Neef, R., Verweij, S., Gugerell, K., Moen, P., 2017. *Wegwijs in Living Labs in Infrastructuur en Ruimtelijke Planning*.
- Popkema, M., Kampen, H., de Vor, F., 2018. *Lessen uit een living lab: de ontwikkeling van de regionale fietsroute Dalfsen-Zwolle*.
- Rădulescu, M.A., Leendertse, W., Arts, J., 2022. Living Labs: A Creative and Collaborative Planning Approach, in: Franklin, A. (Ed.), *Co-Creativity and Engaged Scholarship*. Springer International Publishing, Cham, pp. 457–491. [https://doi.org/10.1007/978-3-030-84248-2\\_15](https://doi.org/10.1007/978-3-030-84248-2_15)
- Scholl, C., Kraker, J. de, 2021. The Practice of Urban Experimentation in Dutch City Labs. *Urban Planning* 6, 161–170.
- Verweij, M., Douglas, M., Ellis, R., Engel, C., Hendriks, F., Lohmann, S., Ney, S., Rayner, S., Thompson, M., 2006. CLUMSY SOLUTIONS FOR A COMPLEX WORLD: THE CASE OF CLIMATE CHANGE. *Public Administration* 84, 817–843. <https://doi.org/10.1111/j.1540-8159.2005.09566.x-i1>
- Voorwinden, A., Van Bueren, E., Verhoef, L., 2023. Experimenting with collaboration in the Smart City: Legal and governance structures of Urban Living Labs. *Government Information Quarterly* 40, 101875. <https://doi.org/10.1016/j.giq.2023.101875>
- Waes, A.V., Nikolaeva, A., Raven, R., 2021. Challenges and dilemmas in strategic urban experimentation An analysis of four cycling innovation living labs. *Technological Forecasting and Social Change* 172, 121004. <https://doi.org/10.1016/j.techfore.2021.121004>

## Appendix A interview guide

1. Why did [organization] join the living lab Dalfsen Zwolle?
2. What was the reason to choose a living lab for this project?
3. What were the goals for [organization] in this living lab?
4. How did you assure that the goals would be achieved?
5. Did you have to make concessions, what kind and how do you reflect on what was done?
6. How important was innovation for you in this living lab?
7. What were the most important principles for [organization] in this living lab?
8. How important was efficient mobility to you?
9. What was more important, social goals or economical goals?
10. How do you reflect on the collaboration?

# Appendix B consent form and ethics

## INFORMATION SHEET

### LIVING LABS AS CLUMSY SOLUTIONS

A case study of regional cycling route Dalfsen – Zwolle

#### WHAT THIS STUDY IS ABOUT?

This research focuses on Urban Living Labs for sustainable mobility. It investigates how an Urban Living Lab provides different worldviews the opportunity to contribute to new sustainable mobility solutions. These worldviews include aspects such as efficient mobility, sustainability, and participation. The aim of this research is to contribute to the knowledge about Urban Living Labs and how well they bring out different worldviews.

The case chosen for this study is the regional cycling route Living Lab Dalfsen-Zwolle. This case is well-suited for the research goal because it deals with sustainable mobility and involves a manageable number of stakeholders. Given the scope of this research, a complex living lab with many stakeholders is not desirable.

The report will use the data to demonstrate the perspectives of the organizations involved in the project. The analysis in the report will not be based on the personal views of the interviewees. Instead, the interview questions are designed to be answered from the perspective of the departments within the organizations. The data will primarily be used to show the extent to which different worldviews were addressed during the living lab. The reporting of the data will be generalized as much as possible to avoid identifying specific organizations.

#### WHAT DOES PARTICIPATION INVOLVE?

The data to be collected can be used to analyse the living lab in terms of the different worldviews. The chosen method is to conduct interviews with the involved parties. The purpose of the interviews is to gain insight into which worldviews are prominently featured and which are less evident in a living lab.

#### DO YOU HAVE TO PARTICIPATE?

Participation in this research is voluntary. If you no longer wish to be involved in this study, you may withdraw until June 12, 2024.

#### HOW WILL INFORMATION YOU PROVIDE BE RECORDED, STORED AND PROTECTED?

The interview will be recorded and then stored in the secure drive of the University of Groningen. After that, the interview will be transcribed for analysis. Once transcribed, the

written version will be sent back to the respective interviewee for an additional check. The data will be stored in accordance with GDPR regulations using the tools provided by the University of Groningen. Upon completion of this research, the data will be destroyed.

#### WHAT WILL HAPPEN TO THE RESULTS OF THE STUDY?

The results of this research should reveal how effectively a living lab represents diverse worldviews. Based on these findings, it can be determined whether additional attention should be given to this aspect during the setup of a living lab.

#### INFORMED CONSENT FORM

I would like to ask if you could please fill out the informed consent form so that I may use the collected data in my report.

For any question you can reach out to: [m.siebum@student.rug.nl](mailto:m.siebum@student.rug.nl)

#### INFORMED CONSENT FORM

Title study:

Name participant:

#### Assessment

- I have read the information sheet and was able to ask any additional question to the researcher.
- I understand I may ask questions about the study at any time.
- I understand I have the right to withdraw from the study at any time without giving a reason.
- I understand that at any time I can refuse to answer any question without any consequences.
- I understand that I will not benefit directly from participating in this research.

#### Confidentiality and Data Use

- I understand that none of my individual information will be disclosed to anyone outside the study team and my name will not be published.

- I understand that the information provided will be used only for this research and publications directly related to this research project.
- I understand that data (consent forms, recordings, interview transcripts) will be retained on the Y-drive of the University of Groningen server for 5 years, in correspondence with the university GDPR legislation.

#### Future involvement

- I wish to receive a copy of the scientific output of the project.
- I consent to be re-contacted for participating in future studies.

Having read and understood all the above, I agree to participate in the research study: yes / no

Date

Signature

To be filled in by the researcher

- I declare that I have thoroughly informed the research participant about the research study and answered any remaining questions to the best of my knowledge.
- I agree that this person participates in the research study.

Date

Signature



## Data management.

Storing the collected interview data was done on the google drive provided by University of Groningen. This drive is protected and a safe place for storage of research data. Unlike a free google drive account, the version provided by University of Groningen is protected.

Each piece of data that had to be transferred from a personal device has been deleted after it was uploaded on the university drive.

The collected data was transcribed using pseudonyms. Data included in the final report was generalised so it could not be traced back to the specific organizations.

All measures were taken according to article 32 of GDPR. This was done to be as secure as possible with the collected data from the interviewees.