Social Aspects of Infrastructure Development

The case of the M10 tram line extension in Moabit, Berlin

Visualisation of the tram on Turmstraße (Senat Berlin, 2022)

Bachelor Thesis in Human Geography and Planning
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Spring Semester 2023
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Abstract

In recent years, the call for social impact assessment (SIA) in addition to environmental impact assessment has led to an increase in case studies. With Germany being a country without legally required SIA, and presenting a gap of research in the field, a case study of the extension of the tram line M10 in Moabit, Berlin was conducted. The research aim was to study how the social impacts were assessed and managed in the project, as well as to examine the public perception of that process. Qualitative methods in the form of participant observation and semi-structured interviews with a variety of stakeholders were conducted. The majority of the community has been excited about the prospects of connectivity but has raised concerns of pollution, noise, and logistical issues. On the other hand, the interviewees from the planning side have admitted to little consideration of SIA due to funding and staff issues. This shows that an implementation of SIA at an early stage in the planning process could offer room for compromise and a more holistic solution for the population's concern.

Keywords: social impact assessment, environmental impact assessment, citizen engagement

1.Introduction and Background

Infrastructure development projects have a large impact on many people. From the planning phase to the final end product, and everywhere in between local residents will be affected (see Hanna, 2016; Mottee et al 2020a, 2020b). This can be by being forced to relocate, through effects of a construction; site such as noise or air pollution, or by the influence the finished infrastructure has on them like increased traffic due to a new road connection. These impacts should be taken into account when starting a new project. This paper will introduce and discuss social impact assessment (SIA) and its benefits when it comes to infrastructure development projects with the aid of the case of a tram line extension in Berlin, Germany. First, there will be an introduction to the case with an explanation of relevant literature to the research problem, followed by an explanation of the research question, and an analysis of more specific literature in the form of a theoretical framework. Followed by a description of the methodology, a summary of the results, and a discussion putting the results into context. Lastly, the thesis finishes with a conclusion.

1.1 Social Impact Assessment

Social impact assessment is a practice defined by Vanclay et al (2015) as the identification and management of the social issues stemming from project development. It was developed parallel to the practice of environmental impact assessment (EIA) which has often been the preferred method by project developers, maybe due to the more tangible outcome that EIA offers (Geißler et al, 2019). SIA on the other hand is focused on all facets of the impact a project can have both on the environment and on communities and tries to enhance the benefits for affected communities (Vanclay et al, 2015). This difference of social and environmental impacts shows that project development is impacting both environment and society, with social impacts also being closely intertwined with environmental impact to an extent due to the interplay between people and their environment.

According to Vanclay (2003) social impact is defined as a change in peoples' way of life, culture, community, political system, environment, health and wellbeing, personal and property rights, or fears and aspirations. Vanclay considered there to be a social impact if at least one of these is subdued to changes. However, more recently, Vanclay and some colleagues specified that "almost anything can potentially be a social impact so long as it is valued by or important to a specific group of people" (Vanclay et al, 2015, p.2). They also stress that SIA can and should be practised from the start of the consideration of any major project as even a rumour or hearsay can already affect people greatly (Vanclay et al, 2015).

There are a multitude of examples of the use and consideration of social impact assessment in project development and execution. Hanna et al (2016) presented a more critical view on the execution of SIA during the construction of the Lajeado Hydroelectric Dam. In their review of the process it was evident that the authorities had shown deficits in considering the social aspects in more detail, but instead focused more on the environmental aspect. A case without any preconceived environment and social impact assessment in Amsterdam is studied by Mottee et al (2020a), who found that the lack of a plan for the impact assessment makes it hard to learn from one project and improve the process for following projects. In a different case study conducted in Sydney by the same team (Mottee et al, 2020b), they found that even projects following environmental impact assessment and environmental and social impact

assessment (ESIA) procedures can run into challenges when trying to balance the different spatial scales and political levels.

It is thus evident that social impact assessment needs to become a more crucial aspect of project development and is not to be underestimated. There are however countries like the Netherlands where SIA or ESIA is not yet required by law or regulations, as covered by Mottee et al (2020a). Similarly, there is no formal SIA established in German law and most regulations cover EIA following an EU directive from 2001 (Battis, 2022; Geißler et al., 2019). As of 2023, the German affiliate in the International Association of Impact Assessment (IAIA, n.d.), the UVP-Gesellschaft (from German: *society for environmental impact assessment*) only has four active national groups promoting impact assessment in their respective federal region (Gesellschaft für die Prüfung der Umweltverträglichkeit, n.d.). Geißler et al (2019) have reviewed the academic landscape on strategic environmental assessment (SEA), which is somewhat related to SIA and EIA, in Germany and have identified 29 relevant documents including reports and theses with the majority of the documents written in German (p.221). The authors criticise this lack of in depth study of impact assessment in Germany which calls for more research to be conducted on all types of impact assessment (Geißler et al., 2019). The case study described in the following section attempts to help fill the existing gap for SIA research in Germany.

1.2 The Case of the M10

The construction of the extension of the tramline M10 in the Moabit neighbourhood of Berlin is a project that has been in discussion for the better part of three decades and has been replanned and redesigned several times until it reached the necessary support for the realisation (Senat Berlin, 2022). The construction of the existing tramline M10 was completed in 2015 and it took six years to finalise the plans for the continuation of the project (see Figure 1 for project timeline). The M10 currently connects the Berlin central station with the eastern part of the Berlin city centre, final stop being Warschauerstraße (see Figure 2). The construction of the next section branching out into the west started with grid adjustments in 2021, with the ground breaking in Turmstraße for the official tram extension construction site taking place on the 11th of August 2022 (Berliner Verkehrbetriebe, n.d. and 2021).

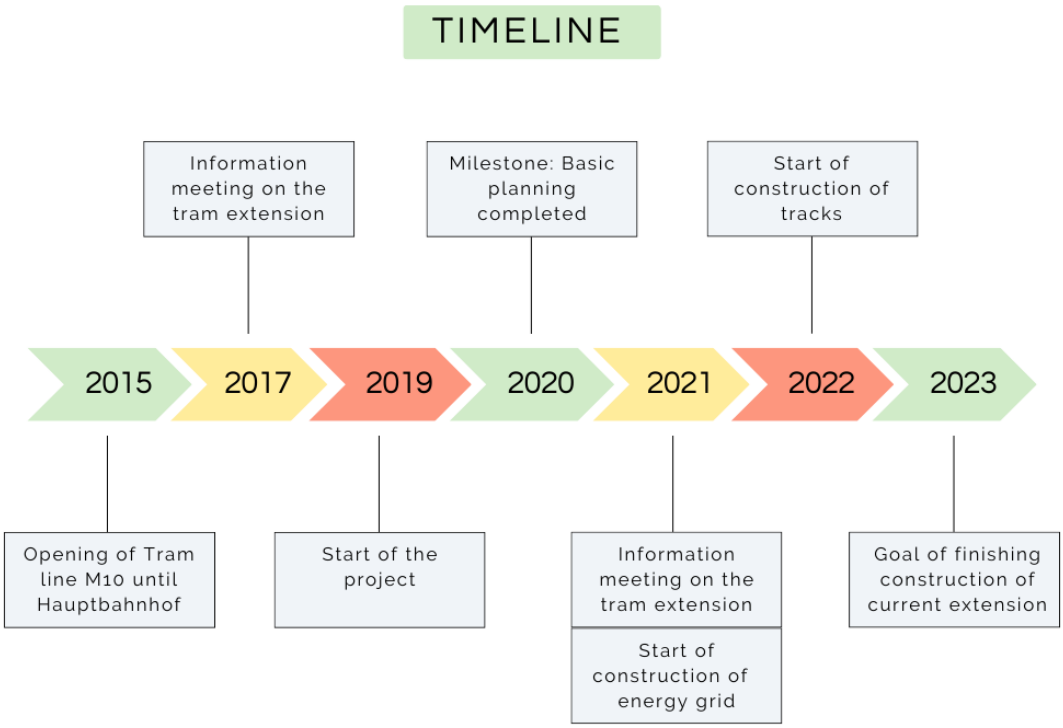

Figure 1 Timeline of the M10 extension Hauptbahnhof - U Turmstraße (by author, 2023)

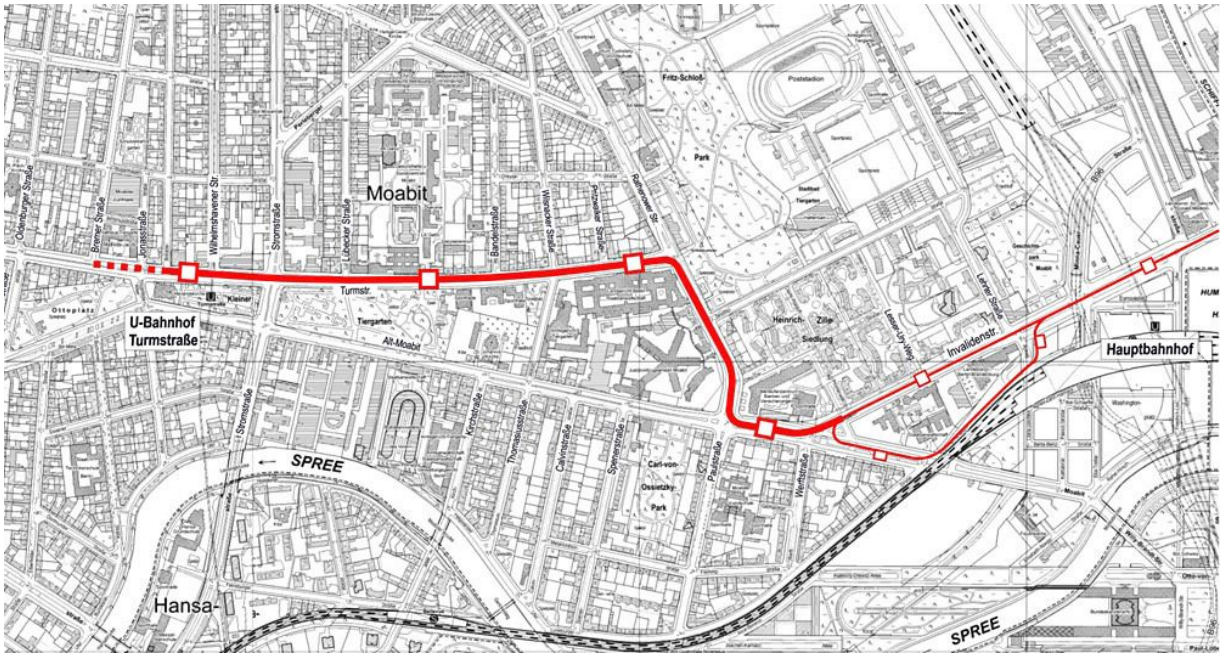

Figure 2 Overview of the new tram line from the main station ("Hauptbahnhof") to Turmstraße (Senat Berlin, 2022)

The tram line is part of an extension of the Berlin tram network which is part of the resolution for sustainable mobility made by the Berlin *Senatsverwaltung für Umwelt, Verkehr und Klimaschutz* (department for environment, traffic and climate protection) in 2018 (Günther, 2018). This resolution was initiated by the Green-City-Plans funded by the national government and published in the same year to achieve a better air quality in German cities (Bundesministerium für Digitales und Verkehr, 2018). The

project seems to have been mostly assessed environmentally by the *Landesbetrieb Geoinformation und Vermessung* (State Office for Geoinformation and Surveying) (2021). Although there has not been any documentation of a social impact assessment process, there have been characteristics of stakeholder engagement realised throughout the process of the design of the current section *Hauptbahnhof - U Turmstraße*, which is an important step within SIA and will be researched for this paper. The measures taken included information sessions for residents during and after the planning phase, which ended in 2020, taking place in 2017 and 2021 (Senat Berlin, 2022). These events gave citizens opportunities to ask questions about the process and give some input via polls, the former in person in a local church, the latter via an online event due to the pandemic. They were also invited to get involved into the future planning process of the layout of the vicinity of the tracks, according to the protocol for the information event of the 14th of April 2021, albeit it is unclear to what extent the citizen input has been taken into account (Senat Berlin, 2022).

It is helpful to evaluate the level of citizen participation or engagement on a universally renowned spectrum. A classic albeit old tool comes to mind in the form of Arnstein's ladder of citizen participation (Arnstein, 1969). This style of citizen participation corresponds to the third and fourth rungs, being in the realm of tokenism rather than actual decision making power (Arnstein, 1969). Bobbio (2019) discusses other potential frameworks like the public participation spectrum developed by the International Association for Public Participation (IAP2). Using the IAP2s model, the process described above falls under consultation, which is the second lowest tier level of public impact, the lowest being information (Bobbio, 2019). It is thus clear that if the impact on citizens has been assessed at all, it has only been considered by planners and decision makers, rather than giving residents an opportunity to bring in their concerns and ideas and formulate them into actual planning actions and mitigation measures.

2. Research Problem

The case of the tramline M10 presents an opportunity for a real time study of the SIA aspects conducted in the construction of a public transport line parallel to the case of the Noord/Zuidlijn Amsterdam as conducted by Mottee et al (2020a). It will be interesting to study the impacts on the Moabit neighbourhood population in the fields defined by Vanclay (2003) and to investigate the handling of SIA in the institution of planning in Berlin and Germany to bridge the gap identified by Geißler et al (2019). This is of particular interest as German construction and planning laws are divided into national and federal laws and regulations which makes a general SIA regulation difficult to realise in Germany (Battis, 2022; Geißler et al, 2019), which mirrors the challenges faced by the South West Rail Link project as explained by Mottee et al (2020b).

To compare the impact of the M10 extension parallel to other existing research on similar projects the following research question has been formulated:

> How were the social impacts considered in the planning process of the extension of the tramline M10 in Moabit, Berlin?

To dive deeper into the matter there are two subquestions:

> How are the social impacts of the current construction site *U Turmstraße* managed?
>
> And, how are the impact management and public participation processes perceived by the local population?

3. The Challenges of SIA in Unregulated Contexts

In addition to general studies on SIA, there are several authors discussing the importance of approaching impact assessment in an innovative way. To illustrate how they relate to this research, figure 3 illustrates how the concepts of EIA and SIA interplay in the case of the M10, and shows how they relate to the legal context in Germany, or the lack thereof.

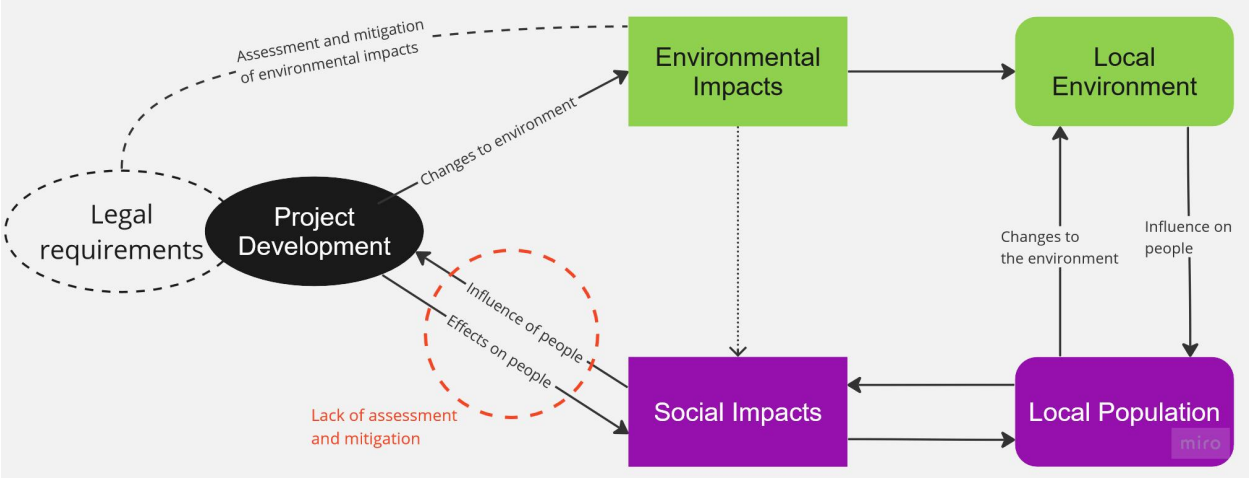

Figure 3 Conceptual model illustrating the lack of SIA in German project development (by author, 2023)

Josa and Aguado (2019) attempted to develop a detailed framework for the intersection between civil engineering (CE) and social sciences and humanities (SSH). Their display of the information in a matrix allows them to identify which fields are more or less heavily researched. When looking at the two CE categories of particular interest: transport and urban planning, their overlap with the SSH categories is greatly studied in most intersections for the former, whereas the latter has some gaps (Josa and Aguado, 2019). Additionally, the CE category urban planning is greatly studied in combination with policy making and social problems but is not well researched when it comes to social groups. The interdisciplinarity of the project at hand, in combination with Geißler et al's (2019) meta study showing a research gap in German literature, might prove the usefulness of this tool.

Couthinho et al (2019) propose a tiered approach to impact assessment with the basis being laid out by the country environmental assessment in a first step, the identification of critical factors with the strategic and environmental impact assessment in a second step, and lastly a case specific environmental and social impact assessment.

In her qualitative study Mottee (2022) found that many SIA practitioners see themselves confronted with practical issues, such as the lack of formal guidelines in the Netherlands. The interviewees raised concerns about the restrictions formalised EIA can have on trying to implement SIA, a potential problem the planners on the M10 project might face. Furthermore, she found that many practitioners raised the concerns of separated planning steps, where engineers, architects, and planners do not cooperate enough to come up with a holistic planning solution. She comes to the conclusion that transport planning should be less project, and more management-impact, focused in general in order to promote the cooperation across different governance levels.

In a similar fashion, Lucas et al (2021) highlight in their UK case study how SIA is often considered relatively late and/or little in the planning and appraisal processes due to funding or simple lack of consideration. In their opinion, SIA can ensure cooperation with marginalised groups, and by giving them space to tell their stories it becomes easier to find an acceptable solution for everyone.

The nature of the research, as well as the studied body of literature, allowed me to formulate expectations for the interviews. Based on the interview guide one or more of the following was expected to apply:

- Elderly people and families with young children feel more affected by the construction than younger and single people
- The residents would like more opportunities to participate in the decision making process
- There only has been little SIA consideration, mainly related to the EIA considerations
- The professionals involved wish for improvement on their cooperation with one another

4. Methodology

In infrastructure development cases similar to the M10 the researchers conducted semi-structured interviews and field visits in addition to extensive prior desk research (Hanna et al, 2016; Mottee et al 2020a and 2020b), a choice of methods also supported by the case study standards on design and methods by Yin (2018). This method presents the best strategy to extend findings in literature and official documentation with local peoples experiences and views on a project - which is arguably the most important in a case study of social impact assessment. Therefore a considerable part of my data collection will include these same methods.

4.1 Data Collection

The research question and the first subquestion require an extensive review of the official documentation of the planning and construction process of the M10 extension. As mentioned above a series of semi-structured interviews (see Appendix I A) have been conducted to support the findings from documentation and investigate the most recent changes in handling the project in order to answer all research questions. Figure 4 shows the relationship between different stakeholders and parties involved and their links. To get further insight into all parties, interviews have been conducted with at least one person from each group. The interviews have taken place between the calendar weeks 13 and 20 of this year (20.03.2023 to 20.05.2023), either via video call or in-person (see 4.5 for details).

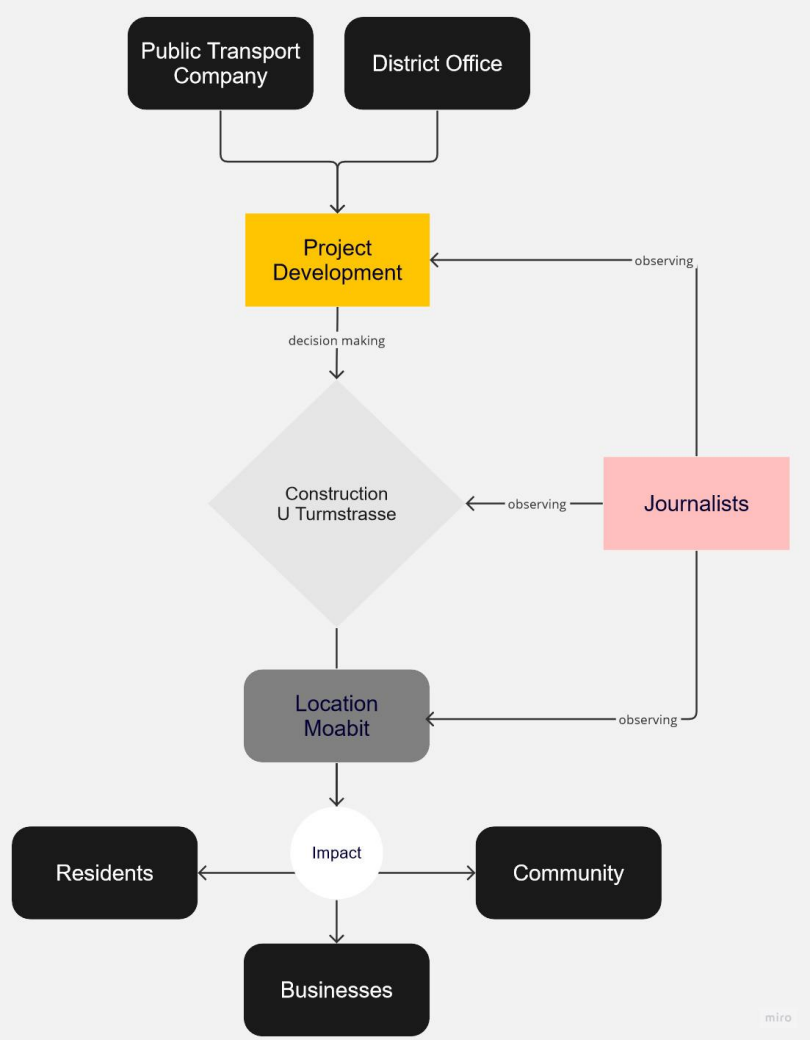

Figure 4 Process mapping of the M10 extension Hauptbahnhof - U Turmstraße (by author, 2023)

The interview guide reflects the nuances of the research questions in tailoring the questions to each stakeholder and in changing it where necessary during the data collection phase. As to use the positionality to the fullest advantage, described in detail in section 4.4 below, there was a priority to conduct the interviews with residents, community members, and local businesses in person if possible. The recruitment of potential interviewees is based on the author's personal prior knowledge of the neighbourhood, names of people and organisations mentioned in official documents, and recommendations by other interviewees, as well as a call on a neighbourhood network (nebenan.de) for residents.

As the data collection included a site visit in week 20, there were some participant observation techniques used. The site was visited on a Sunday, which means closed shops and no construction as per German law, and a weekday, both during the day to get an impression of the current situation. The whole of the construction site was explored on foot and documented with pictures, some site impressions were recorded and transcribed, as well as some impressions after talking to people who have their businesses

along Turmstraße. These observations helped to gain a better understanding of the everyday life and interaction the community has along the construction site.

4.2. Data Analysis

The interviews were transcribed and coded in Atlas.ti to identify important quotes and impressions. A coding tree taking into account both content and time spectrum was developed to understand the process over the course of the whole project (see figure 5). This helped in identifying patterns and connections between the stakeholders, and at what times the process lacks measures. The most important quotes have been gathered in the results to paint a detailed picture of the planning process surrounding the M10 extension in Moabit.

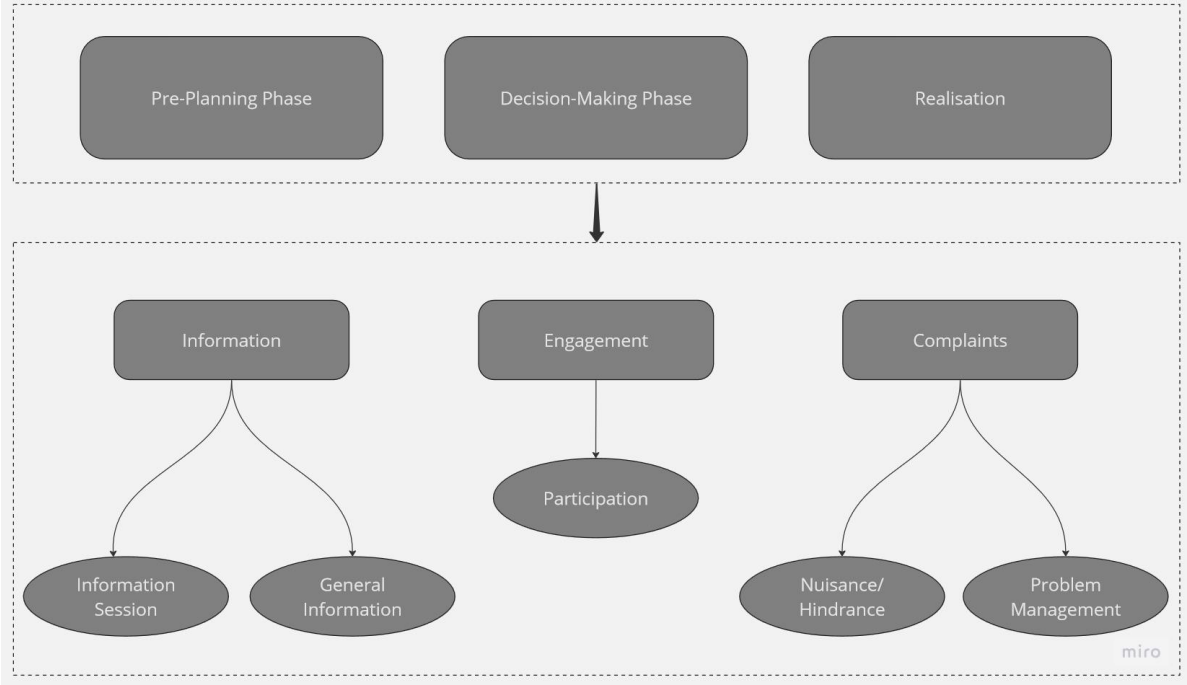

Figure 5 Coding tree for data anlysis

4.3 Ethical Considerations

This study took ethical considerations into account in order to ensure the integrity of the case study. The principles of research practices were inspired by the ALLEA code of conduct (The European Code of Conduct for Research Integrity, 2017). All interview partners voluntarily agreed to the interviews and got information, as well as the consent form sent in advance so that they could give free, prior, and informed consent according to the FPIC principle as discussed by Hanna and Vanclay (2013). Additionally, the introduction of the interview guide included an explanation of their right to stay silent at any point during the interview, as well as their right to opt out at any point in time (see Appendix I A). While all interviewees agreed in the consent form to be named in the thesis it was explained that their statements would be anonymised to a certain extent in order to protect their positions in their respective organisation. During the field observation, a few short talks were conducted with business owners along the construction site. They were informed of the purpose of the query and no private information was gathered, nor were the interactions recorded.

Lastly, the collected data was only used for academic purposes for this thesis and solely handled by the author and shared with the thesis supervisor. The data was stored securely on a university drive and anonymised upon transcription in order to protect the interviewees' privacy.

4.4 Positionality

Having grown up in the neighbourhood of Moabit is the basis for a thorough understanding of the neighbourhood dynamics and potential resident struggles. The potential bias that could stem from this positionality will be limited and outweighed by the advantages it brings. On one hand, there is a risk of taking the issue personally, which could lead to a loss of neutrality in collecting and analysing data. This was countered by using an interview guide that helps in making the interviews more uniform and comparable. On the other hand, there is a big advantage of the positionality both in terms of knowledge and attitude. Growing up in the studied neighbourhood helped in creating a good atmosphere due to a certain approachability of the researcher, such as mentions of personal relations to community institutions. Additionally, the knowledge of the area helped during the site visit, similar to the one experienced by Imperiale when visiting his hometown Aquila to conduct a study on the town's community resilience after an earthquake in 2009 (Imperiale and Vanclay, 2016).

4.5 Documentation

This section presents table 1 showing the progress of interviews and queries conducted, as well as the overview of abbreviations used to ensure participant privacy. The table was used to outline the progress and was regularly updated during the data collection phase.

Table 1 Progress Overview Interviews

Stakeholder Group	**Code**	**Status**	**Comment**
Administration	A1	Conducted on 28.03.	online
	A2	Conducted on 04.05.	online
Transport company	T1 and T2	Conducted on 16.05.	in-person
Community organisations	C1	Conducted on 15.05.	in-person
	C2	Conducted on 14.05.	in-person
Resident	R	Conducted on 15.05.	in-person
Business	B	Conducted on 30.03.	online
Journalist	J	Conducted on 31.03.	online
Activist groups	AG1 and AG2	Conducted on 15.05.	in-person

5. Results

The following section describes the results gathered from the qualitative research conducted. The findings from the queries conducted on and off site are summarised in table 2. There were nine in-depth interviews conducted and transcribed, two of them were conducted with two people at once (see 4.5). The interviews' length was between 15 minutes and 1 hour and 15 minutes, with most interviews having a length of 30 to 45 minutes. The results are summarised per stakeholder group interviewed.

Table 2 Overview Queries

Query	**Main Takeaways**	**Comment**
On-site Query (15.05.2023)		
Retail Business	- High dust and noise pollution - Small decrease in clients	in-person
Cafe	- No big issue with the construction - Regulars are still visiting - Noise is a bit annoying	in-person
Restaurant	- Large impact on client numbers - No parking makes it less accessible - Unclarity of how long the constructions will go on	in-person
Personal Query (29.03.2023)		
Academic	- Obtained some helpful documents - Help in understanding EIA process in Germany	online

The interviewees from the administration have both explained that they followed all regulations regarding the transparency of the planning process. Interviewee A2, from a relevant senate department, described the plan approval procedure; which includes the publication of the plans with a call for review among the population. Further, they mentioned that in comparison to other projects, such as a tram extension near Ostkreuz, substantially less complaints had been received leading to a fast approval:

> *So there are, since this is a legally clearly regulated step, there are also legally clear requirements. So even if it's a bit old school, but that's how it is. [...] It will be published in the Official Journal that the documents are available. Usually there is another press release that the documents are available from time to time. The documents are put online. They are also laid out in paper form. [...] And to that extent, it is made known in a variety of ways, but that has a narrow legal framework. It will be fulfilled, it will also be fulfilled with the digital statement and the digital, or if we send out a press release as well, it will be a little more than fulfilled. [...] I think we had a total of 30 objections on Turmstraße. Just so you can get a size comparison like that. For almost 800 metres at Ostkreuz we had over 1000 objections. (Interviewee A2)*

The consultant A1 who worked on the project during the pre-planning phase, acknowledged that the information sessions that were carried out did not guarantee the changes of plans or taking into account objections:

> *But the process was intended more as an information process where citizens can express themselves, but this is not binding. (Interviewee A1)*

However, they explained that some important points brought up by the population had already been taken into account such as the possibilities to cross the tram tracks on foot or bike. This is due to the fact that a project manager usually has to consider a project from the perspective of four main parties: passengers, transport company, municipality, and population.

The transport company was represented by an infrastructure engineer (T1) and a communications officer (T2) from the department of new tram constructions. The discussion mainly brought to light the complexity of the project at hand, both concerning the internal communication with other departments, such as the bus line department for the detours, and external communication with subcontractors and the senate department in charge. In addition, they explained that their department had been understaffed for a while in the last year, as the communications officer had only started their position earlier that year and some experienced colleagues had gone into retirement. One specific impact mitigation was carried out by the BVG in the form of soundproofed windows:

> *Well, we just say to the owner 'You have a claim. You can put in new windows. We check whether you need new windows, whether your windows need replacing. If they were to be renewed, you can get three quotes and we'll pay for it'. (Interviewee T1)*

To represent the community of Moabit, one parish representative (C1) and a full-time worker from a supervised playground (C2) were interviewed. While the parish representative reported a few problems, the playground worker barely recalled any. C1 highlighted both the cancellation or push-back of certain community events due to the construction and the decrease of visits from a few elderly members:

> *I know from some older people that they stopped attending Sunday services for a certain period of time on the grounds that they couldn't go there anymore because of the construction site situation. But then there were also people who were older and some drove by car, and Turmstraße was completely blocked. (Interviewee C1)*

Both C1 and C2 agreed on the opportunities the future connection to the city centre and other parts of Berlin will bring to their respective organisations, although both made clear that their main target group remained a local one.

The business owner B was very interested in the extension project and held a similar attitude as the community interviewees. They expressed their hopes for an increase in customers, especially from other parts of Berlin. They did not not report any restrictions during the construction site, as their logistics were taken into account, however the market hall is one block removed from the construction site. The businesses along the construction site that were inquired about their experiences reported a big impact on their daily business.

Two members of the neighbourhood activist group, AG1 and AG2, were interviewed. One of them has been involved in the organisation's workgroup on infrastructure since the 1990s (AG2). They gave

insights into the history of the tram extension which had been talked about again and again over the last 30 years. Their network of residents has brought up the issue of garbage removal:

> *In the beginning it was a disaster with the accessibility and disposal of the waste. So that was a huge problem. With multiple… (Interviewee AG1)*

> *With the BSR or the other disposal companies that are there for the yellow bins. There were several side streets… [...] Then there was a section of 15 metres in length. The road was full of rubbish. (Interviewee AG2)*

When they realised that the bins were not empty they tried to report it and ran into the issue of responsibility, as it was unclear who was in charge of managing the garbage removal logistics during the construction. Upon a question of the nature of this problem being a political or a logistical failure they answered the following:

> *[There was] No solution created with the disposal companies, with the BSR and so on. (Interviewee AG2)*

> *Not really thinking, I would say [laughs] [...] Yes, it's just such a thing, if there are rubbish dumps in houses where a lot of people like to throw their rubbish next to it, then it doesn't really attract attention, but when the rubbish dumps are on the street, because it is dead end and you can't get into the house, then of course it's intense. And the more anonymous this rubbish dump is because there are maybe five, six, ten houses that have their rubbish bins there, the less one feels responsible. [...] That is difficult to regulate. But I could have thought about it from the start, I don't know, with some caretakers, with something beforehand, if you put something like this together, but that wasn't even thought of. (Interviewee AG1)*

Similar issues rose when residents wanted to complain about construction debris blocking the pavement near their houses:

> *[...] a woman who lives closer to where there were fragments of asphalt, she then asked Herr [redacted], at a meeting in the town hall, it was in the committee on social city plans, who was there what could comment? When then this has been for months.., this hill there to be removed. Today I can say that the hill has been removed - now there are other parts. [laughs] (Interviewee AG2)*

Lastly, they jokingly remarked that the court and other official buildings received better treatment when compared to the rest of the construction site, which showed them that effective and quick reactions are possible.

Moabit's residents were on one hand represented by one local that followed a call on a neighbourhood forum (R), on the other hand the interviews with AG, C1 and C2 also gave insights as all of them are also currently residents of the neighbourhood. The resident is a parent of two young children and spends a lot of time in the vicinity of the neighbourhood. They did not recall seeing or hearing about the project until they remarked the start of the construction:

> *I was out and about on the playground [...] I still remember that we were there and that's when I noticed it. And then I started doing a little research and looking at what is being built here and where is it being built and where is it coming from. (Interviewee R)*

When asked if they felt hindered by the construction site, they remarked that some playgrounds are less accessible and some ramps are hard to use while operating a pram.

The shortest interview was the one with a Berlin journalist who covers a variety of infrastructure projects all over the city. They remarked that the project was a quick and calm project compared to others. They also explained that they mostly use official press releases in their research and do not interview residents or observe the citizen participation process.

6. Discussion

In the course of the interviews several points stood out. This section will discuss each point and put them into context in the planning landscape of Berlin.

The predominant thing that was repeatedly mentioned by several interviewees in a positive way is that the tram extension project was relatively well liked. The residents seem to adjust to the construction site like they do to many others in Berlin, and they are looking forward to the finished tram connection as a reward. This could be due to the history of the project mentioned by the activist group. Many long term residents have been anticipating these changes. Additionally, the loss of the express bus line TXL in 2020 that connected the now-closed Tegel airport, passing through Turmstraße, to the central station and beyond, has many people awaiting a quick and reliable connection to the trainstation again.

While both the BVG and the administration interviewees have explained their aspirations of an open and transparent planning process, the execution has shown room for improvement. The efforts to invite residents and businesses to meetings, and to keep them up-to-date on the project, have not reached everyone that is affected, as demonstrated by the interview with the resident. This was also supported by the unawareness of local businesses and communities of the expected date of project completion, as the desired deadline is most likely not reachable at this point[1]. Revisiting the IAP2 public participation model explained by Bobbio (2019), the case clearly presents the lowest tier labelled "information". This issue could be tackled by ensuring SIA in the pre-planning phase as suggested by Lucas et al (2021) or implementing the management-impact approach introduced by Mottee (2022). This could ultimately lead to a comprehensible and concise document summarising all the steps that need to be taken.

The complexity of the situation, parallel to cases in the literature (Mottee et al, 2020b), only adds to confusion of responsibility. The large number of companies involved in the execution of the plans on the construction site makes it hard for residents to pinpoint who to talk to if they have questions or concerns (see Figure 6 for illustration). The attempt of the BVG to streamline the objection process by creating a designated email inbox for matters surrounding the construction site backfired when they ran into unforeseen staff issues and lacked the capacity to process all messages - an issue that I personally ran into when first trying to contact them via that email.

[1] As of the 16.06.2023 the construction is still ongoing

Figure 6 Sign near construction site listing companies involved in the realisation of the project

An additional layer of complexity is added in the political leadership of Berlin. The whole process, from pre-planning to completion, usually either takes longer than one legislative period. This means that a new government could change visions, cut funding, or stop projects. There has been media coverage of how the failure to realise several tram projects in the allotted time lead to backlash for the former Senator for the Environment, Transport and Climate Protection (Hasselmann, 2020). In the case of the M10 extension, there has also been a change to the legal framework and the realisation of the construction was affected by the new extension to the Berlin Mobility Law of 2021, which focuses on the rights of pedestrians and cyclists also in extraordinary circumstances like construction sites (Henneberger, 2023).

These level of complexity could be broken down by using the framework proposed by Josa and Aguado (2019) as a tool for constant assesment parallel to all project phases. The implementation of SIA as a universal tool in German practice could follow Coutinhos (2019) tiered approach of creating high scale assessment strategies first which are later developed into strategic solutions with case specific adaptations in the last step.

The findings of this paper can be added to a list of studies coming to similar conclusions. Just as Hanna et al (2016), the focus in the project was on environmental aspects, while also showing similarities to the Nord-Zuid line case study by Mottee et al (2020a) such as the lack of formal impact assessment and the absence of a legal framework considering social impacts and their assessment and mitigation.

7. Conclusion

In conclusion, this thesis provides insights on the impact assessment processes in Germany as a whole and Berlin specifically. The research looked at how social impacts were considered in the planning process of the extension of the tramline M10, how they were managed, as well as how this impact management and the public participation process was perceived by the local community.

The interviews with various stakeholders showed that several social aspects were considered in the context of the neighbourhood, such as the accessibility and utility of the construction site and the bus line detours. Other social impacts were linked to the environmental impacts with the transport company offering to bear the costs of soundproofing windows for affected residents.

However, there seems to be a lack of responsibility to find a satisfactory way to manage and react to residents' complaints. There is a visible difference in coverage of mitigation measures between public and private buildings which signals to residents that they are expected to take a loss which then leads to a varied perception of the impact management by the public eye. Many people did not engage in the public participation process due to their unawareness of it. The majority of the Moabit population sees the tram as an opportunity, with an increase in connectivity to the rest of the city but only accepts the restrictions that come with the construction site begrudgingly.

It is evident that an implementation of SIA or other management focused tools would highly improve the planning process and avoid problems for the population down the line. The introduction of a detailed overview of such a process in the form of a coherent impact management document could make sure that social impacts are assessed at every instance of the planning and execution of the project.

While this research has brought to light both positive and negative aspects of the mitigation process of the M10 case it has to be noted that the results are limited by the scope the interviews were able to cover. Firstly, the number of interviews might not do the situation justice, as many more organisations and potential interviewees came up during conversations. Secondly, some of the interview partners chosen were geographically removed from the situation such as the market hall and the resident, which has to be taken into account. Lastly, the perception of the researcher by the interviewees might have created some barriers. This is especially the case for the senate and the transport company are generally focused on being perceived in a good light and were more hesitant to criticise their own project.

Future research could build upon the basis of this research and reach out to more stakeholders affected by the M10 extension, and get a more nuanced picture of the broader perception of the population of Moabit by using quantitative methods in forms of a survey. Another interesting perspective could be to look at the tram extension plans near Berlin Ostkreuz to compare the cases and their differences in order to examine if the identified weaknesses of the M10 project translate into similar planning projects in Berlin.

Acknowledgements

First and foremost, I would like to thank all the interviewees who took time to talk to me about the tram extension project. I would also like to extend my thanks to my supervisor and my thesis group for their constant feedback and critical view of my thesis, as well as my friends who proofread my thesis. Lastly, I thank my parents for their constant support of my academic endeavours.

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Appendix

Appendix I - Data Collection

A - Interview Guide

I will give you a brief introduction before we start the interview. I am conducting research for my bachelor thesis at the University of Groningen in the Faculty of Spatial Sciences. I am interested in the impacts of the extension of the M10 tram line and how different stakeholders value and experience it. You have received the consent form and some information in advance. All information from this interview will be purely confidential and handled with care. The transcript of this interview will be anonymised before anyone else gets access to it. Is there anything unclear or something you want to ask before we begin?	I*ch werde Ihnen eine kurze Einführung geben, bevor wir mit dem Interview beginnen. Ich forsche für meine Bachelorarbeit an der Universität Groningen an der Fakultät für Raumwissenschaften. Ich interessiere mich für die Auswirkungen der Verlängerung der Straßenbahnlinie M10 und wie verschiedene Interessengruppen dies bewerten und erleben. Sie haben vorab die Einwilligungserklärung und einige Informationen erhalten. Alle Informationen aus diesem Interview werden streng vertraulich behandelt und mit Sorgfalt behandelt. Das Transkript dieses Interviews wird anonymisiert, bevor jemand anderes darauf zugreifen kann. Gibt es etwas Unklares oder möchten Sie etwas fragen, bevor wir beginnen?*

Introductory Questions		
Could you briefly introduce yourself?		*Könnten Sie sich kurz vorstellen?*
How were you involved in the M10 tram extension project?		*Wie waren Sie in das Verlängerungsprojekt der Straßenbahn M10 involviert?*
Project-specific questions		
All	What were your expectations going into the project?	*Mit welchen Erwartungen sind Sie an das Projekt herangegangen?*
	How did you experience the project?	*Wie haben Sie das Projekt erlebt?*
Politics/ Admin	What measures were in place to take social impacts into account?	*Welche Maßnahmen wurden ergriffen, um soziale Auswirkungen zu berücksichtigen?*
	Do you think there are more steps to take toward citizen involvement in the upcoming process?	*Glauben Sie, dass es weitere Schritte in Richtung Bürgerbeteiligung in dem bevorstehenden Prozess zu unternehmen gibt?*
Residents/ Community	Did you attend an information session on the tram extension?	*Haben Sie an einer Informationsveranstaltung zur*

	If yes, how was it? If not, why? Would you attend a session in the future?	*Straßenbahnverlängerung teilgenommen?* *Warum (nicht)?* *Würden Sie in Zukunft an einer Sitzung teilnehmen?*
	How does the tram line construction affect you? …your daily life?	*Wie wirkt sich der Tramlinienbau auf Sie aus? … oder Ihren Alltag?*
	Do you feel like this tram extension will benefit the residents of Moabit?	*Glauben Sie, dass diese Straßenbahnverlängerung den Einwohnern von Moabit zugutekommt?*
Businesses	Did you attend an information session on the tram extension? Why (not)? Would you attend a session in the future?	*Haben Sie an einer Informationsveranstaltung zur Straßenbahnverlängerung teilgenommen?* *Warum (nicht)?* *Würden Sie in Zukunft an einer Sitzung teilnehmen?*
	How does the tram line construction affect your business?	*Wie wirkt sich der Straßenbahnlinienbau auf Ihr Geschäft aus?*
	Do you feel like your business was taken into account in the planning process?	*Haben Sie das Gefühl, dass Ihr Unternehmen bei der Planung berücksichtigt wurde?*
Journalists	To what extent did you cover the tram extension project? Who did you talk to?	*Inwieweit haben Sie das Tram-Erweiterungsprojekt abgedeckt? Mit wem haben Sie gesprochen?*
	How is your impression of stakeholder engagement in the planning process?	*Wie ist Ihr Eindruck vom Engagement der Stakeholder im Planungsprozess?*
Activist Groups	Did you attend an information session on the tram extension? If yes, how was it? If not, why? Would you attend a session in the future?	*Haben Sie an einer Informationsveranstaltung zur Straßenbahnverlängerung teilgenommen?* *Warum (nicht)?* *Würden Sie in Zukunft an einer Sitzung teilnehmen?*
	How does the tram line affect residents? Do you feel there are measures in place?	*Wie wirkt sich die Tramlinie auf die Anwohner aus? Haben Sie das Gefühl, dass es Maßnahmen gibt?*
Transport Company	How important was stakeholder engagement for you in the process? How did you ensure it?	*Wie wichtig war Ihnen dabei das Engagement der Stakeholder? Wie haben Sie das sichergestellt?*
	Are there any changes in the planning process for the further extension of the M10?	*Gibt es Änderungen im Planungsprozess für den weiteren Ausbau der M10?*

Closing questions		
All	Is there anything you would like to add?	*Gibt es etwas, das Sie hinzufügen möchten?*

B - Consent Form

Consent Form *(in German as all interviews were conducted in German)*

Projekttitel: Sozial Aspekte von Infrastrukturentwicklung - Der Fall der M10 Verlängerung in Berlin-Moabit
(Originaltitel: Social Aspects of Infrastructure Development - The case of the M10 extension in Moabit, Berlin)

Verantwortliche Person: Merle Karoline von Bargen (m.k.von.bargen@student.rug.nl)
Betreuung durch: Dr. Philippe Hanna (p.hanna@rug.nl)

Das Ziel des Forschungsprojekts ist (erklären Sie Ihr Forschungsvorhaben in maximal 1 – 2 Sätzen in allgemein verständlicher Sprache für ein breiteres Publikum):
Die Studie zielt darauf ab, zu untersuchen, wie soziale Auswirkungen auf Anwohner, Unternehmen und die Gemeinschaft im Planungsprozess der M10-Erweiterung berücksichtigt wurden und wie der Planungsprozess von Anwohnern wahrgenommen wurde.

Zustimmung der Teilnehmenden Person:

Mir ist bekannt, dass meine Teilnahme an dieser Studie freiwillig ist. Sollte ich aus irgendeinem Grund zu irgendeinem Zeitpunkt die Teilnahme an der Studie beenden wollen, kann ich dies tun, ohne eine Erklärung abgeben zu müssen. Ich verstehe die Absicht und den Zweck dieser Studie.

Ich bin mir bewusst, dass die Daten für die Vorbereitung einer Bechelorarbeit verwendet werden. Diese Arbeit wird im internen Archiv der Universität Groningen veröffentlicht, zu dem die Studenten Zugang haben. Darüber hinaus kann die Autorin die Arbeit mit anderen Personen teilen. Ich erteile die Erlaubnis zur Verwendung dieser Informationen für den Forschungszweck.

Bitte ankreuzen welche Angaben in der Arbeit genannt werden dürfen:	Ja	Nein
Erlaubnis zur Verwendung des Vor- und Nachnamen?	☐	☐
Erlaubnis zur Verwendungen der Angabe der Organisation?	☐	☐
Erlaubnis zu Verwendung der Angabe der Funktion in der Organisation?	☐	☐

Unterschrift:_____Datum: _____

Bitte füllen Sie die folgenden Informationen aus. Es wird nur verwendet, wenn Sie eine Kopie der Interviewnotizen erhalten möchten, damit Sie die Möglichkeit haben, Korrekturen vorzunehmen.
Name:
Email: