Article

Strategic Responses to Wicked Problems of Heritage Management: Experiences from the West Link Infrastructure Project in Gothenburg, Sweden

Susanne Fredholm 1,*, Maitri Dore 1 and Sara Brorström 2

1 Department of Conservation, University of Gothenburg, 405 30 Gothenburg, Sweden; maitri.dore@conservation.gu.se
2 Department of Business Administration, University of Gothenburg, 405 30 Gothenburg, Sweden; sara.brorstrom@handels.gu.se
* Correspondence: susanne.fredholm@conservation.gu.se

Abstract: Heritage management in infrastructure planning is in this paper regarded as a ‘wicked problem’—a multidimensional and unpredictable activity infused with conflicting stakeholder perspectives. By focusing on the West Link and drawing on theoretical notions of strategy-as-practice, the aim is to identify the circumstances in which paradoxes and dilemmas of wicked problems emerge and examine the professional micro-level strategizing applied to navigate and overcome them. The railway construction was deemed to be a threat to the 17th century fortifications, historical parks and former agricultural properties, today located in the city center. The Swedish government appointed representatives from the Swedish Transport Administration and heritage professionals from national, regional and local levels of government to negotiate how best to deal with these challenges. By means of primary data from interviews and workshops with stakeholders, and document- and correspondence analysis, the results showed how three main challenges hampered a fruitful dialogue and outcome: the inherent complexity of the task, different approaches to heritage and lack of adequate coordination within and between the parties. Strategic responses included action plans, delegation of tasks in reference and working groups, the signing of agreements, reorganization and financing of additional personnel. We discuss the main factors underlining the wickedness of heritage management in infrastructure planning as both processual and collaborative, and the implications of this for practice regarding bringing about more operative and sustainable approaches.

Keywords: wicked problems; heritage management; strategy-as-practice; infrastructure projects; Sweden

1. Introduction

Public organizations face several societal challenges that require increased collaboration across boundaries. These are referred to as wicked problems [1,2]; or grand challenges [3] and include climate change [4,5], sustainability [6] and integration [7]. Managing them has become a strategic issue for contemporary public organizations [8]. Geuijen et al. [7] argue that what makes a problem wicked are two features: a significant political conflict over the values at stake and the definition of the problem at hand. One example that often includes wicked challenges is large infrastructural projects, increasingly taking place in cities with many layers of history, and causing considerable impact on the urban landscape. Previous research has moreover shown how large urban projects often encompass conflicting sustainability demands related to social, economic and environmental goals [9]. In Sweden, large-scale infrastructure planning and its impact on the historic landscape became a regular planning controversy in the 1990s, and historic properties and
archaeology is regulated by law since 1987. A direction away from material-based notions of heritage towards a more people-centered approach was developed when the Swedish government signed the European Landscape Convention (ELC) [10] and with the formulation of a progressive ‘Vision 2030 for Cultural Heritage Management’ in 2016 [10]. These policies aim to make visible the everyday landscape [10], and to make heritage inclusive, so that “everyone, regardless of background, would feel that they could claim the cultural heritage that constitutes Sweden” [11] (p. 116). The process of integrating progressive heritage management in infrastructure projects is, however, faced with numerous challenges [12]. In heritage planning literature, wicked problems theory has been weighed against the context of cooperation and coordination between civil stakeholders and military parties in conflict [13], and human strategic adjustments of priorities for coping with climate change [14]. Heritage management in the planning context per se is generally accepted as an inherently complex activity [15,16], involving conflicting views over the different values, their meaning and their uses by different stakeholders. Few, however, have thoroughly investigated its framing as a wicked problem [17].

Within the public management field, over the latest decade, there has simultaneously been an increased interest in collaboration across boundaries to address wicked problems or grand challenges, something that has been studied under the label of collaborative governance [18–20]. Within this field, collaborations have, in practice, been argued to be challenging and even paradoxical [19]. Especially in the setting of a wicked problem, challenges and paradoxes need to be dealt with somehow. One attempt to address wicked problems is through strategic management, something that has led to an increased interest within the field of strategy-as-practice to address ‘macro’ issues [2,21–22], and strategizing across organizational boundaries [23–25]. Within the strategy-as-practice field a strategy is regarded as a practice, a social activity—something members of an organization do [26,27] and strategizing, the practice of strategy, involves thinking, acting and learning [28].

In this paper, we will use this perspective to focus on heritage management in infrastructure planning to gain novel insights on how to understand heritage as a practice for building creative and adaptive organizations in contrast to traditional studies that regard heritage as a static “thing” [29]. This will also contribute to insights about more detailed accounts of strategizing [28,30], and thus how paradoxes and dilemmas, arising both from working collaboratively and with wicked issues are dealt with in practice.

Using notions of strategy-as-practice, the specific aim is to identify the contexts in which paradoxes and dilemmas occur, and to characterize and discuss the professional micro-level strategizing applied to navigate and overcome them. We do this to build on the interdisciplinary discussion on wicked problems and highlight the specific concerns regarding heritage management and the future considerations of those in large infrastructure projects.

The analysis was based on a qualitative case study of the planning process for the West Link, a train tunnel passing through the city center of Gothenburg in western Sweden. This case was chosen since the management of the city’s cultural environment and heritage was a central concern for the government, planning authorities and other key stakeholders for the project to be successfully completed. The case holds good potential to show the various strategies employed to overcome what was initially regarded as a highly contentious and complicated infrastructure planning process. In the analysis, the following research questions were explored:

What were the negotiation challenges?
What were the responses employed to deal with them?
What were their outcomes?

In the next section, we discuss the theoretical notions of heritage and previous research on its application in the planning context, wicked problems and strategies-as-practice. In the subsequent section, we present the empirical case in short, and the research
methods used. This is followed by a presentation of the case study results. The article ends with a discussion and concluding remarks.

1.1. The Notion of Heritage and Its Application in a Planning Context

Having mostly been associated with historic materials, activities or ideas, the notion of heritage has been highly debated during recent decades. Recent theoretical developments in the field of heritage studies recognize the very processual nature of heritage [29,31]. This involves a shift in thinking of heritage management as a means in itself that protects the thing that is heritage, towards heritage sites being “resources to achieve social goals” [32] (p. 442). Today, heritage is simultaneously regarded to include tangible and intangible aspects, and a subject of active public reflection, debate and discussion on what should be included and excluded, from everything from history books to urban and regional plans [33,34]. Paradoxes and dilemmas in the planning context therefore result from heritage being an inherently complex concept, and a “clash of discourses” in negotiations among heritage planners themselves, as well as between heritage planners and other stakeholders is rarely avoided [15]. Furthermore, there are dilemmas in the selection of heritage places. As Spennemann shows, local government authorities must deal with day-to-day management issues balancing various interests, since a heritage expert-driven approach can underestimate places important to the community, while a community-driven approach might favor “popular” places and ignore those that do not fit the present value system [35].

Contemporary spatial developments contain a mix of several approaches to dealing with the existing layers of history and the complexity of heritage. Gregory Ashworth [36] highlights preservation, conservation and heritage approaches. Janssen et al. call similar perspectives of heritage in planning the sector, factor and vector approach [37]. These three approaches to heritage management have been developed over time, one after the other, but are today simultaneously present in any given planning situation. In short, preservation (or heritage as a sector) can be described as a traditional perspective of dealing with the past, where experts focus on intrinsic values of specific objects with the aim of protecting these from alterations, development and other so-called “threats”. A conservation (factor) perspective includes not just separate objects, but also collections of objects (environments). It takes into consideration the contemporary use of sites and places and visions for the future, and includes political and economic aspects in decision-making. Essentially, the contemporary use of cultural heritage becomes an important part of local development and renewal of places. A heritage approach (vector) is an inclusive and future-oriented practice and builds on the idea that values are created in contemporary society and are not about historical accuracy or intrinsic authenticity of objects or places. The focus, from this perspective, is on the use of the past in the present, and priority is given to users of a place rather than experts and policy makers. It implies that not just so-called historic environments, but all places, have a past with potential cultural heritage that can be used in urban and development planning.

Janssen et al. [37] (p. 1669) point out that these three heritage perspectives play a role in today’s spatial planning simultaneously: “The intrinsic historical significance that plays such a key role in the heritage as sector approach, with its associated protection mechanisms, remains relevant, but in a system where there is now also room for economic significance as featured in the heritage as factor approach, and the intangible values that feature in the heritage as vector approach”. The challenge in any complex planning situation, is therefore the task of identifying and selecting which approach is best suited for a given situation. However, there is an ever-present risk of heritage planners returning to the traditional “trenches”, especially as the dynamic and contextual understanding of heritage often runs counter to cultural heritage legislation and practices which are predominantly based on protective perspectives [38]. Future-oriented approaches to heritage further interrogate the supposed future, for, despite claiming to work for the future, heritage professionals rarely have a clear idea of what it could look like [39]. This approach, in
contrast to preservation, does not assume that future generations will hold dear the same values as those of the present. To “future-proof heritage”, decision-making must be based on what may be maximally beneficial in multiple scenarios, or optimizing decision-making processes so that they can be flexible in the face of change [40]. In a similar call for flexibility, Thorkildsen and Ekman [41] highlight how relationship-building processes, which include new professional constellations, need to be reinvented and worked with again and again.

1.2. Wicked Problems and Strategy-as-Practice

Wicked problems are defined as “globally relevant, multifaceted, and complex social and ecological problems or ambitions that implicate diverse role-players and defy straightforward solutions” [42] (p. 836). Rittel and Webber [1] specify characteristics that distinguish wicked problems from more technical or tame problems which can be tackled through traditional system analysis approaches. Solutions to wicked problems cannot be defined in terms of true-or-false, but good-or-bad, and planning processes addressing them need to be as inclusive as possible. Furthermore, solutions themselves are inconclusive and generate repercussions, themselves characterizable as wicked problems. Geuïjen et al. [7] (p. 623) adds that there is a lack of institution, structure or process that can provide a natural base for the problem, which they call a “problem of institutional fit”. This means that when public sector organizations are to deal with wicked problems (although they might not be labelled as such) there is a tendency to construct organizing principles across boundaries [20], something that requires an openness both internally and externally, often difficult to operationalize.

Grint [43] (p. 12) describes how the pressure on managers to act decisively often leads them to solve wicked problems as if they were tame, applying science-based solutions or solutions based on past experience. According to Chester and Alleby [44] (p. 21) infrastructure managers need to act differently than in the past, as “increased presence and polarization of viewpoints is becoming more common, where solutions are dictated not by technical performance measures but instead by needing to be “acceptable enough” to all parties.”

Responses to wicked problems can be found in the field of strategy-as-practice. Strategy-as-practice research focuses on the micro-level social activities, processes and practices that characterize organizational strategy and “strategizing” [45,46]. This, according to Ferlie and Ongaro [47] (p. 14) includes strategic thinking, acting and learning. For Bryson [48] (p. 14) strategic thinking is done ‘in context about how to pursue purposes or achieve goals; this also includes thinking about what the context is and how it might or should be changed; what the purposes are or should be; and what capabilities or competencies will or might be needed, and how they might be used’. Strategic acting ‘is acting in context in light of future consequences to achieve purposes and/or to facilitate learning’. Strategic learning is then about ‘any change in a system (which could be an individual) that by better adapting it to its environment produces a more or less permanent change in its capacity to pursue its purposes.’ This means that for practitioners to be able to learn and to think, they need to act [49,50]. In public sector strategic management research, the strategy-as-practice perspective is used to give a more detailed account of what is going on in strategically important issues [28,2]. In this paper, we use this perspective to capture the complexity in the ongoing process of dealing with wicked problems.

2. Materials and Methods

2.1. Case Study: The Dialogue Process on Heritage Management in the West Link Project

The case in this paper focuses on negotiations regarding cultural heritage and the cultural environment in the planning of the West Link. The West Link is an approximately 8 km long double-track train connection, of which 6.6 km in the tunnel, under central Gothenburg. It includes three new stations at Centralen, Haga and Korsvägen (Figure 1).
A pilot study was conducted in 2001. Thirteen years later, on June 26, 2014, the Swedish government decided on permissibility for the West Link after examining the matter in accordance with the Environmental Code. For permission, the Swedish Transport Administration (STA) was required to plan and execute the construction of the West Link in consultation with the National Heritage Board (NHB), the County Administrative Board of Västra Götaland (CAB), and the City of Gothenburg (CoG). The present paper highlights the consultation process and its associated cross-sector activities. The studied process ran from autumn 2014 until June 2019 (Table 1).

![Figure 1. OpenStreetMaps of central Gothenburg in Sweden, including layer of the West Link train tunnel. Source: The West Link Project, STA.](image)

**Table 1.** Milestones in the West Link Infrastructure project. Time of case study marked with grey.

| Year/Month | Milestone |
|------------|-----------|
| 2001–2002  | Pilot study was made. |
| 2004–2007  | Finance in place. Railway planning report was made. |
| 2011       | Project planning initiated, including producing a railway plan. |
| 2014 June  | Decision on admissibility by the Swedish Government 2014-06-26, with conditions. |
| Nov        | Environmental impact assessment for the West Link approved by the County Administrative Board. |
| Dec        | Railway plan presented for public review. |
| 2015 Aug   | County administrative board accept the railway plan. |
| Dec        | Contract with first main contractor. |
| 2016 Feb   | Application for permit to proceed in accordance with the Environmental Code to the Land and Environmental Court. |
The governmental Condition 1 sprang from the fact that the construction of the West Link touches on several designated cultural-historical properties within the city. The central part of Gothenburg is an area of national interest for the preservation of the cultural environment, regulated legally by the Environmental Code. The area shall be protected against actions that can significantly damage the cultural environment. In the spring of 2012, the NHB criticized the STA, claiming a lack a holistic view of the project’s impact on the national interest. Simultaneously, the CAB claimed the West Link would significantly damage the 17th century underground fortifications. The critique made the STA redevelop the route, finalized in 2013, after which the CAB still held the position that the project in its totality would significantly damage the area of national interest. However, they supported the project since the national interest of transportation had to be prioritized. The critique and associated proposals made by the national and regional heritage authorities prompted the national government to issue several conditions for permissibility.

The formal consultation on the cultural environment, prompted by the government’s conditions for permissibility, began in November 2014. The STA is responsible for the consultation as they are the authority responsible for constructing the railway and fulfilling Condition 1. Consultative parties include the following: NHB who has oversight of the area of national interest for the preservation of the cultural environment and constitutes the supervisory authority for state building monuments; the CAB who has regional oversight of the national interest and constitutes the supervisory authority for both individual building monuments and the fulfilment of Condition 1; the City of Gothenburg, represented by two different units, City Planning and Building Office and the City Museum (affiliated to the municipal cultural administration). The City Planning and Building Office are responsible for detail planning above ground, and the City Museum supports them in heritage issues (Table 2).

| Authority level | Agency | General responsibility | West Link responsibility |
|----------------|--------|------------------------|--------------------------|
| National       | Swedish Transport Administration (STA) | Governmental agency responsible for the long-term planning of the transport system. | The authority responsible for constructing the railway and fulfilling Condition 1. Main decision-making power, other parties are consultative. |
| National       | National heritage board (NHB) | Sweden’s central administrative agency in the area of cultural heritage and cultural environment under the auspices of the Ministry of Culture. | Consultative party with oversight of the area of national interest for the preservation of the cultural environment and constitutes the supervisory authority for state building monuments. |
| Regional       | County Administrative Board | The county administrative boards represent the government regionally with a mission to supervise and | Consultative party with regional oversight of the national interest and constitutes the supervisory authority for both individual |

Table 2. Stakeholders and their respective responsibilities in the West Link infrastructure project.
| The City Planning and Building Office | The Gothenburg City Museum |
|--------------------------------------|----------------------------|
| Main responsible for land-use planning. Plans are adopted by the respective municipal council following a process of consultation and public exhibition. | Consultative party regarding cultural heritage issues. |
| Consultative party, responsible for detail planning above ground. | Consultative party |

| Local |
|-------|
| Consulted on planning and construction issues under the auspices of the Cultural Committee of the City of Gothenburg. Assessments, archaeological field-investigations and surveys, planning and building permit issues, research and knowledge building and advice. |

2.2. Methodology

The research project has been carried out as a qualitative case study with a focus on how the Swedish Transport Administration (STA), the National Heritage Board (NHB), the County Administrative Board of Västra Götaland (CAB) and the City of Gothenburg’s urban building office and cultural management with the City Museum work with the cultural environment issues in planning the West Link in Gothenburg. An initial tentative study in 2016 included document analysis, a workshop and participant observation at meetings. This study showed that the planning process was rich and complex in character in terms of collaboration between consultative parties with different professions or skills.

From April 2016, the formal consultation process was studied through direct and continuous attendance at meetings, which occurred about every two weeks. We participated in meetings and interacted directly with the parties that are the subject of the study until June 2018. For one more year, until June 2019, we continued to analyze meeting notes from the ongoing meeting and three follow-up interviews were conducted.

Five different sources have been the basis of our analysis:
1. meeting notes 2014–2019;
2. documents such as agreements, strategies and decisions mainly 2014–2019;
3. observation notes from meetings 2014–2019; and,
4. notes from a workshop (December 2016) in which key representatives from the negotiation process participated and various value perspectives were highlighted; and
5. interviews with representatives of participating parties.

In total, 13 people (Table 3) were interviewed. Twelve people were interviewed based on their roles and responsibilities within the West Link heritage consultation group. One additional respondent was interviewed to obtain an overview of the city planning situation in Gothenburg in general. Professional roles of the respondents include built environment consultants, archaeologists, planning architects, environmental coordinators, and architects. All interviews were conducted in a semi-structured manner, and lasted for an hour. The interviews were conducted in Swedish, recorded and transcribed word for word. Supplementary questions were asked where necessary and were answered by email. Three people were interviewed a second time before the research project ended, to gather their view of the current state of the negotiation process. These supplementary interviews were conducted with representatives of the National Heritage Board, the STA
and the City of Gothenburg. In addition, two interviews were conducted in the context of a different research project by one of the authors of this paper. Representatives of the City Museum and Swedish Transport Administration were interviewed on 26 November 2020, and 27 November 2020, respectively. These interviews have not been used in this study, but their content verifies the claims made in the paper.

**Table 3.** List of respondents. Organization, number of representatives and date of interview.

| Organization | Representatives | Date                      |
|--------------|-----------------|---------------------------|
| The Swedish Transport Administration | 4 | 23 February 2018 and 19 June 2019 |
| The County Administration Board | 1 | 14 February 2018 |
| The National Heritage Board | 1 | 2 February 2018 and 17 June 2019 |
| City of Gothenburg: Cultural Affairs Administration, management | 2 | 6 February 2018 | 24 November 2017 and 1 July 2019 |
| City of Gothenburg: City Museum | 3 | 29 January 2018 |
| City of Gothenburg: Planning and Building Office | 1 | 6 December 2017 |
| City of Gothenburg: The City Executive Office | 1 | 5 December 2017 |

Document analysis was undertaken to augment and support interview data analysis [51], but also to understand the case study context. In addition to the document analysis, we did interviews. The data were thereafter reanalyzed by critically applying the “wicked problem” framework to aspects of the project specifically related to theories of heritage and strategy-as-practice. The categorization of results is based on the challenges raised by the consultative parties themselves. There was a consensus among them that the issues most difficult to solve concerned the interpretation of the governmental condition, working methods for the continued planning of the cultural environment, and defining the responsibility between the STA and the City of Gothenburg regarding the cultural environment. Accordingly, the three main results have been elaborated through: 1) the inherent complexity of Condition 1; 2) difference in approaches to heritage; and 3) a lack of adequate coordination.

3. Results

In the following section, the various paradoxes and dilemmas in the heritage negotiations of the West Link are presented following the order: Context, Strategy used to tackle the dilemma and result.

3.1. The Inherent Complexity of Condition 1

3.1.1. Context

On the June 26, 2014, the Swedish government issued a condition for permissibility of the West Link [52]:

“For permissibility, the Transport Administration shall, after consultation with the National Heritage Board, the County Administrative Board, and the City of Gothenburg, plan and execute the West Link so that negative consequences of the cultural environment and the urban spaces in general, including parks and green spaces, are minimized as much
as possible. The archaeological sites concerned should, as far as possible, be preserved, made visible and incorporated into the new facility.”

The content of Condition 1 came to be of decisive importance for the subsequent dialogue process. On the one hand, the wording was very concise and specific, and the content was based on previous critique by the NHB and the CAB on the need to minimize the damage caused to the 17th century underground remains. On the other hand, concepts such as “consultation” (swe: samråd), “the cultural environment” (swe: kulturmiljö), “as much as possible”, “made visible”, and “incorporated” were open for interpretation. In addition, the opportunity to make visible and incorporate archaeological finds into the new facility was, by this stage in the process, considered by all involved parties to be impossible. It was a planning paradox; the requirements could not be met, yet, the representatives were obliged to fulfil the condition. This required a lengthy and complicated process of finding common ground to establish shared goals.

The STA’s representatives expected the permissibility decision in 2014 to provide the necessary guidelines to resolve only some remaining issues linked to cultural heritage management in the ongoing planning process. They anticipated a relatively rapid decision-making process in which their main guiding policy, the railway plan (swe: järnvägsplan), would lead to contract procurement and, in the end, fulfilment of Condition 1. However, the representatives of the City of Gothenburg were not satisfied with some of the basic content regarding cultural heritage in the railway plan. They requested more studies and arguments that would serve as a basis for decision-making to discuss appropriate ways to fulfil Condition 1. In contrast to the STA, the City of Gothenburg felt the need to push the breaks and go back to rudimentary discussions on values, concepts, roles and responsibilities.

3.1.2. Strategy Used to Tackle the Dilemma

One of the steps that the parties took to further define Condition 1 and reach a shared understanding of its meaning was in the form of the STA’s "Action Plan for the use of the cultural environment". This document, produced after consultation with the other parties, provided an interpretation of the condition. It clarified some of the terms used in the text of the condition—the extent of the facility and location, the meaning of cultural environment, urban environment, parks, and green areas, as well as the concepts of preservation and incorporation [52] (pp. 11-12).

To more effectively address the conditional “samråd” (consultancy meetings), to systematize the discussions, this strategy was supplemented with professional micro-level strategizing applied to navigate and overcome them in spring 2016 (almost two years after negotiations started). The working group would prepare the work and propose measures while the reference group would make decisions on their approval.

3.1.3. Result

On the one hand, the action plan resulted in a clearer strategy for the STA, but on the other, it highlighted that “after consultation with” had different meanings for different parties.

This is partly due to the Swedish system, wherein municipalities have planning monopoly, and in the West Link, the STA do not have the mandate to plan anything above ground. Additionally, the parties involved had previous experiences dealing with similar challenges and the same legal framework, in the construction of a car tunnel in the center of Gothenburg. They therefore had expectations and presumptions about each other’s roles and responsibilities based on earlier disappointments regarding heritage management. Because of this, the STA expected the City to provide them with a clear strategy on how to fulfil the condition early on. The City, however, expected the STA to take more responsibility for the actions proposed and to take charge of the heritage issues in the West Link, in a way that fell in line with the City’s notions of heritage management. In this way, the City found the action plan to be lacking—too narrow in scope, and too vague
in terms of appointed responsibility. The development of the action plan thus gave the illusion of collaboration and resulted in additional problems.

Another fallout from the attempt at collaborating to develop the action plan was that further collaboration became strained. For example, when the City wanted to engage an independent heritage expert, they perceived the STA to not acknowledge this need. Later these issues were better addressed with the establishment of the working group and additional funding for the museum. However, such situations made the negotiation process hard to proceed with, while also deepening trust issues and generating frustration on how to overcome the parties’ differing approaches to heritage management.

3.2. Difference in Approaches to Heritage Management

3.2.1. Context

Representatives from the STA and the City (the City Museum and the Planning and Building Office) differed in their expectations of the process and the management proposals regarding the cultural environment. The STA saw their scope of work to be limited to only the areas directly affected by the West Link, while for the City, this approach was too narrow. The content of Condition 1 did not match the City’s expectations of what the intervention into the cultural environment should be. The City wanted to deal with the West Link as part of their broader strategy to enable a healthy living environment and make heritage the very basis for any development strategy. However, for the STA, the job was isolated, and focused on the railway infrastructure they had been tasked to plan and implement. For them, it was important to prioritize in-situ strengthening measures, before measures in other places. Theirs was an “injury-limiting” discourse in line with the governmental mandate, and spatially limited to the boundaries of the construction. Furthermore, regardless of the geographical boundaries, the STA saw their task as being in line with Condition 1, which asked for damage minimization. This is the mandate they attempted to fulfill by positioning the tunnel with consideration for the underground remains, mitigating damage during construction, restoring the surrounding areas after completion, and making the remains visible to the extent possible in the new structures. The City’s vision was to work towards an enriched cultural environment, regardless of whether that was within the brief of Condition 1 or not. This meant strengthening the cultural environment, through various additional features and values. As representatives of the City Planning and Building Office said:

“I do not even think our group exists to fulfil Condition 1. I think, we have a grouping (...) to safeguard the cultural environment in this project (...) and it does not necessarily have to be of national interest—it happens to be almost in all the areas concerned—but the cultural environment, we aim to strengthen it.” (City Planning and Building Office, 2017).

3.2.2. Strategy Used to Tackle the Dilemma

In 2015, to work around the dilemmas concerning differences on the scope of the cultural environment, the STA and City of Gothenburg signed an Implementation Agreement, a contract aiming for the “story of the city” (i.e., the readability of the national interest) and its cultural values to be “strengthened”. It relates to the City’s detailed planning work for the West Link stations and tunnel trajectory and regulates the contract between the STA and the City regarding implementation and restoration, organization, land access, principles for “compensation planning” and division of responsibility between the two parties. This agreement was an attempt to iron out some of the ambiguity that Condition 1 generated with respect to dealing with the cultural environment.
3.2.3. Result

The Implementation Agreement became a formal tool through which the City could table proposals for actions affecting the cultural environment. It enabled them to propose concrete measures for the strengthening of the city’s history, most comprehensively through their policy documents Göteborg Förstärkt: Fästningsstaden [53] in 2017 and Göteborg Förstärkt: Landerierna [54] in 2018, both published by the City Museum. For the City, these documents were important in clarifying what Condition 1 meant to them and encapsulated their own formal requirements of the STA regarding actions taken on heritage. The documents became the basis for making agreements about the cultural environment. With the Implementation Agreement, the two parties went from consultation strictly focused on curtailing damage to the national interest, to broader collaboration on the reinforcement of values in the cultural and urban environment. The agreement resulted in a broadened scope of engagement wherein the City gained bargaining space and the focus of the task was not limited to minimizing injury on heritage property. The City’s proposals acquired greater legitimacy, for, now the “Göteborg Förstärkt” publications could be discussed within the framework of the agreement. The STA too welcomed these proposals because they provided a concrete direction to the work.

The frustration that initially characterized the process due to these divergent requests and needs, was gradually transformed into more positive and proactive positionings, but certain issues led to a continued complicated dialogue. Despite the strategy deployed, mismatched expectations continued. The City was now adhering to the vision enshrined in the Implementation Agreement to a larger degree than the STA, who still saw their task as being to fulfil Condition 1. They continued to focus on working “within the facility”. As one respondent stated:

“The main thing is to care for and possibly display what we affect directly.” (STA, 2018)

The City recognized their ambitions and expectations to be different, as seen in this statement by a museum representative:

“(…) it became evident that we have a completely different level of ambition than just making some historic walls visible.” (City Museum, 2018)

The dialogue continued with some lack of clarity on how the STA would reconcile the concrete proposals with their desire to work solely within their defined scope – both geographically and in terms of the mandate to minimize damage. This lack of clarity can be partially attributed to the lack of clarity in the Implementation Agreement itself, which does not tie into the goals of Condition 1 in any obvious way, vis-à-vis delimitation “within the facility” and focus on the national interest. Additional frustration grew from both parties, as each was now interpreting concepts of ‘strengthening’ differently, with the agreement proving that they were fundamentally not on the same page.

Another outcome of the Implementation Agreement was the generation of lack of clarity on financial matters. The agreement made no mention of who was responsible for paying for the heritage measures decided on. Without discussion or clarification, the City assumed that the STA would be responsible, while the STA argued that they had never made such claims. That the Implementation Agreement was an independent deal entered by the two parties entailed that neither the county nor government weighed in on distributing roles and responsibilities, leaving the parties to work their way through the confusing and frustrating talks regarding the expenses, themselves.

3.3. A Lack of Adequate Coordination—within and between Organizations

3.3.1. Context

The representatives agreed that it would have been easier to establish common ambitions, plans and procedures in the negotiation process – on a micro-level—if the City of Gothenburg had had a clear and unified heritage strategy at an earlier stage. Representatives from the City of Gothenburg held that when the West Link went from idea to
implementation, there was limited time for preparation and basically no internal consensus on the priority between the City’s various administrations.

“In a way, it was in many cases much harder to work on these issues within the city internally (...) than it was with the Swedish Transport Administration.” (City Cultural Administration, 2017)

To avoid political controversy and to stick to the time schedule, representatives from the city administration felt the requirement to ideally negotiate with the STA “with one voice”. In addition, conversely, the STA too had the same aspirations. However, as one representative from the City put it:

“A recurring dilemma is that the Swedish Transport Administration says, “now we want to talk to the City”. For here we have the Culture Administration, the Planning and Building Office, the Traffic Office, the Park and Nature Administration, etc. The City has probably been a bit unclear. (...) It has been quite expensive. It would have been easier if we came better prepared.” (City Management Office, 2017)

Under such circumstances, representatives from the Gothenburg City Museum found it difficult to raise what they considered important issues which would require time-consuming discussions internally within the city administration. Issues involved the heritage impact of the development; how to deal with the risk of erasing important archaeological remains; how to mitigate damage to the values of the cultural environment when something is to be demolished or replaced; how various cultural policy goals should be prioritized, etc. There was a concern that other administrations would perceive them as reactionary rather than proactive.

The lack of coordination within the City also resulted in a time-consuming process to democratically establish decisions made within various working groups on several issues regarding the West Link. This created frustration for all parties, including the STA, who expected coordination between the City’s different departments in their requirements. On the contrary, the different administrations sometimes posed different, often conflicting, demands.

“In general, we thought—especially regarding the City—that things would go faster, that they would be prepared to relocate more resources etc. It took a very long time before they decided on which City representatives would take part in the heritage negotiation process. This also affected our negotiations with the County Administrative Board, who felt we rarely answered their questions.” (STA, 2018)

This problem was a result of the collision of two different organizational cultures – the STA is effective and goal-oriented, the City is a democratic organization. The friction was further compounded by the lack of clarity of the task.

3.3.2. Strategy Used to Tackle the Problem

To be able to function more smoothly, both internally and with external partners, the City administration underwent a reorganization in 2017 and 2018. This was in response not only to the West Link negotiations, but development projects in general, that called for clearer means of communication and coordination. This strategy reflected the City’s attempt to be dynamic and adaptive to the challenges it was presented with. On a micro-level, the City’s cultural administration had previously put in place a proactive strategy to balance heritage preservation and building developments [55], but much internal “anchoring” was still needed by the time of the formal West Link consultations in 2014. Due to high demands for participation in the formal consultation, the City’s cultural administration was finally allocated enough resources for the assignment in 2017.

3.3.3. Result

A clear organization with distributed roles and responsibilities was finally appointed. Before, assignments came to be solved ad hoc, which gradually became problematic. Lack of resources had directly and indirectly become the basis for conflicts, unclear responsibility and mandate, frustration and mistrust. For the City, limited resource
allocation in combination with a limited decision-making mandate was difficult to combine with high ambitions of responsibility.

Furthermore, the reallocation of resources, which was also matched with financing from the STA, supported the shift in the City’s mode of thinking about heritage. They moved from conceiving of heritage according to Ashworth’s preservation paradigm to that of the conservation paradigm [34], which required a different type of communicative skill and approach. The former had been the way they normally worked, i.e., striving to protect, and prevent damage to national interests. As one respondent from the City Museum stated:

“We are also schooled in a way that to work with the national interests is to try to minimize damage. (...) Much of the work that we have done (in the West Link) is on the very limit of how we are used to working with cultural environment values.” (City Museum, 2018).

This result reveals the City’s attempt to deal with their frustration with the STA’s approach to heritage in a more productive way. They went from being reactive, and trying to stall the STA’s proposals, to being proactive, and suggesting new ways of approaching their differences more constructively. The budget change enabled the necessary framework for further heritage negotiations, for example, though the investment in a dedicated official who would be in charge of the project. However, it also spurred further paradoxes and dilemmas. For the STA, the financing of an official was a way to “compensate” for damage caused on the cultural environment, while the City expected other forms of compensation that to this day (2021) have not been financed. The STA and City differ on the scale of compensation measures to be built for cultural heritage damage, with the STA in favor of small interventions, and the City seeking long-lasting, more robust features to be installed in the landscape. The STA, while tasked with compensating for damage, are concerned about later problems that could arise due to maintenance of what is built, the possible need for their removal, as well as using governmental money responsibly, among other things.

4. Discussion

Although the entire planning process of the West Link is not understood as a wicked problem, the challenges that arose are characteristic of wicked problems. The discussion reflects on these challenges and further frames the strategies employed to tackle them from a strategy-as-practice perspective.

4.1. The Inherent Complexity of Condition 1

Condition 1 may be considered a symptom of another problem [1]. An earlier wicked problem, i.e., the task to avoid damage to the national interest, was treated as tame by the government, and temporarily suppressed. A reflection of how deep the problem ran is the extent of ambiguity around Condition 1: none of the parties knew who was to decide on the criteria or timeframe for its fulfilment. The inherent complexity of the condition, the emergence of problems in its interpretation that grew from the action plan that was put in place to tackle the original challenge, and the need for more collaborative methods, all characterize this problem as wicked. Previous studies have highlighted the paradoxical nature of collaborations [19], a condition that was seen also here and thus confirms previous studies.

To put the collaborative partners together was not the problem as they could all agree on the need for acting and the overall ambitions [56]. The dilemmas occurred when it came to agreeing on what to do and in what order. The solution of developing a document (the action plan), despite the conflict over the values at stake [7], was in this case a way forward yet as Gioia et al. [57] highlight, such solutions might also create more space for future interpretations. Other fundamental difficulties of a wicked problem are long planning horizons and unclear objectives. Lately, long-term ambitions have been argued to be difficult to pursue in modern public organizations, since most ongoing organizational
practices are short-term, which means that a conflict between long- and short-term ambitions might arise [58]. In the West Link project, once the long-term planning processes and specific complex conditions resulting from the ambiguity of Condition 1 were accepted, they were more actively addressed (creating a working group in addition to the existing reference group). All parties agreed that the initial phase was a struggle, but not a waste. In retrospect, they claim it could have been addressed differently. Like previous research has shown, it takes time and patience to build trust, a transparent process, and an open, respectful dialogue [19,59].

4.2. Difference in Approaches to Heritage Management

Unlike the other two challenges, this one is at a more conceptual level, throwing light on the very understanding of heritage and its management, as held by the two parties. It draws on questions of the heritage objects’ connection to their physical space and their ability to move without losing value [60]. It also brings into the discussion heritage from a landscape perspective, one that looks at the cultural environment in totality rather than single items [10]. The City was closer to having such a view on heritage than the STA, having adopted a less traditional perspective of dealing with the past associated only with protection mechanisms [36]. Furthermore, the Implementation Agreement fostered new differences in interpretation of the task and additional frustration that required being worked around, making this challenge a wicked problem. The lack of clarity is inherent [61]. The Implementation Agreement shows, just like the action plan, how the strategy of making a document rather than taking action [49,50], was used for multiple challenges.

The parties’ varying ontological perspectives on heritage constitute deep-seated differences that presented as virtually unsolvable. This explains why the crucial efforts of identifying and selecting a proper approach [37], proved to fail, given their diverse views on the scope of heritage management. According to Grint [43] (p.11) “progress does not depend upon consensus (...) We need to start by asking ‘what do we all (or at least most of us) agree upon?’”. Although the dialogue certainly took place in the West Link negotiation process, it required highly demanding conditions for communication. The strategy-as-practice theory states that this is required so that previously unthinkable solutions can become apparent, convincing actors to adjust their preferences [62] and making way for more experimental modes of interventions and management [63].

4.3. A Lack of Adequate Coordination—Within and between Organizations

What is also visible in the West Link case is that two different organizational cultures collide, and so do their various practices. Dilemmas become evident as micro-level strategies have difficulties meeting organizational models and budgets, and ongoing practices. The organizational setup is resistant to new modes despite acknowledging the need for change [64]. The STA is effective and goal-oriented, while the city is a democratic organization, with the aim of upholding public values. Nonetheless, it is the sharing of knowledge and skills – as well as fears and worries – across functional boundaries that enables the development of novel solutions and new knowledge creation, resulting in organizational learning [28]. The inherent difference in organizational setups, the need for new ways to connect across these boundaries and the imperative of increased collaboration and communication characterize the parties’ different expectations as wicked [20].

Moreover, the initial undefined division of responsibilities also contributed to some officials going beyond their normal work tasks, and comfort zones, to “push issues forward”. The lack of guidance and higher levels of leadership gave space to the practitioner in the field [27], and action to emerge [46]. A heavy burden laid upon individuals also made way for innovative ideas [57]. In such situations, support within one’s own organization is crucial, which in turn is linked to resource allocation. This moreover shows how strategic content might emerge from the bottom up [e.g., 46], and illustrates how learning occurs through actions taken rather than through strategies formulated at the top [28].
5. Conclusions

We argue that heritage management in infrastructure projects is not sufficiently understood or dealt with as a wicked problem, in both theory and practice. The theoretical implications of this study for the literature on heritage planning and strategy-as-practice are three-fold. This research contributes to (1) the characterization and understanding of heritage management in infrastructure projects as a wicked problem, and (2) scientific knowledge of the role and importance of individual and collective action in trying to navigate it as such. By studying one case study in detail, the strategy-as-practice lens helps (3) to illustrate why collaboration and negotiation between heritage professionals is so strained, an understanding of which could have implications for planning practice.

From the case study discussion, we conclude that the context in which the paradoxes and dilemmas emerge, is the result of the fact that another wicked problem was treated as tame at an earlier stage. In the Gothenburg West Link case, the task to minimize damage to the national interest was acknowledged by regional and national heritage authorities and given high priority, but the complexity of the situation was not fully considered. Other contexts were shown to be the parties’ varying ontological perspectives on heritage, and, finally, inherent difference in organizational setups and lack of organizational coordination. The dilemmas and paradoxes are seen to be both processual and collaborative in nature. The various professional micro-level strategizing applied to navigate and overcome them included action plans, delegation of tasks in reference and working groups, agreements, and reorganization and financing of additional personnel. These strategies resulted in new challenges while the core of the matter – the various definitions of heritage at play, and its “compensation” in a long-term perspective – was never effectively addressed.

To conclude, heritage management needs to be acknowledged as a dynamic and complex concept which can result in discursive conflicts between planners and heritage practitioners. Wicked problems regarding heritage management are the same as other wicked problems, but heritage is often non-prioritized in major infrastructure projects. Acknowledging the task at hand as a wicked problem should not, however, be defined through the mechanisms for solutions as it tends to undervalue the nature of the problem itself. Overcoming these challenges in the future involves acknowledging the various and sometimes competing notions of heritage, its networks and boundaries. Despite contemporary and progressive reconceptualization and recontextualization of heritage management from protective to proactive engagement, much of the organizational setup is fixed in traditional ways of thinking about heritage which makes it difficult to allocate resources for more non-material and wide-ranging aspects of the cultural environment. This situation requires challenging existing models of organization, which also implies a testing of various ideas over time, rather than having a model to implement.

Author Contributions: Conceptualization, S.F., M.D. and S.B.; methodology, S.F., M.D., S.B.; formal analysis, S.F., M.D., S.B.; investigation, S.F.; writing—original draft preparation, S.F.; writing—review and editing, S.F., M.D. and S.B.; project administration, S.F.; funding acquisition, S.F. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Swedish Transport Administration, grant number TRV 2017/48484 and HERILAND. HERILAND is funded by the European Union’s Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie grant agreement No 813883.

Institutional Review Board Statement: Not applicable

Informed Consent Statement: Not applicable

Acknowledgments: This study was part of the project Samverkan (om kulturmiljö) över professionsgränser: Fallstudie Västlänken, funded by the Swedish Transport Administration, grant number TRV 2017/48484. We thank Ola Wetterberg (University of Gothenburg), Krister Olsson (Linköping University) and Maria Håkansson (KTH Royal Institute of Technology, Stockholm) for being part
of the original research group and funding application. This paper is part of Maitri Dore’s PhD project within the framework of the HERILAND consortium.

Conflicts of Interest: The authors declare no conflict of interest.

References
1. Rittel, H.W.J.; Webber, M.M. Dilemmas in a general theory of planning. Public Sci. 1973, 4, 155–169.
2. George, G.; Howard-Grenville, J.; Joshi, A.; Tihanyi, L. Understanding and Tackling Societal Grand Challenges through Management Research. Acad. Manag. J. 2016, 59, 1880–1895.
3. Ferraro, F.; Etzioni, D.; Gehman, J. Tackling Grand Challenges Pragmatically: Robust Action Revisited. Organ. Stud. 2015, 36, 363–390.
4. Pollitt, C. Wickedness will not wait: Climate change and public management research. Public Money Manag. 2015, 35, 181–186.
5. Wright, C.; Nyberg, D. An Inconvenient Truth: How Organizations Translate Climate Change into Business as Usual. Acad. Manag. J. 2016, 60, 1633–1661.
6. De Matos, J.A.; Clegg, S.R. Sustainability and organizational change. J. Chang. Manag. 2013, 13, 382–386
7. Geuijen, K.; Moore, M.; Cederquist, A.; Ronning, R.; Van Twist, M. Creating public value in global wicked problems. Public Manag. Rev. 2017, 19, 621–639
8. Zeemering, E. Sustainability management, strategy and reform in local government. Public Manag. Rev. 2018, 20, 136–153
9. Frantzeskaki, N.; Wittmayer, J.; Loorbach, D. The role of partnerships in ‘realising urban sustainability in Rotterdam’s City Ports Area, The Netherlands. J. Clean. Prod. 2014, 65, 1406–1417.
10. Council of Europe. European Landscape Convention; European Treaty Series No. 176; Council of Europe: Florence, Italy, 2000.
11. Proposition 2016/17,16. Kulturnarvspolitik. Available online: http://www.regeringen.se/4933fd/conten-tassets/127b80d33b084194a415d72b85721874/161711600web.pdf (accessed on 8 March 2021)
12. Wu, C.; Isaksson, K.; Antonsson, H. The struggle to achieve holistic landscape planning: Lessons from planning the E6 road route through Tanum World Heritage Site, Sweden. Land Use Policy 2017, 67, 167–177.
13. Kila, J.; Herron, C. The Wicked Problem of Cultural Heritage and Conflict. In Military Involvement in the Protection and Devastation of Cultural Property; Colonet Publishing: Connecticut, USA 2017
14. Gray, P.A.; Lemieux, C.J.; Beechey, T.J.; Nelson, G.; Scott, D.J. Strategies for coping with the wicked problem of climate change. A natural heritage perspective. In The Future of Heritage as Climates Change: Loss, Adaptation and Creativity; Harvey, D., Perry, J., Eds.; Routledge: London, NY, NY, USA, 2015.
15. Oevermann, H.; Mieg, H.A. Studying Transformations of Industrial Heritage sites; Synchronic Discourse Analysis of Heritage Conservation, Urban Planning, and Architectural Production. In Industrial Heritage Sites in Transformation: Clash of Discourses; Oevermann, H., Mieg, H.A., Eds.; Routledge: New York, NY, USA; London, UK, 2014; pp. 12–25.
16. Kalman, H. Heritage Planning: Principles and Process; Routledge: London, UK, 2014.
17. Fredholm, S. Making sense of heritage planning. Experiences from Ghana and Sweden. Doctoral Thesis, University of Gothenburg, Gothenburg, Sweden, 2 July 2017.
18. Emerson, K.; Nabatchi, T.; Balogh, S. An Integrative Framework for Collaborative Governance. J. Public Adm. Res. Theory 2012, 22, 1–29.
19. Vangen, S. Culturally Diverse Collaborations: A Focus on Communication and Shared Understanding. Public Manag. Rev. 2017, 19, 305–325.
20. Waardenburg, M.; Groenleer, M.; Jong de, J.; Keijser, B. Paradoxes of Collaborative Governance: Investigating the Real-Life Dynamics of Multi-Agency Collaborations Using a Quasi-Experimental Action-Research Approach. Public Manag. Rev. 2019, 22, 386–407.
21. Seidl, D.; Whittington, R. Enlarging the strategy-as-practice research agenda: Towards taller and flatter ontologies. Organ. Stud. 2014, 35, 1407–1421.
22. Vaara, E.; Whittington, R. Strategy-as-Practice: Taking Social Practices Seriously. Acad. Manag. Ann. 2012, 6, 1–52
23. Jarzabkowski, P.; Bednarek, R. Toward a Social Practice Theory of Relational Competing. Strateg. Manag. J. 2018, 39, 794–829
24. Seidl, D.; Werle, F. Inter-organizational Sensemaking in the Face of Strategic Meta-Problems: Requisite Variety and Dynamics of Participation. Strateg. Manag. J. 2018, 39, 830–858.
25. Smets, M.; Jarzabkowski, P.; Burke, G.T.; Spee, P. Reinsurance Trading in Lloyd’s of London: Balancing Conflicting-yet-Complementary Logics in Practice. Acad. Manag. J. 2015, 58, 932–970
26. Jarzabkowski, P. Strategy as Practice: Recursiveness, Adaptation, and Practices-in-Use. Organ. Stud. 2003, 25, 529–560.
27. Whittington, R. Completing the Practice Turn in Strategy Research. Organ. Stud. 2006, 27, 613–634.
28. Bryson, J.M.; Crosby, B.C.; Seo, D. Strategizing on behalf of social enterprises: the case of the Metropolitan Economic Development Association and Catalyst. Public Manag. Rev. 2020 DOI: 10.1080/14719037.2020.1798128
29. Smith, L. Uses of Heritage; Routledge: New York, NY, USA, 2006
30. Bryson, J.M.; Hamilton, L.; Van Slyke, D.M. Getting Strategic about Strategic Planning Research. Public Manag. Rev. 2018, 20, 317–339.
31. Harvey, D.C. Heritage Pasts and Heritage Presents: Temporality, Meaning and the Scope of Heritage Studies. Int. J. Herit. Stud. 2001, 7, 319–338.
62. Telle, S. An Institutionalist View on Experimentalist Governance: Local-level obstacles to policy-learning in European Union Cohesion Policy. *Eur. J. Spat. Dev.* 2017, 66, 1-20.

63. Sabel, C.F.; Zeitlin, J. Experimentalist governance. In *The Oxford Handbook of Governance*; Levi-Faur, D., Ed.; Oxford University Press: Oxford, UK, 2011; pp. 167–183

64. Brorström, S. The sustainability shift: The role of calculative practices in strategy implementation. *Financ. Account. Manag.* 2021, 1–15, https://doi.org/1-0.15111/faam.12289.