

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

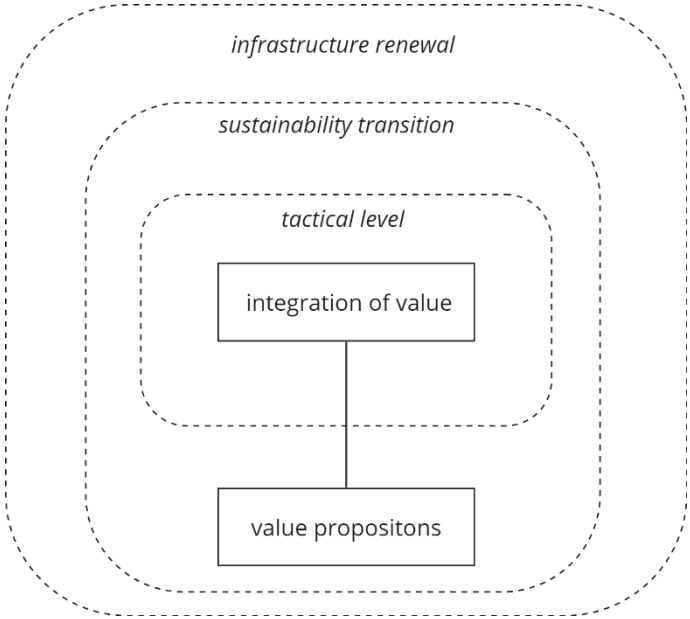
Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Emma van Dongen
Student number	4813405

Studio		
Name / Theme	Game Changers – Sustainability Transitions and Changing the Regime	
Main mentor	Prof.dr. P.W. (Paul) Chan	Design & Construction Management
Second mentor	Dr. A. (Aksel) Ersoy	Urban Development Management
Argumentation of choice of the studio	<p>My choice for this them comes from my interest in large-scale projects, mainly within the construction sector, with a focus on stakeholder interactions and management, as I aim to continue in the field of project management. Additionally, “changing the regime” definitely sparked my interest after I had read the paper by Geels (2012) on the multi-level perspective, during my exchange in Stockholm. This gave me a new perspective on how to enable the sustainability transition. Diving further into the understanding of the transition is challenging, but also very interesting, as this is going to be a vital field in the years to come.</p>	

Graduation project	
Title of the graduation project	Bridging the tactical gap: value proposition for transition governance in infrastructure renewal
Goal	
Location:	Dutch infrastructure sector
The posed problem, research questions and	<p>Main RQ; <i>How can strategic value integration facilitate the tactical transition towards sustainability in infrastructure renewal?</i></p> <p>SQ1: Who are the key actors involved in the sustainable renewal of infrastructure?</p>

	<p>SQ2: How are values defined and prioritized by these actors in the front-end of infrastructure renewal projects?</p> <p>SQ3: What are the challenges and barriers preceived to integrate and maintain these values throughout transitions?</p> <p>SQ4: How can governance mechanism embed integrated value propositions in practice?</p>  <p><i>Figure 1 Conceptual framework (own work)</i></p>
<p>design assignment in which these result.</p>	<p>Designing a value proposition as a form of toolbox that can support governance mechanisms at the tactical level of transitions</p>
<p>The Dutch infrastructure sector faces the large challenge of renewing infrastructure systems that reach the end of their lifecycle. This is aimed to be done in light of the sustainability transition and strategies are proposed on handling this large assignment (<i>Roadmap Transitiepad Kunstwerken</i>, Rijkswaterstaat, 2023). Transition management is researched thoroughly and various approaches have been developed. Transition Management is one of the governance approaches that has emerged, which looks at management at the strategic, tactical, operational and reflexive level. Now that the strategies around transitions have been established, the tactical approach is the next step. The tactical level, diving into the steering of activities that are driven by interest and specific goals, includes also the formation of networks and redefining regime structures, for which co-evolution is needed of actors' interests, agendas and strategies (Loorbach, 2010). However, the tactical level of transitions has barely been researched. As transition management looks at the multi-actor dynamics and a need for co-evolution of interests is called for, values are an intrinsic part of policy making and governance. The problem is possibility of value loss and value co-destruction due to misalignment of incentives, barriers in moving forward in the transition, and lack of shared vision. In my research I want to see if the strategic integration of values can contribute to governance at the tactical level of transitions, leading to shared value propositions. This in</p>	

relation to the challenge of renewing infrastructure systems that have reached the end of their lifecycle, value integration can enhance the transition beyond the single project scope and stretches across the sector.

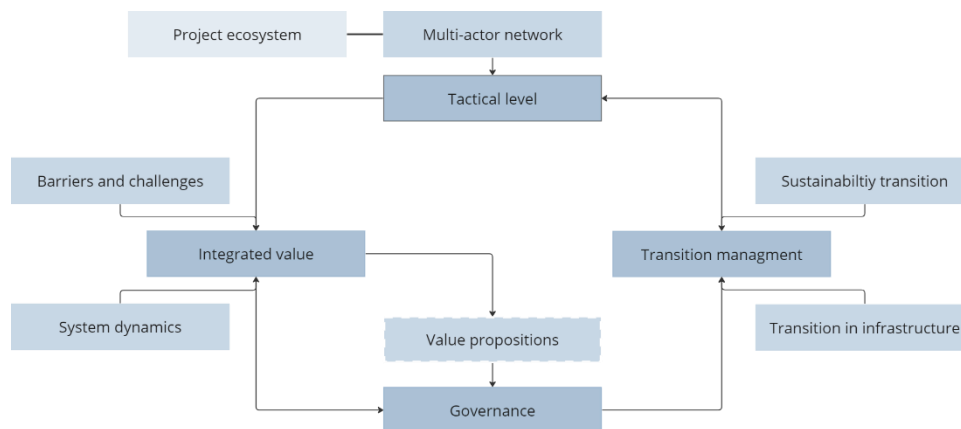


Figure 2 Theoretical framework (own work)

Process

Method description

The research design is presented in figure 1.

First, to get a comprehensive understanding of the actors involved in infrastructure renewal projects, also related to transition practices, exploratory interviews will be held with project actors at the different scale-levels. This will be done by diving an in-case analysis of within the scope of infrastructure renewals in the Netherlands. This could be a case in collaboration with Rijkswaterstaat, regarding one or several of their ongoing renewal projects.

After establishing the network of actors, the Delphi method will be employed to seek out different actor opinions and perspectives on values and how these are embedded in renewal projects and transitions. The Delphi method is understood as a method to handle complex problems, by identifying areas where there is uncertainty and/or a lack of agreement. It allows for combining fragmentary perspectives into a collaborative understanding (Sourani, 2014). The aim is to frame the early ideas and misalignment of project value in relation to sustainability and to identify perceptions of value, value creation, value loss and responsibility.

This will happen in a 3-round set up, between which data from the previous round will be analyzed and evaluated and used to create the next round. Each round aims to answer one sub-question.

The output from the Delphi method will be used to create a shared value proposition that can work as a toolbox for transition governance at the tactical level, which answers the main research question.

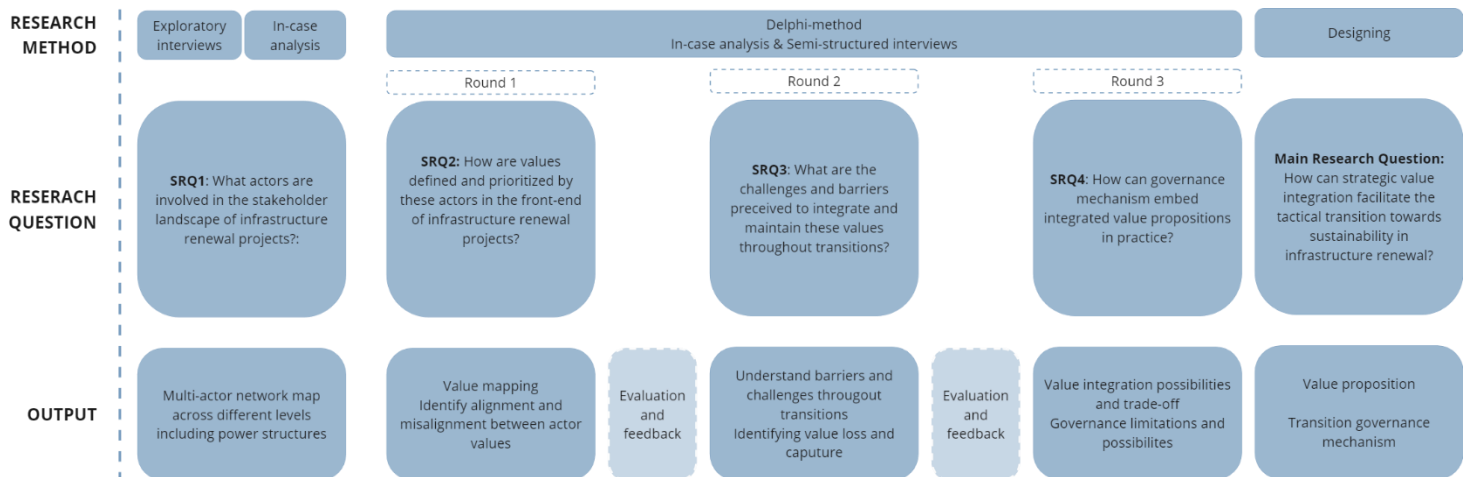


Figure 3. Research Model (own work)

Literature and general practical references

Transition Management:

Loorbach, B., Frantzeskaki, N., Thissen, W. (2010). Introduction to the special section: Infrastructure and transitions. *Technological Forecasting & Social Change*, 77, 1195-1202. <https://doi.org/10.1016/j.techfore.2010.06.001>

Frantzeskaki, N & Loorbach, D. (2010) Towards governing infrasystem transitions Reinforcing lock-in or facilitating change? *Technological Forecasting & Social Change*, 77, 1292 – 1301. <https://doi.org/10.1016/j.techfore.2010.05.004>

Turnheim, B., Berkhout, F., Geels, F. W., Hof, A., McMeekin, A., Nykvist, B., van Vuuren, D. P. (2015). Evaluating sustainability transitions pathways: Bridging analytical approaches to address governance challenges. *Global Environmental Change*, 35), 239-253. <https://doi.org/10.1016/j.gloenvcha.2015.08.010>

Value:

Gil, N. & Fu, Y. (2022). Megaproject Performance, Value Creation, and Value Distribution: An Organizational Governance Perspective. *Academy of Management Discoveries*, 8 (2). <https://doi.org/10.5465/amd.2020.0029>

Kuitert, L., Willems, J., Volker, L. (2023). Value integration in multi-functional urban projects: a value driven perspective on sustainability transitions. *Construction Management and Economics*, 42 (2), 182-198. <https://doi.org/10.1080/01446193.2023.2264969>

Vosman, L., Coenen, T.B.J., Volker, L., Visscher, K. (2023). Collaboration and innovation beyond project boundaries: exploring the potential of an ecosystem perspective in the infrastructure sector. *Construction Management and Economics*, 41 (6), 457-474. <https://doi.org/10.1080/01446193.2023.2165695>

Zerjav, V., McArthur, J., Edkins, A. (2021). The multiplicity of value in the front-end of projects: The case of London transportation infrastructure. *International Journal of Project Management*, 39 (5), 507-519. <https://doi.org/10.1016/j.ijproman.2021.03.004>

Context:

Rijkswaterstaat (2023). Roadmap Transitiepad Kunstwerken.

Method:

Sourani, A. & Sohail, M. (2014) The Delphi Method: Review and Use in Construction Management research. *International Journal of Construction Education and Research*, 11 (1), 54-76. <https://doi.org/10.1080/15578771.2014.917132>

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

As I am writing this, I released the theme "Game Changers – Sustainability Transitions and Changing the Regime" has a lot of similarity to my graduation topic in the literal sense. Looking into transitions myself, I am diving into the complexity, and want to seek out how we can improve and enhance the transition, by working in different ways or focusing on different aspects.

As for my master track, MBE, as well as for my master programme, I have always been most interested in the interaction between different stakeholders. In the built environment we deal with such a broad variety of actors, all with their own incentives, objectives and values. Understanding their way of thinking, working, prioritizing is essential for proper and effective project management, whether that is in construction, real estate or urban development. Additionally, us, as master students in AUBS, we are the executors of change in the built environment. For me, looking at transitions in my research helps understanding the challenges ahead at the management level.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

My research will add to the scientific field of transition management, project management (mainly in construction) and value studies. The currently under researched tactical level in transition management can be supported through the integration of value perspective, in relation to value integration and value propositions. The focus on infrastructure renewal as large-complex systems works as an example of socio-technical transitions, characterized by their multi-actor network, long lead times and temporal organizational nature. Further, I hope that my graduation work can add to the organizational challenges in transition governance and helps safeguarding value at different levels of the multi-actor network.