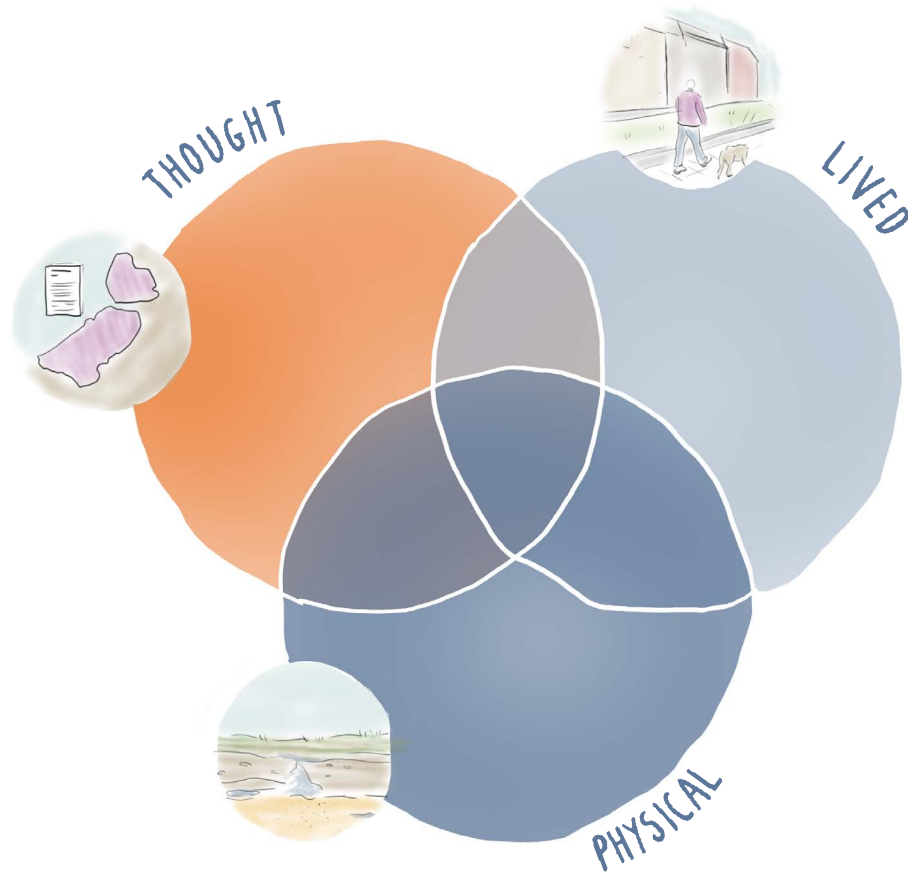


Using friction as a diagnostic compass for a new Dutch planning doctrine



Towards a friction-guided planning doctrine

Words of appreciation

During the final stage of this graduation project, I am very grateful to everyone who helped shape this thesis. A special thank you goes to my mentor team, Peter Pelzer and Tess Broekmans. Thank you both for your guidance, critical reflections, patience and encouragement throughout this process.

Peter, our conversations shaped the way I think about urbanism. Thank you for encouraging me not to take the usual route, but to explore new fields and unfamiliar research directions. Tess, thank you for bringing in your insights from practice and for continuously helping me trying to find the red thread in my work.

I would also like to thank the many people in the field who took the time to speak with me. Your stories, experiences and critical insights helped me to keep questioning, sharpening and digging deeper into this framework. These conversations gave the research much-needed grounding and inspiration.

Finally, I would like to thank my friends and family for their constant support, encouragement and trust throughout this process.

Colofon

A3 report

Juliette Feldbrugge
5313473

First Mentor - Peter Pelzer
Second Mentor - Tess Broekmans

TU Delft
Master of Science Architecture,
Urbanism and Building Sciences

Track: Urbanism

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Abstract

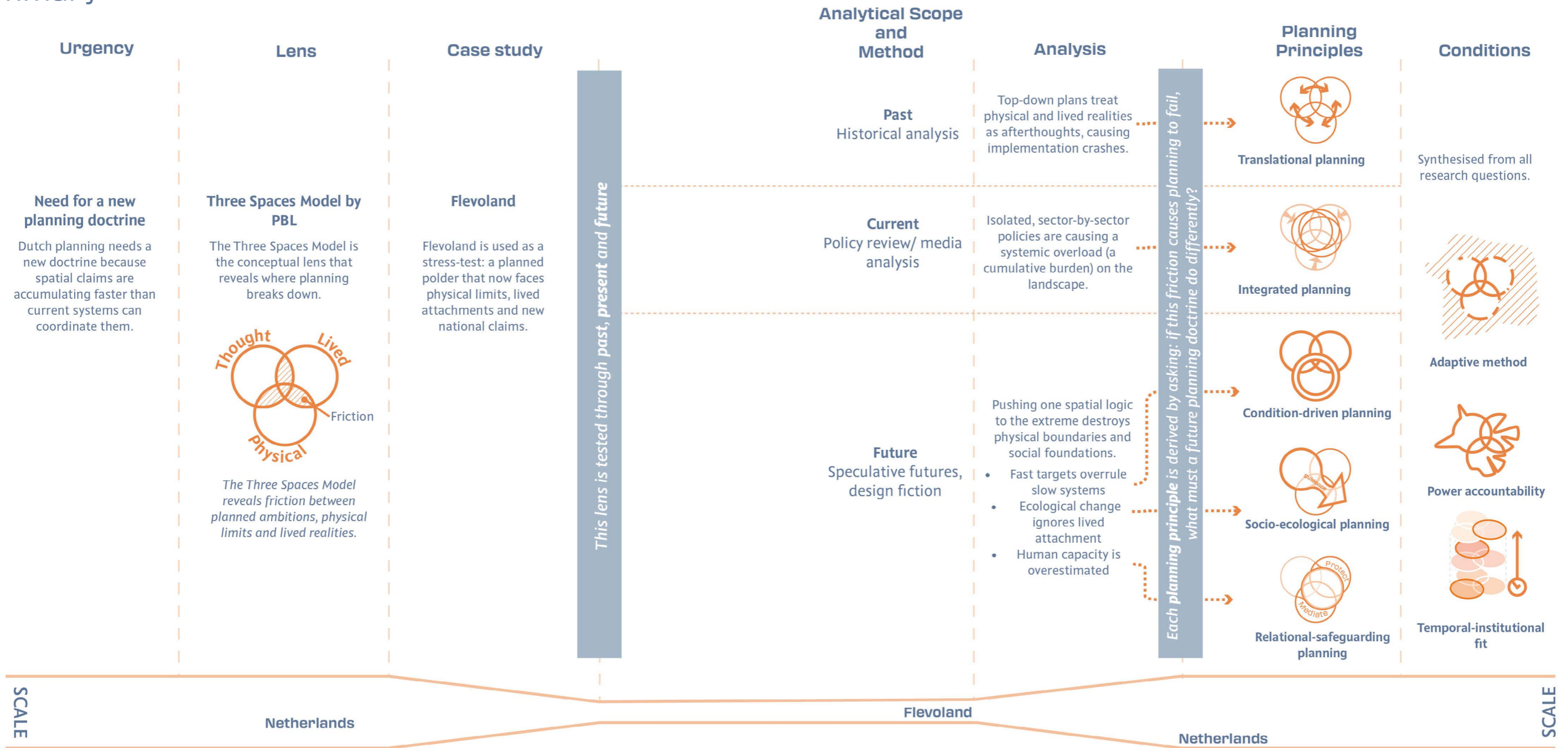
Dutch spatial planning is under growing pressure. Housing, energy, climate adaptation, agriculture, and nature all need space, while land is already limited and contested. Flevoland makes this tension especially visible: once planned as a flexible new landscape, it is now shaped by soil and water limits, infrastructure pressure, local routines, and attachment. This thesis asks whether the Three Spaces Model can support a new, friction-guided Dutch planning doctrine, not as a fixed blueprint, but as a way to make spatial decisions more consciously.

The research uses Flevoland as a diagnostic case. It analyses historical development, current spatial pressures, policy debates, media sources, and field observations. It then uses explorative scenario planning and design fiction as spatial crash-tests to examine what happens when one spatial logic becomes too dominant: the thought space of policy targets and maps, the physical space of soil and water, or the lived space of routines, attachment and local experience.

The study finds that spatial conflicts often arise when these three realities are separated too early or translated too late. Therefore, a friction-guided doctrine requires more than planning principles alone. It also depends on three institutional conditions: methodological openness, power accountability, and temporal alignment. These conditions make it possible to adapt plans, reveal unequal spatial burdens, and prevent fast political deadlines from overruling slower ecological and social realities.

The thesis proposes five planning principles: Translational, Integrated, Condition-Driven, Relational-Safeguarding, and Socio-Ecological Transition Planning. Together, they offer an open doctrine that uses friction as an early warning signal before spatial ambitions become fixed.

Summary



Preface

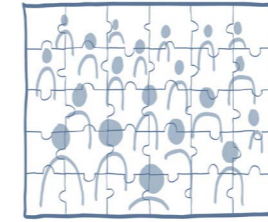
Over the past years studying in Delft, three recurring interests have shaped the way I understand urbanism and the kind of urbanist I want to become.

The first is that I have come to understand urbanism as a complex puzzle. Through conversations about my studies with friends and family, I became increasingly aware that people experience and value space in very different ways. What I might consider a “good” space can be seen by others as inconvenient, inappropriate or inconsiderate. This has made me curious about how urbanists position themselves within the urban field, and how they navigate the many perspectives, expectations and conflicts that come together in spatial decision-making.

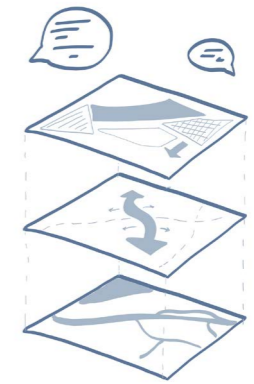
The second interest lies in the interdisciplinary nature of urbanism. The discipline operates at the intersection of spatial, social and governmental layers, which together shape strategies and decision-making. Many of today’s challenges cannot be addressed within municipal boundaries or by planners alone, making regional thinking and collaboration increasingly important. Urban design therefore does not stand on its own, but is inherently connected to other disciplines. Understanding these relationships has been an important driver throughout this graduation project.

My third interest concerns the way regional interventions take shape in practice. Regional development is inherently complex, and often requires simplification or abstraction. As a result, a tension can emerge between large-scale solutions and the way they unfold within a specific place. At the same time, it remains difficult to foresee how irreversible decisions made today will influence the future. This raises the question of how urbanists can position themselves in unfamiliar regions: not by imposing a predefined character, but by understanding what is already there.

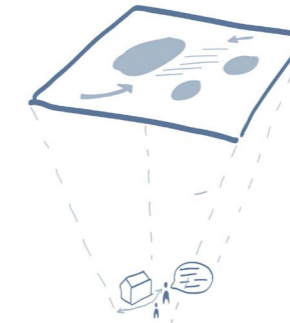
This graduation project has taken me on a journey through the Dutch spatial planning landscape, with Flevoland as a constant point of reference. Flevoland is a region where spatial interventions have continuously been questioned, tested, debated and reimaged over the past century. By bringing together my interest in spatial planning with the specific regional challenges of Flevoland, this project gradually shifted towards a deeper concern with decision-making in the spatial domain: how choices are made, whose realities are included, and how future transformations can be guided more consciously.



Urbanism as a Spatial Puzzle



The Interdisciplinary Nature of Urbanism



The Tension Between Regional Strategy and Local Landing

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Part 1 - Introduction

Introduction

This first part introduces the starting point of the research and builds towards the problem statement. It begins with the current search for a new planning doctrine in Dutch spatial planning. This search is not only about what should happen in space, but also about how space is understood, organised and tested in the first place. The Three Spaces Model is then introduced as the main framework to explore this question. It is used to examine whether a new doctrine can be based on the interaction between the thought space, physical space and lived space. Together, these steps lead to the problem statement and research question of the report.

Doctrine context

Searching for a new planning doctrine

This research starts from a broader discomfort in spatial planning: the feeling that many spatial ambitions are known, but that the way of making decisions about them is no longer sufficient. Dutch spatial planning is again searching for direction. The last three decades, national spatial planning became more decentralised, fragmented and sector-based (Janssen et al., 2025). However, current spatial challenges have reopened the question of national coordination. Janssen and Van Duinen (2025) describe this as a renewed debate about the revitalisation, and possible reinvention, of Dutch national spatial planning. They also warn that this debate should not be reduced to a simple movement from decentralisation back to recentralisation. The challenge is not only to bring the national government back in, but to find a governance approach that can give direction without losing sensitivity to regional and local conditions (Janssen et al., 2025).

This is where the idea of a planning doctrine becomes relevant. Originating with Faludi and van der Valk (1994) and recently emphasized by Verdaas (2026), a planning doctrine is not a formal policy document, but a shared set of assumptions and underlying views that give direction to the spatial organisation of a country. For much of the twentieth century, Dutch spatial planning operated under a clear doctrine. This “Rule and Order” doctrine, as identified by Faludi and van der Valk (1994), used strong spatial concepts and coordinated decision-making. This produced enduring landscapes like the Green Heart and the Delta Works (Faludi et al., 1994). There was a broad consensus about how spatial planning should be done. However, as Verdaas (2026) argues, the conditions that allowed this previous consensus to thrive are no longer in place; weakened by decades of decentralisation and sector-based planning, the integrative capacity of Dutch spatial planning has weakened.

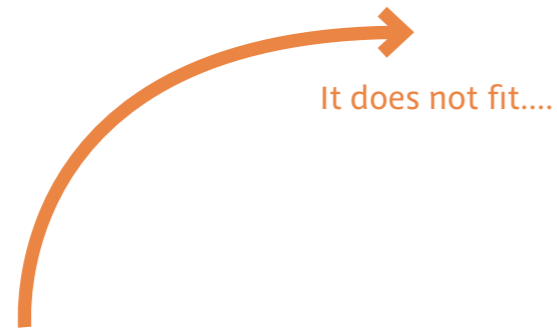
Today, as competing spatial claims accumulate, there is a renewed longing for progress, coherence, and direction in

Dutch spatial planning (Verdaas, 2026). However, returning to the exclusive, top-down doctrine of the twentieth century is no longer viable. We now operate in a landscape defined by institutional complexity, scarce space, polarisation, and geopolitical insecurity. Consequently, the answer to today’s challenges cannot simply be another static map of national ambitions. As Verdaas (2026) explores, the application of a national planning doctrine must evolve to fit today’s complex reality. However, returning to a doctrine does not mean returning to a rigid blueprint. In fact, it requires fulfilling Faludi and van der Valk’s (1994) original plea for an “open doctrine”. They explicitly warned against the uncritical acceptance of planning doctrines and their rigid concepts, arguing instead that a planning doctrine must be ‘open’, tolerant of change, and capable of meeting unpredictable contingencies. To prevent spatial gridlock today, we must revitalize this concept of an open doctrine: as Faludi and van der Valk already argued, a doctrine must not be a fixed blueprint. Rather, it requires a shared consensus on the fundamental ways in which we create space, implement plans, and account for them (Verdaas, 2026).

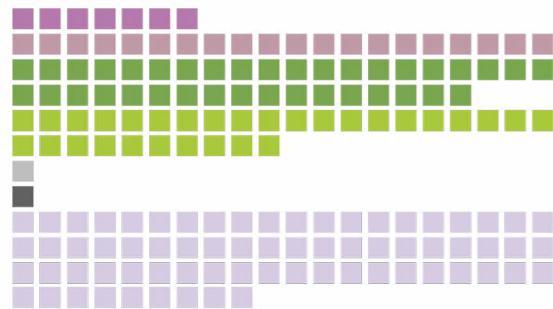
With his essay, Verdaas re-opens the door to a crucial dialogue about what the foundation of a new planning doctrine should look like. The urgency of this dialogue is physically evident in the Dutch landscape today. As the visualization on the next page illustrates, almost every hectare in the Netherlands already has a designated function. Yet, national ambitions for housing, energy, nature, and agriculture represent additional spatial claims that amount to approximately 1.8 times the available space (Monster, 2023).

Managing this unprecedented spatial pressure requires political and spatial choices that the old system can no longer process. Therefore, if a planning doctrine is essentially a set of underlying assumptions about how a country is spatially organised, the search for a new one must begin by interrogating the premises we currently hold.

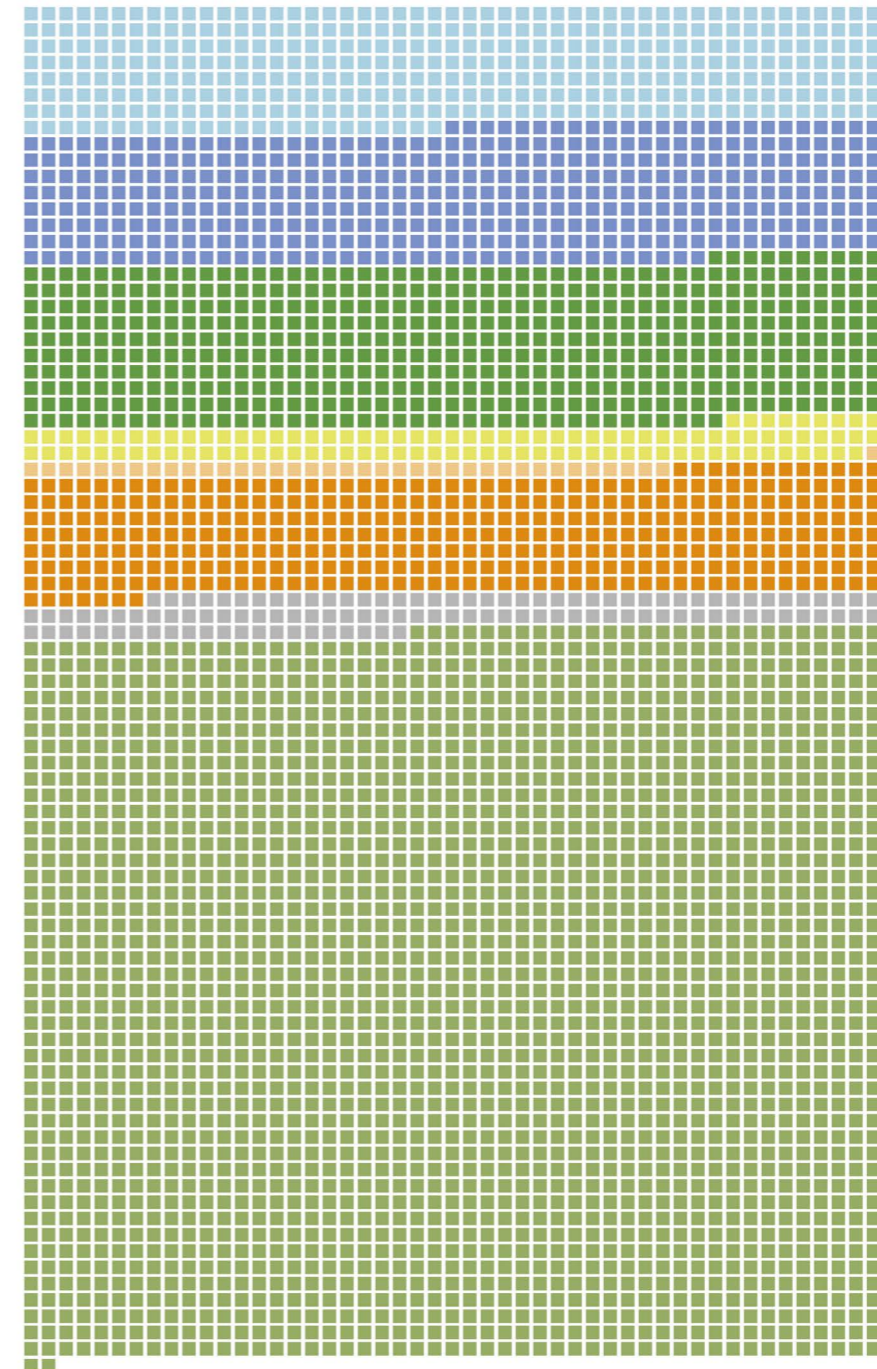
Accumulating spatial claims



Current spatial claims For NL:



- Binnenstedelijke woningen (50% nationale woningbouwopgave)
- Buitenstedelijke woningen (50% nationale woningbouwopgave)
- Nieuw bos (national bossenstrategie)
- Voltooiing Natuurnetwerk Nederland
- Defensie terrein (Nationaal Programma Ruimte voor Defensie)
- Datacenters (Bron??)
- Energie (PBL gemiddelde bandbreedte verkenning scenarios)



- Transport
- Built environment
- Semi-built environment
- Recreation
- Agriculture
- Woodland and nature
- Inland water
- Tidal water

Current land function in ha (x.100) The figure is based on CBS StatLine data on land use by municipality (CBS, 2023)

Conceptual framework

Three Space Model

If a planning doctrine is essentially a set of underlying assumptions about how a country is spatially organised, the search for a new one must begin by questioning those assumptions. This requires a critical examination of the foundations of spatial planning: how is space understood, and who or what is allowed to define it?

Historically, the Dutch are internationally known for their ability to organise space through maps, policies, rules, and spatial concepts (Janssen & Van Duinen, 2025). As previously described, Faludi and Van der Valk (1994) called this tradition as one of “Rule and Order”. This represents more than just top-down planning; it reflects a deeper planning culture in which spatial complexity is first made understandable and manageable on the drawing board. Under this traditional planning doctrine, space was effectively produced the moment it was mapped out, establishing the national government as the central actor (Janssen & Van Duinen, 2025).

However, the idea that space can be treated as a fixed, empty canvas has been heavily challenged in spatial theory. The epistemological groundwork for this critique was laid by Henri Lefebvre (1974), who argued that space is never neutral or fixed, but is continuously produced through the interaction between abstract planning, physical reality, and everyday use.

The Three Spaces Model as a Foundation

To build a new planning doctrine that moves beyond the drawing board, we require a foundational framework that accurately reflects this complex, relational nature of space. While the base of such a new doctrine could theoretically be formed by many different spatial visions or concepts, this research specifically utilizes the *Drieruimtenmodel* (Three Spaces Model) developed by the PBL (Tennekes et al., 2024).

It is essential to clarify what this model is, and what it is not. The Three Spaces Model is not a spatial blueprint, a

policy objective, or a harmonious end-state (Tennekes et al., 2024). Rather, it is a diagnostic heuristic, an analytical tool designed to expose the different, often conflicting dimensions that define any spatial intervention. The model operationalizes space into three distinct realms:

- The thought space (gedachterruimte): The abstract realm of plans, policies, maps, models, targets, and administrative boundaries. It is the space where complex spatial problems are simplified, calculated, and made governable.
- The physical space (fysieke ruimte): The material reality of a specific place, encompassing soil, water, infrastructure, buildings, and ecological systems. It represents the tangible conditions and absolute limits of the landscape.
- The lived space (geleefde ruimte): The everyday lifeworld of the users. It is the space people experience, navigate, value, and attach meaning to through their daily routines and local attachments.

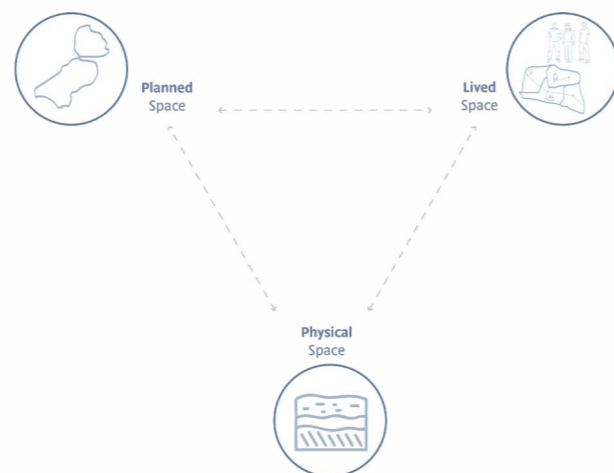


Figure 1: Conceptual threespacesmodel by PBL (2023)

The Generative Role of Spatial Friction

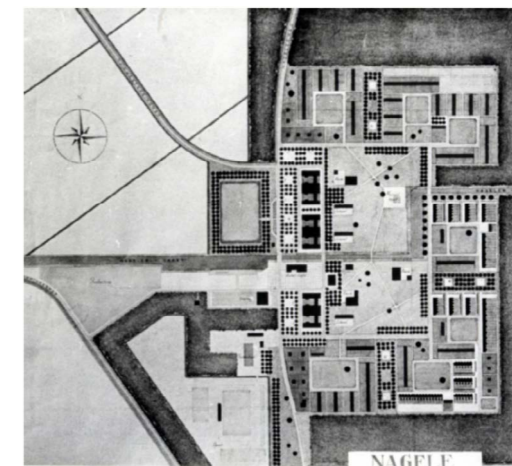
The old Dutch planning doctrine relied heavily on the assumption that these three spaces could be seamlessly aligned from the top down (Faludi et al., 1994). It assumed that a well-drawn plan (thought space) could effortlessly manipulate the soil (physical space) and dictate daily life (lived space), engineering conflicts away into a harmonious outcome.

The PBL model fundamentally abandons this assumption of static harmony (Tennekes et al., 2024). It recognizes that these three spaces operate on inherently different logics that are in constant tension with one another (Tennekes et al., 2024). A national target for wind energy (thought) does not naturally align with the ecological carrying capacity of a polder (physical) or the historical attachment of a farming community (lived). When top-down planning forces these incompatible logics together, spatial friction inevitably occurs.

However, instead of treating this friction as a failure of implementation that must be erased, this research uses friction as a diagnostic compass. By exposing the continuous clashing of these spatial realities, the model reveals exactly where the old drawing-board logic breaks down (Tennekes, et al.). Acknowledging and locating this friction is therefore the necessary prerequisite for developing a new, dynamic planning doctrine, one that no longer tries to hide systemic tensions, but instead provides the planning principles to consciously navigate them.



Figuur 2: De prachtige kleuren van de Urker klederdracht worden met trots getoond. Photo: Riekelt Pasterkamp



Figuur 3: An example of the thought space (Plan for Nagele Flevolands Archief)

Friction is the inevitable tension that occurs because abstract plans, material reality, and lived experience can never fully align.

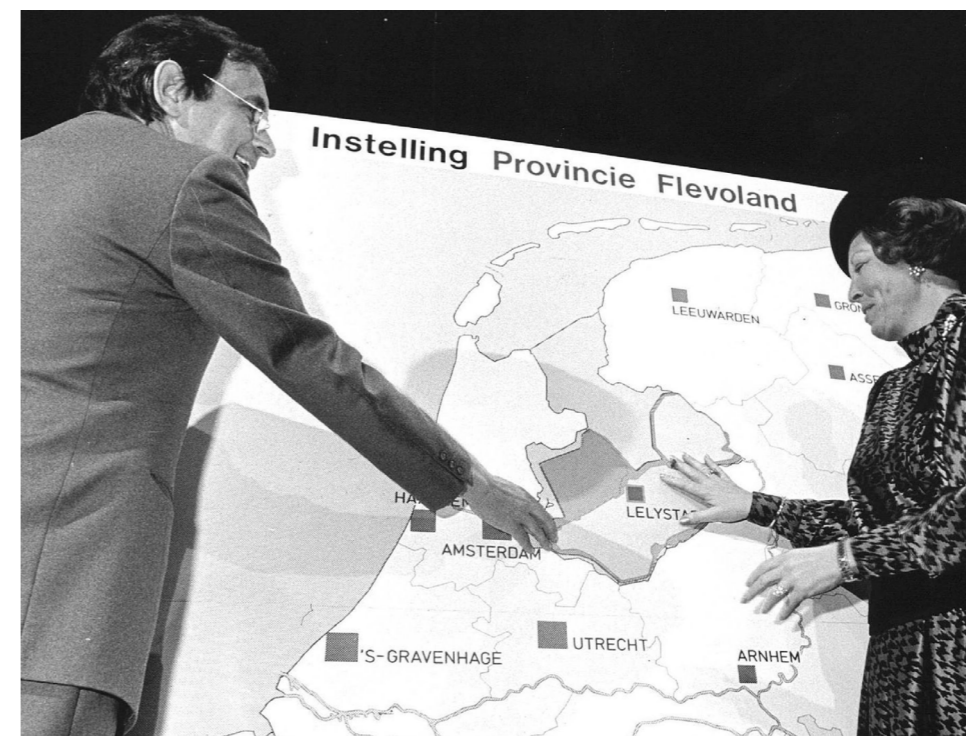
Problem statement and research question

Synthesis

Dutch spatial planning is at a crossroads. Urgent challenges, from climate adaptation to housing, call for stronger national coordination again (Janssen & Van Duinen, 2025). Yet simply returning to the traditional “drawing board” doctrine is not enough. In today’s saturated and contested landscape, this approach risks producing systemic spatial friction, because abstract policy goals too easily treat soil, water, infrastructure and everyday life as implementation problems rather than as structuring realities (Tennekes et al., 2024).

The issue is therefore not national coordination itself, but the doctrine that guides it. If coordination returns without an updated planning doctrine, it risks repeating the same top-down logic under new pressures. A planning doctrine, as Faludi and Van der Valk (1994) argue, is not only a broad vision, but also depends on practical planning principles that guide how spatial decisions are made. This creates the central gap of this research: Dutch planning needs a doctrine that can coordinate urgent spatial transitions, while remaining responsive to physical limits and lived realities. This research investigates whether the PBL’s Drieruimtenmodel can help bridge that gap by moving from a diagnostic framework towards an actionable foundation for spatial planning. This leads to the central research question:

*“To what extent can the **Three Spaces Model** serve as a conceptual basis for a **new planning doctrine** in Dutch spatial planning, and what **conditions** and **planning principles** does this require?”*

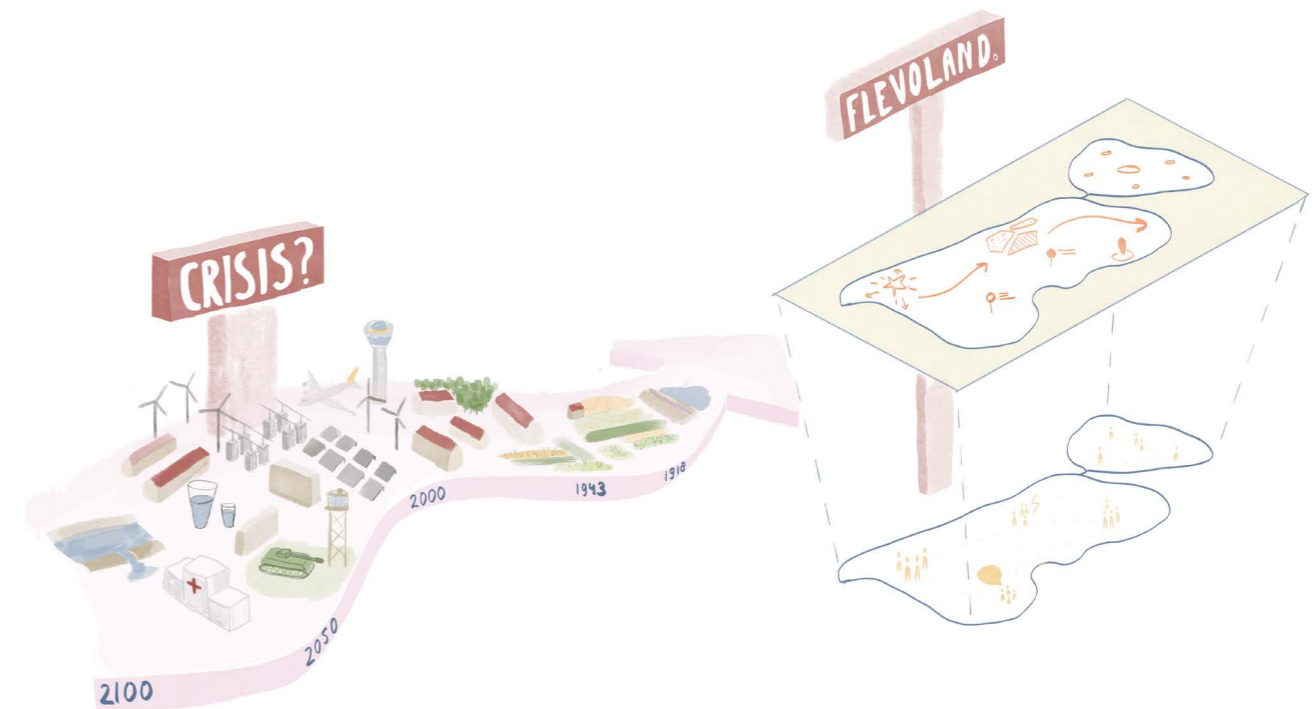


Figuur 4: Instelling provincie Flevoland. - Blom, J. (1986, 9 januari). Instelling provincie Flevoland. Het Flevolands Archief. <https://www.hetflevolandsarchief.nl/>

Introduction

This chapter introduces Flevoland as the spatial context of the research. It first positions the province as a planned polder landscape shaped by national ambitions and the Dutch belief in *maakbaarheid*. A short timeline then outlines how Flevoland has been reinterpreted over time in relation to changing national priorities.

The chapter then moves to the present-day situation. It shows why Flevoland continues to attract new spatial claims, while also explaining why the image of available or empty space is no longer sufficient. In doing so, the chapter prepares Flevoland as the case through which the following chapters examine spatial friction in the past, present and future.



Figuur 6: Problem statement illustration

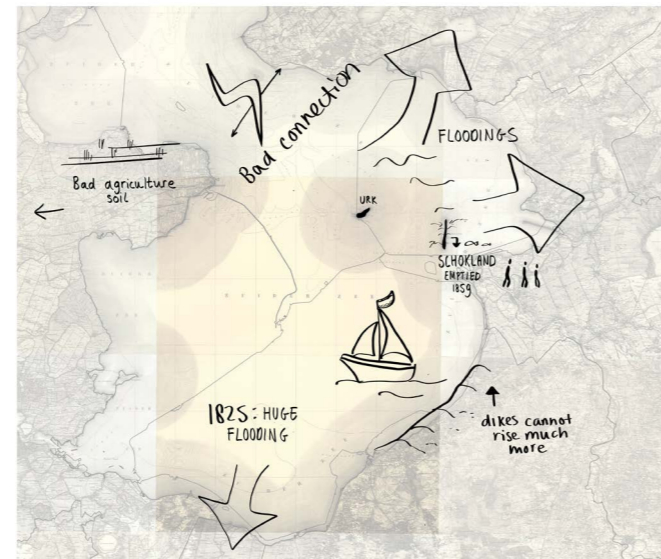
Historical context

Flevoland as Engineered Polder

Flevoland serves not just as a strong case study for this research, but as the ultimate diagnostic stress-test, because **it makes the dominance of the thought space unusually visible**. It is a clear example of the “rule and order” idea (Faludi et al., 1994). The province was not gradually formed over centuries, but deliberately drawn, reclaimed and organised as a national planning project. It is one of the clearest expressions of the Dutch belief in *maakbaarheid* (Provincie Flevoland, 2018): the idea that land, water and society can be shaped through engineering, policy and state coordination.

From a national planning perspective, Flevoland has often appeared as a flexible solution space: new land on which changing national ambitions could be projected (Van Dijk, 2021). Yet the province is no longer only a planned landscape. It is also a physical landscape shaped by soil, water systems and ecological processes, and a lived landscape where people farm, commute, work and build daily routines and attachments.

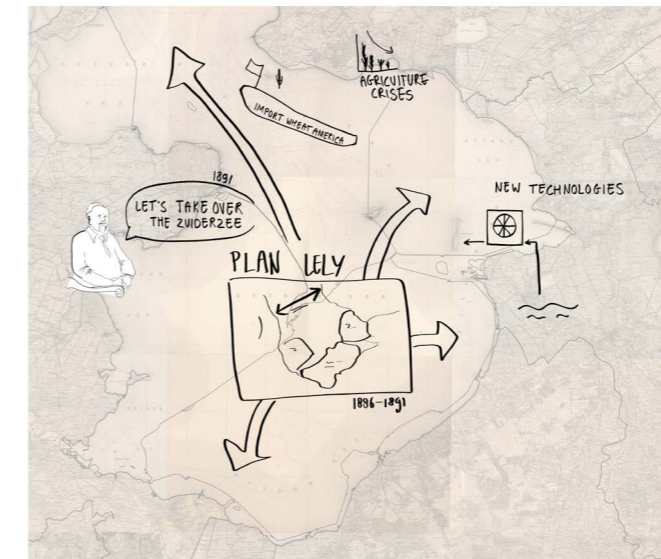
The timeline on the right illustrates how Flevoland has repeatedly been reinterpreted in relation to national needs: from water safety and food security to housing, nature, infrastructure and renewable energy. This history shows both the strength and the risk of Dutch drawing-board planning. Flevoland could be made through planning, but that does not mean it can be endlessly replanned. Over time, the province has become filled with existing functions, physical dependencies and lived attachments. New spatial ambitions therefore no longer land on an empty surface, but in a landscape that is already used, managed, valued and contested.



Figuur 7: Main events happening before 1875

1875

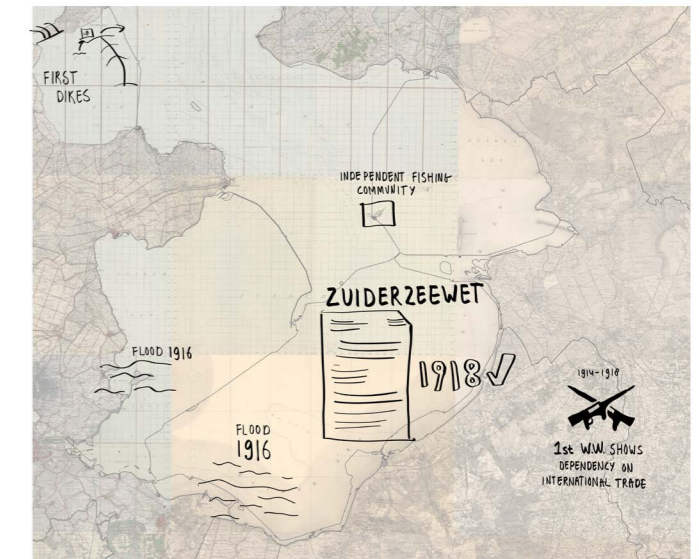
Poor soils in parts of the Netherlands, combined with rapid population growth, make food security fragile. Repeated coastal floods expose the limits of existing dikes and local water boards. The Zuiderzee appears not as a landscape, but as a risk, uncontrolled water in the middle of the Netherlands. Early engineers, including Cornelis Lely, begin to imagine land-making as a national project.



Figuur 8: Main events happening between 1875 and 1900

1875 - 1900

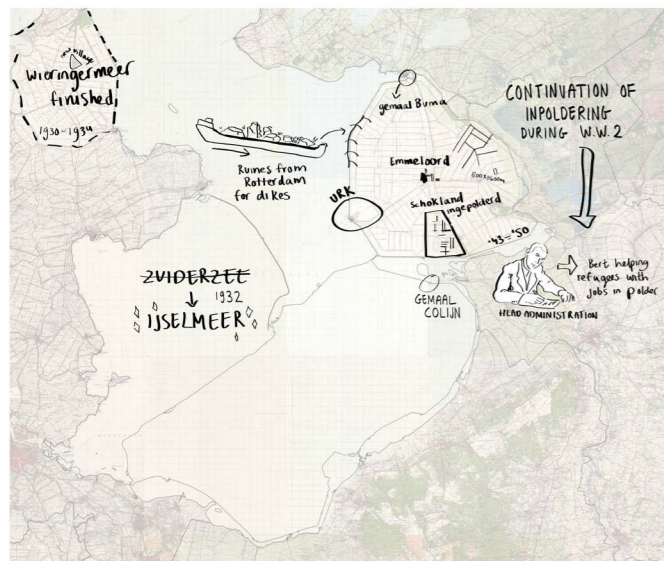
New hydraulic technologies, steam-powered pumping, and large-scale engineering knowledge shift what seems possible. Lely formulates what later becomes Plan Lely: not just flood protection, but the deliberate creation of new land. The Zuiderzee is reframed, from threat to opportunity, through design, calculation, and state coordination. This marks the ultimate victory of the thought space: water control becomes a national spatial design, reframing the Zuiderzee from a threat into a blank canvas for national ambitions.



Figuur 9: Main events happening between 1900 and 1925

1900 - 1925

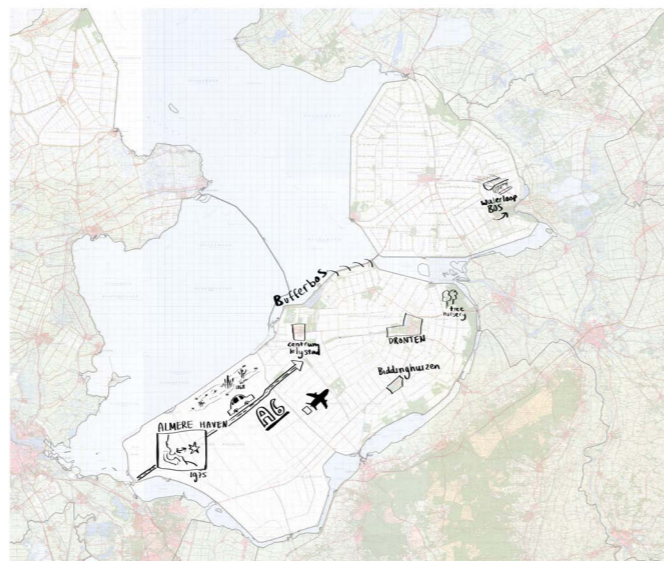
The First World War exposes how dependent the Netherlands is on imported food. Food scarcity, not flooding, pushes the project forward. The Zuiderzee Act of 1918 legitimizes large-scale intervention: dams, dikes, and polders as national infrastructure. Construction begins with the Wieringermeer, testing whether land can truly be produced.



Figuur 10: Main events happening between 1925 and 1950

1925 - 1950

In 1932, the Afsluitdijk turns the wild Zuiderzee into a controlled inland lake. The physical production of land begins, driven by the national need for agricultural security. Work continues even through the Second World War; Flevoland's early foundation is engineered while the nation is under occupation. In this phase, the thought space is dominated by hydraulic engineering and the absolute belief that nature can be mastered.



Figuur 11: Main events happening between 1950 - 1975

1950 - 1975

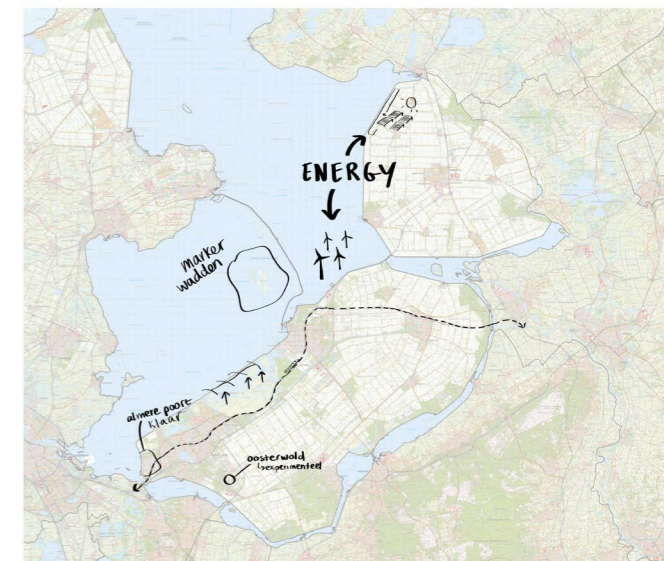
With the land now dry, Flevoland becomes the ultimate answer to post-war housing shortages and welfare-state planning. New towns and national facilities are placed in the emptiness. Renes (2019) describes Flevoland in this era as a “utopia on the seabed”, a landscape where national ambitions and modern living could be projected. The polder becomes a testing ground not just for land, but for designing the ideal society.



Figuur 12: Main events happening between 1975 - 2000

1975 - 2000

Masterplans shifted with changing societal needs, proving the polder's built-in flexibility (Van Dijk, 2021). The Oostvaardersplassen emerged and the early completion of the A6 reflected new car-centric ideals.



Figuur 13: Main events happening between 2000 and 2025

2000 - 2025

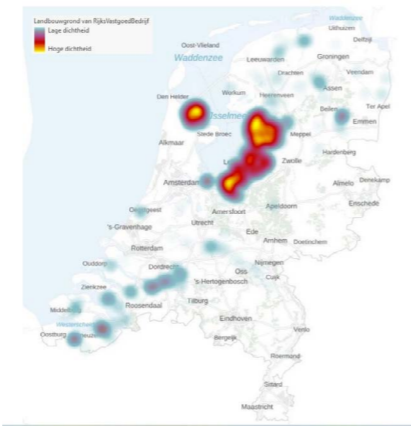
Climate change and the energy transition reframe Flevoland once again. Wind turbines spread across the polder, turning openness into infrastructure. Food, energy, and water are once more national concerns positioned in the province. The hanzelijn was finished very late in 2012. The question is still rarely whether Flevoland should function as a national solution space, but rather which national claim it should absorb next. Flevoland does not finish; it keeps being reassigned.

Current availability

The Hague's Logic: An Easy Target

This logic of answering national claims is still visible today. Flevoland can easily appear attractive from a national planning perspective. It has a young and engineered landscape, a relatively open spatial structure, and a large amount of agricultural land. In addition, a significant share of this agricultural land, 32 percent, is owned by the national government through the Rijksvastgoedbedrijf (Woltjer et al., 2024). From the perspective of policymakers in The Hague, this can make Flevoland look like a logical place to accommodate new spatial claims.

This map showcases in purple the land owned by the national governments (public domain). To land the spatial claims as soon as possible, these lands are easiest to change as there the ownership issue is smaller.



Figuur 14: Heatmap ownership agricultural land Rijksvastgoedbedrijf, 1 november 2023. Note. Overgenomen uit Woltjer en Voskuilen (2024, p. 4), op basis van Kadaster (BRK) en RVO (gewaspercelen 2022).



↑ How many of these challenges fit into Flevoland?



Land owned by Rijksvastgoedbedrijf in h (x.1000)

- Binnenstedelijke woningen (50% nationale woningbouwopgave)
- Buitenstedelijke woningen (50% nationale woningbouwopgave)
- Nieuw bos (nationaal bossenstrategie)
- Voltooiing Natuurnetwerk Nederland
- Defensie terrein (Nationaal Programma Ruimte voor Defensie)
- Datacenters (Bron??)
- Energie (PBL gemiddelde bandbreedte verkenning scenarios)



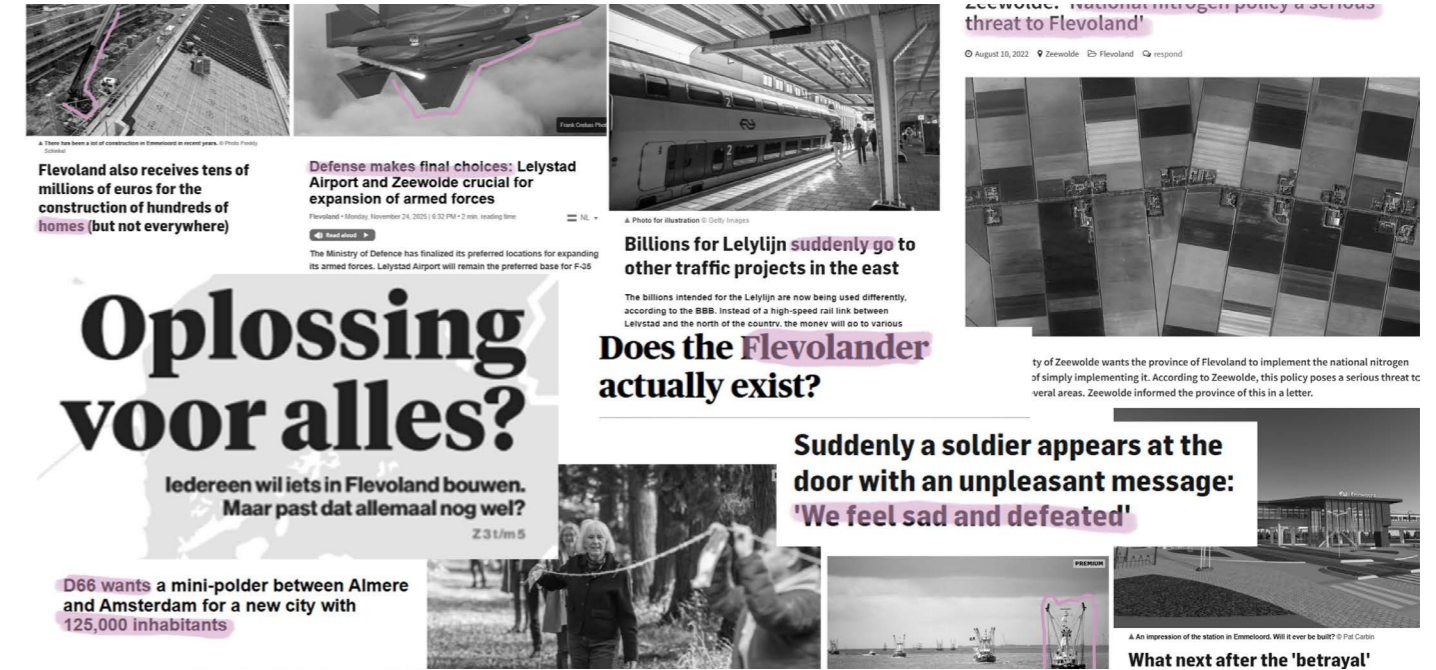
Spatial resistance

Flevoland talks back

The map of Flevoland makes the province appear available. From the perspective of the thought space, public land, openness, and a planned landscape easily look like room for new national ambitions. But availability on a map is not the same as availability in reality.

Flevoland is no longer a blank canvas. What was once imagined as new land has become *gewoon land*: an everyday landscape where people live, work, remember and belong (Renes, 2019). Over time, the polder has developed its own physical limits and lived routines. As the newspaper headlines in Figures 15 and 16 show, this means that new spatial claims do not land in emptiness. They crash into a saturated polder where the physical soil and the lived communities are fiercely pushing back against top-down interventions. Flevoland is talking back.

To understand why the old planning doctrine is crashing, we must now use the Three Spaces Model to diagnose exactly where these systemic frictions come from.



Figuur 15: Spatial interventions of Flevoland in the media



Figuur 16: Spatial interventions of Flevoland in the media

Introduction

To find the conditions and planning principles of a friction-guided planning doctrine, a structured approach has been developed. This chapter presents the scope, research questions, methodology, and methods used to address them. It also explains the theoretical framework on which the research is based and how this framework informs the research questions. Through these methods, the design goal is clarified at the end of the chapter.

Scope

Focusing the Lenses

Focusing the Lenses

Because the Three Spaces Model is conceptually broad, this research isolates one core element within each space to make the analysis precise. These specific lenses are chosen to reflect the most urgent spatial and political bottlenecks, such as housing demands, ecological boundaries, and community displacement, in Flevoland today:

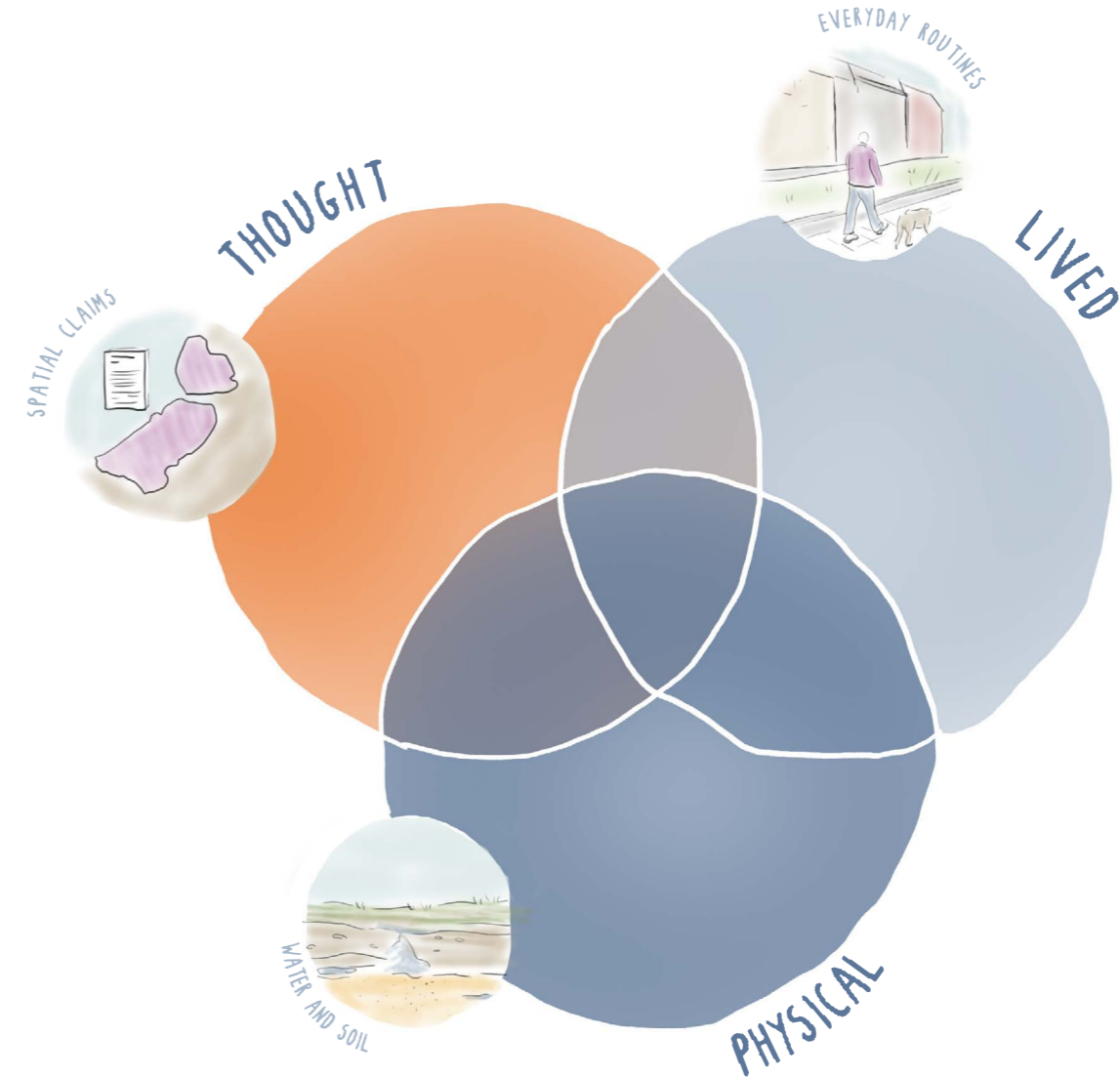
- **Spatial claims (Thought Space):** Within the thought space, this research focuses on spatial claims. The thought space is broader than this: it also includes policy language, maps, models, administrative boundaries and planning concepts. However, spatial claims are used here as the main analytical lens because they make abstract ambitions visible in concrete terms: how many homes should be built, where energy infrastructure should land, and which areas are expected to contribute to agriculture, defence or climate adaptation. This focus follows from the current accumulation of spatial claims in the Netherlands, where sectoral ambitions increasingly compete for limited space (Raad voor de leefomgeving en infrastructuur, 2021). In Flevoland, these claims are especially useful to study because they show how the province is approached through programmes, targets and allocations, and where these planned ambitions begin to clash with physical conditions and lived realities.
- **Soil and water (Physical Space):** Soil and water are used here to foreground the basic carrying capacity of the polder landscape. Subsidence, salinisation, water pressure, and freshwater dependency show that Flevoland is not an endlessly flexible surface. The land has its own limits, and those limits increasingly determine what can and cannot be planned. With current ideas of Bodem and Water sturend, this is highly relevant (Ministerie van Infrastructuur en Waterstaat, 2022).

- **Daily routines (Lived Space):** This space is about the way people organise their everyday lives in a place. It concerns how people live, farm, commute, work, care, age, and build attachments over time. In Flevoland, this is crucial. The province is no longer only an engineering project; it has become an everyday environment shaped by habits, memories, and belonging. This focus on the daily lifeworld is highly relevant because citizens are no longer merely passive recipients affected by changes in their living environment. As the Bouma et al. (2023) highlight, they increasingly assert themselves as active voices within an ‘energetic society’, shaping spatial development from the bottom up through local initiatives, active resistance, and demands for meaningful involvement in spatial policy

These three focused lenses form the direct analytical structure for the rest of this research. In the following chapters, they will be used to dissect the history of the polder, map its current compounding pressures, and ultimately test exactly where the spatial system begins to break in speculative futures.

Analyzing the Clash

This research starts from these clashing perspectives. It argues that spatial planning becomes problematic when one spatial reality dominates without being translated into the others. The challenge is therefore not only to accommodate more claims, but to understand which reality is shaping the decision, which realities are pushed aside, and what is lost when one of them takes over.



Figuur 17: Analytical lenses within the Three Spaces Model.

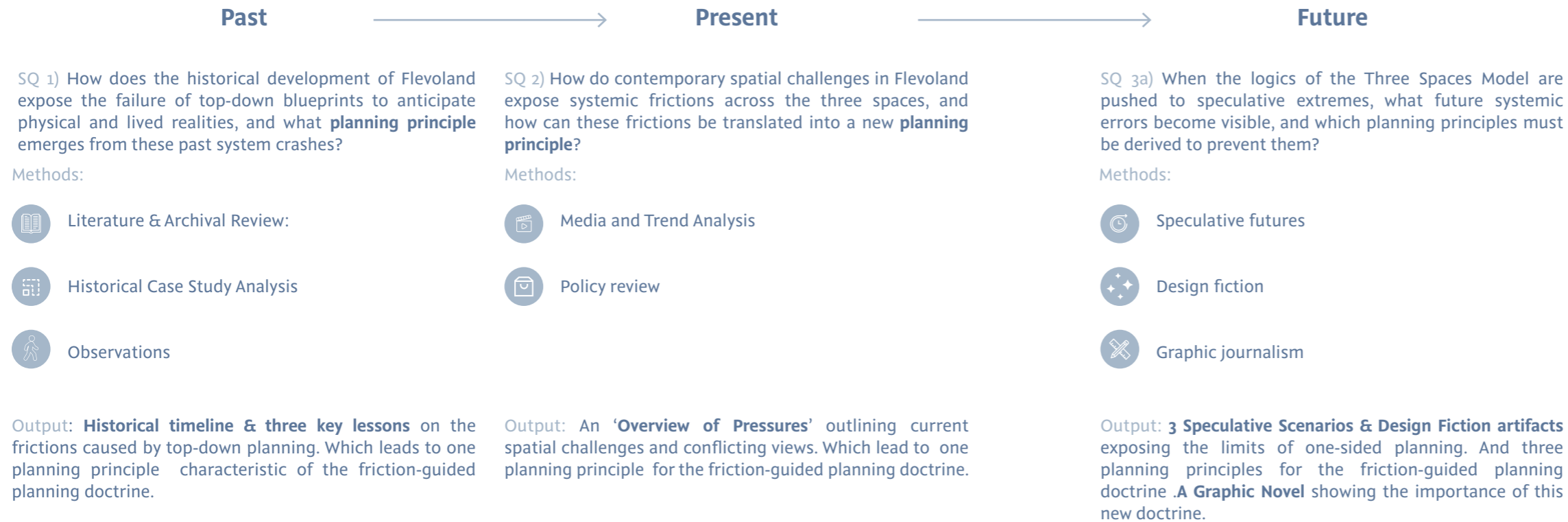
Research structure

Research Questions and Outputs

In order to answer the previously stated research question, a set of methods has been established. This research project uses the theoretical framework of the *drieruimtenmodel* (Threespacemodel) as the basis for a research-by-design approach. In the table below, each sub-question is linked to its corresponding methods and expected outcomes. Together, these illustrate the variety of research methods used to work towards the overall research aim.

Research question:

“To what extent can the Three Spaces Model serve as a conceptual basis for a new planning doctrine in Dutch spatial planning, and what conditions and planning principles does this require?”



Methods

Method overview

Various methods are used to investigate the frictions between thought, physical, and lived spaces in Flevoland. Grounded in the theoretical framework of the drieruimtenmodel, this research adopts a research-by-design approach. By mixing methods per sub-question, data from different sources can be interpreted, triangulated, and confirmed.

Speculative futures, design fiction, and graphic journalism

A key methodological cluster to point out is the use of speculative design and visual narrative. Scenario planning, often used in the Netherlands by institutes like the PBL, typically involves creating possible futures to prepare the government for uncertainties (PBL, 2019). While valuable, this often focuses heavily on quantitative models and proximities.

This research diverges by using Explorative Scenario Planning (XSP) and Speculative Design. As described by Barendregt and Vaage (2021), this is “an approach in which designers create a product or object connected to an imagined scenario used to encourage people to engage in critical reflection.” Within this, design fiction challenges traditional scenario planning. Where traditional scenarios state “let me tell you”, design fiction emphasizes “let me show you”, serving as a means of creative discovery driven by asking “What if?” (Bleecker et al., 2022). It makes the future tangible by creating artifacts that represent current thinking taken to its extreme. Finally, these findings are translated into a book-length graphic novel, a visual storytelling format situated within the broader field of graphic journalism (Schlichting, 2016), allowing planners to confront the spatial biases uncovered in the research in a more critical, situated, and empathetic way.

Note: A more detailed explanation of the methodology and methods used for the use of speculative futures and design fiction is provided in Chapter 6.



Literature & Archival Review:

Process: Read scientific articles, books, planning documents, maps, and archival material on Flevoland’s spatial development.
Insight: Understand how Flevoland was originally imagined and planned, and define the theoretical basis for the *drieruimtenmodel*.



Historical Case Study Analysis

Process: Study three historical case studies to connect the theoretical framework with the spatial and governance history of Flevoland.
Insight: Reveal how Flevoland’s planning ideas took shape in practice, and where frictions emerged between planned, physical and lived realities.



Policy review

Process: Review current policy documents from municipal, provincial, and national levels related to Flevoland’s future development.
Insight: Clarify which spatial ambitions, values, and pressures currently guide decision-making in the region.



Media & Trend Analysis

Process: Collect and compare newspaper articles, reports, public debates, and emerging trends connected to Flevoland.
Insight: Reveal how contemporary issues such as housing, agriculture, energy, climate, and identity are discussed and contested.



Fieldwork / Observations

Process: Visit locations and museums in Flevoland by walking, cycling, driving, photographing, mapping, and taking notes.
Insight: Observe how planned structures, everyday use, and landscape qualities appear in the physical environment



Speculative Futures / XSP

Process: Build three explorative future scenarios by pushing one spatial logic to an extreme in each scenario.
Insight: Explore what Flevoland could become when one value dominates regional planning and other values are pushed aside.



Design Fiction

Process: Translate the future scenarios into fictional but believable objects, texts, maps, images, or documents.
Insight: Make possible futures tangible, so their tensions, risks, and consequences can be discussed more concretely.



Graphic Journalism

Process: Combine research findings, observations, scenarios, and fictional artifacts into a visual non-fiction narrative.
Insight: Communicate spatial planning issues through story, image, and character, making regional dilemmas easier to understand and feel.

Research Workflow

Analytical process

Research set up

Need for a new planning doctrine
Spatial claims accumulate faster than current planning can coordinate.

Three Spaces Model as lens
Reveals friction between planned, physical and lived space.

Research question

To what extent can the **Three Spaces Model** serve as a conceptual basis for a **new planning doctrine** in Dutch spatial planning, and what **conditions** and **planning principles** does this require?

Case study

Flevoland
Flevoland is used as a stress-test: a planned polder that now faces physical limits, lived attachments and new national claims.

Tested through past, present and future

Sub-questions

Past
How does the historical development of Flevoland expose the failure of top-down blueprints to anticipate physical and lived realities, and what **planning principle** emerges from these past system crashes?

Current
How do contemporary spatial challenges in Flevoland expose systemic frictions across the three spaces, and how can these frictions be translated into a new **planning principle**?

Future
When the logics of the Three Spaces Model are pushed to speculative extremes, what future systemic errors become visible, and which planning principles must be derived to prevent them?

Methods



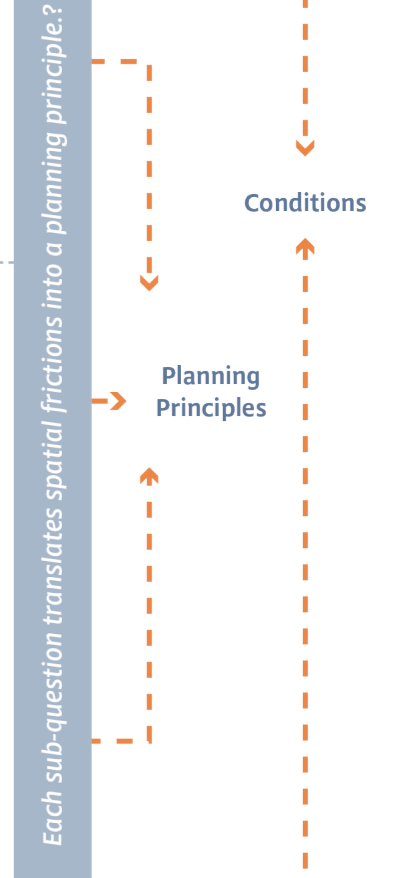
Action

Analyse three historical cases to identify where plans, physical conditions and lived realities failed to translate.

Analyse current spatial pressures to understand how separate claims land in the same landscape.

Crash-test extreme spatial logics to reveal possible system errors.

Output



Flevoland

Netherlands

SCALE

Scope and ethics

Limitations

This research is deliberately limited in scope. It studies Flevoland as a regional case through the Three Spaces Model, focusing on the frictions between planned space, physical space and lived space. The research does not aim to produce a masterplan, policy programme or detailed design proposal for specific municipalities. Nor does it assess spatial quality as a measurable final outcome. Instead, spatial quality functions as a theoretical background: a way to understand where the translation between abstract planning ambitions, material conditions and lived meanings begins to fail.

Because the research is interpretative, it also carries ethical risks. The selection of literature, policy documents, media sources, maps, observations and visual interpretations inevitably shapes the outcome. Certain narratives may be emphasised while others remain less visible. This is addressed by working with multiple types of sources and by reflecting critically on the assumptions behind the analysis and design choices.

A second limitation concerns representation. By studying Flevoland at a regional scale, the research risks simplifying the diversity of places, communities and experiences within the province. It therefore does not claim to represent all lived experiences or all local realities in Flevoland. Instead, Flevoland is used as a regional case through which broader planning tensions can be examined, particularly those related to state-led land-making, physical limits and national spatial pressure.

A third ethical risk concerns the use of speculative futures and design fiction. These methods intentionally exaggerate certain spatial logics in order to make hidden frictions, vulnerabilities and blind spots visible. The scenarios should therefore not be read as predictions, inevitable futures or direct representations of existing actors, places or policies. They are methodological tools for reflection: a way to test what may happen when one spatial logic becomes too dominant in planning.

Introduction

This chapter uses the history of Flevoland to understand how spatial friction appears over time. Rather than treating history as background, it reads three cases, Urk and Schokland, the Oostvaardersplassen and Lelystad,, through the Three Spaces Model. The aim is to identify moments where the planned idea, the physical landscape and lived experience did not fully translate into each other.

For each case, the broader context is introduced briefly. A timeline then traces the main spatial moments, followed by specific points where friction became visible. The focus is not on reconstructing the full history of each place, but on understanding what these frictions reveal about planning. By reading the past in this way, the chapter works towards the first planning principle of a friction-guided doctrine.

CONTEXT

EVENTS

FRICTIONS

SYNTHESIS OF CASE STUDIES

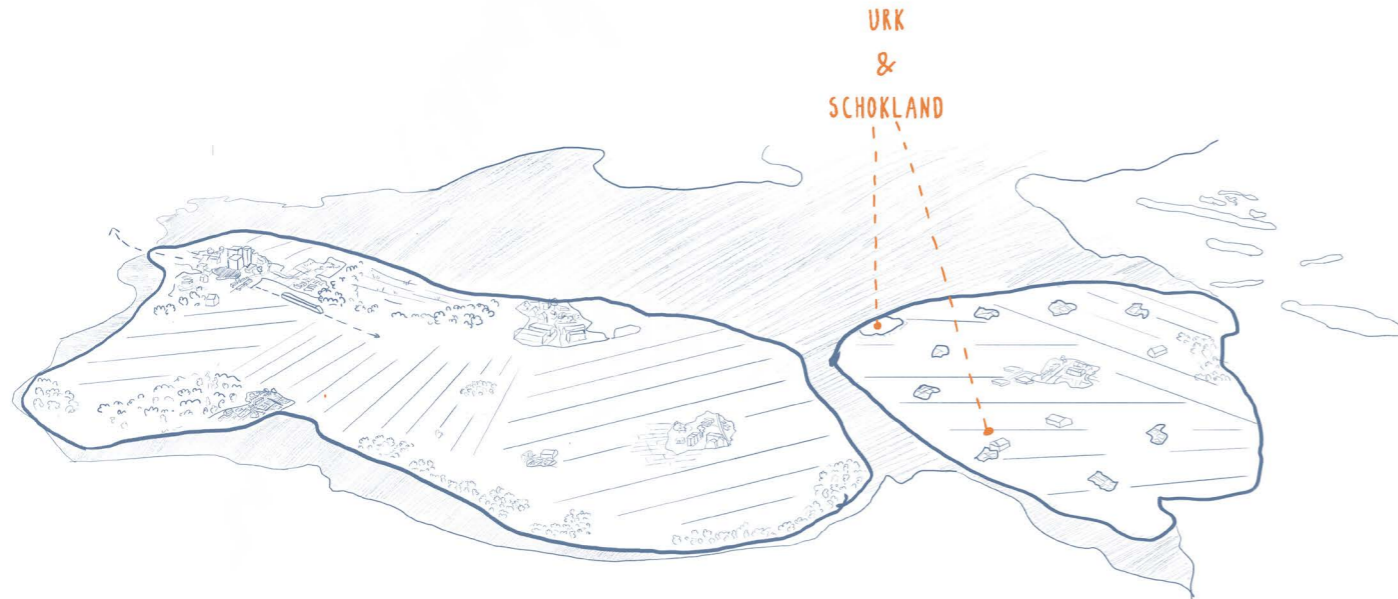
PLANNING PRINCIPLE

Case 1: Schokland and Urk

Context

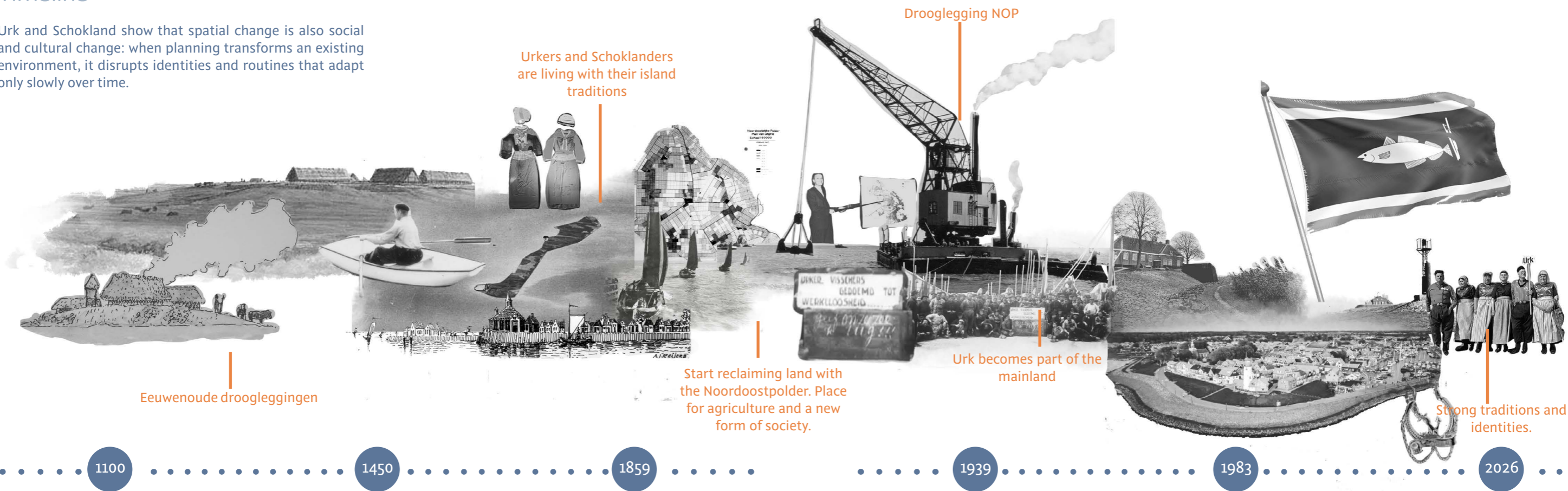
Schokland and Urk are two former islands in the Zuiderzee. Historically, both functioned as fishing communities with distinct and relatively isolated local cultures. Schokland was permanently evacuated in the mid-nineteenth century and is now a UNESCO World Heritage Site, recognized as a powerful example of the Dutch struggle against water. Urk was incorporated into the Noordoostpolder in the mid-twentieth century, but many aspects of its former island identity remain visible in everyday life and local traditions.

Together, Schokland and Urk offer a valuable case study of spaces in which lived experience has played, and continues to play, a dominant role. They show how decisions made from the perspective of the thought space can deeply affect local communities and their lived environments. By analysing these spatial transformations, we gain a better understanding of how large-scale interventions reshape not only landscapes, but also social identities, cultural practices, and everyday life.



Case 1: Schokland and Urk Timeline

Urk and Schokland show that spatial change is also social and cultural change: when planning transforms an existing environment, it disrupts identities and routines that adapt only slowly over time.



1100
Land reclamation marked by small dikes and dwelling dunes in the polder soil. Here, people begin to adapt their daily lives to a landscape whose physical conditions still strongly determine where and how they can live.

Friction between:
Physical - Lived

1450
Schokland is still apart of the mainland. The water decides where people can live, making everyday life dependent on unstable physical conditions.

Friction between:
Physical - Lived

1859
In 1859, the inhabitants of Schokland are forced to leave the island, as its physical conditions are judged no longer habitable. Here, the lived space is displaced by a combination of physical pressure and planned intervention.

Friction between:
Thought/physical - Lived

1939
Urk officially becomes part of the mainland. This new physical condition disrupts the routines of the islanders, and protests show that lived space does not easily adapt to spatial change.

Friction between:
Thought - Lived

1983
In 1983, *Urkerdag* is introduced to keep celebrating the island's traditions after the island has long since become part of the mainland. This makes clear that lived identity continues where the physical condition has already changed.

Friction between:
Thought - Lived

2026
The physical island has disappeared, but its lived identity remains. The friction lies in the gap between a transformed landscape and the persistence of island-based meaning and traditions.

Friction between:
Lived - Physical

Case 2: Oostvaardersplassen

Context

The Oostvaardersplassen are located between Lelystad and Almere. The area was originally intended to become an industrial site, but over time the unused land gradually developed into a habitat for many bird species, attracting wildlife from across the world. The Dutch government responded to this unexpected ecological development, and the area is now known as the Oostvaardersplassen: one of

the Netherlands' most well-known nature reserves.

This case study explores how the Netherlands responds when physical space becomes dominant. It examines how conceived, perceived, and lived spaces influence the area. It also raises the question of how society reacts when nature reclaims a planned landscape.



Case 2: Oostvaardersplassen

Timeline

The Oostvaardersplassen show that friction arises when planning tries to fix a landscape that remains ecologically dynamic, while both its physical behaviour and its social meaning keep shifting over time.



1950

1968

1982

1990s

2018

2026

In 1950, plans projected a designed future onto what was still water. The plans treated the landscape as if it were already controllable land. Here, the thought space overruled physical space by denying water as space in its own right.

In 1968, the Oostvaardersplassen began to emerge where industrial land had been planned, as water and soil disrupted its intended use. Here, the physical space resisted the logic projected onto it.

In 1982, the Oostvaardersplassen become institutionally defined as nature, even though this nature remains embedded within a highly planned and bounded polder landscape.

In the 1990s, the conceived space increasingly frames the Oostvaardersplassen through rewilding, presenting it as autonomous wilderness. The friction lies in the paradox that this 'wild' nature is imagined as free, while it remains carefully designed and spatially bounded.

In 2018, mass mortality made the physical reality of the system impossible to ignore. The public resisted to let animals suffer and thereby exposed the limits of rewilding as a logic of non-intervention. Here, the physical, lived, and conceived space all came into friction at once.

In 2026, the province tried to keep the Oostvaardersplassen under control by fixing the number of red deer at 500. This led to friction, because the area could not simply be managed through one policy number without risking the long-term health of the deer population.

Friction between:
Thought - Physical

Friction between:
Thought - physical

Friction between:
Thought - physical

Friction between:
Thought - physical

Friction between:
Thought - physical - Lived

Friction between:
Thought - physical

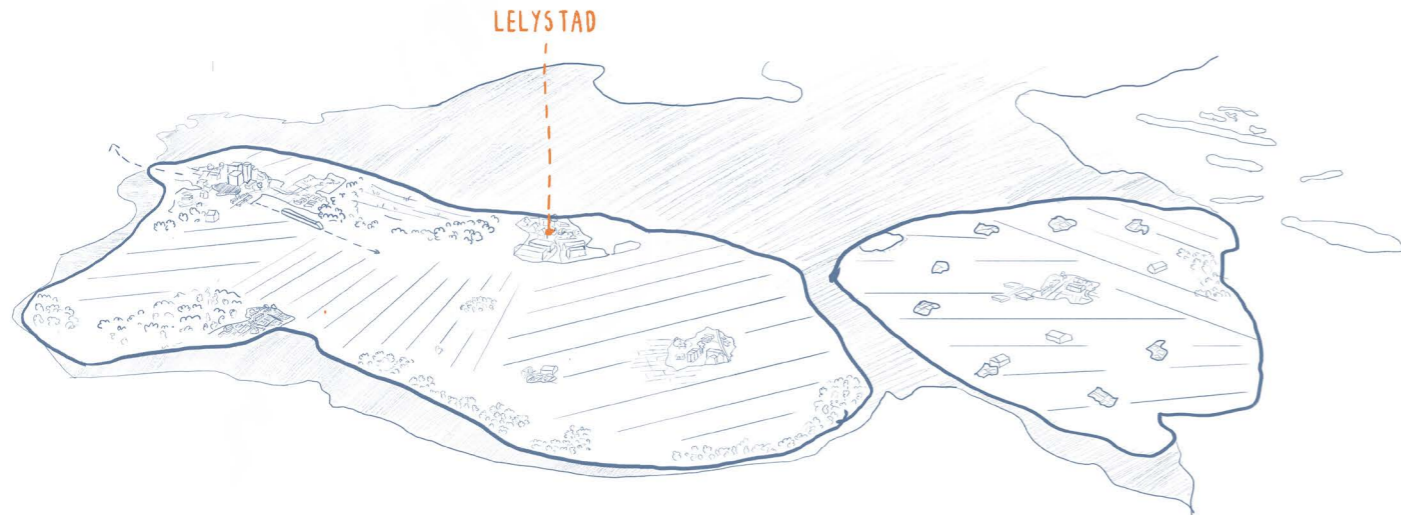
Case 3: Lelystad

Context

Lelystad is the capital of the province of Flevoland and one of the clearest examples of a fully planned city in the Netherlands. Unlike many Dutch cities, Lelystad did not develop gradually from an existing settlement. Instead, it was designed and built on newly reclaimed land, creating a city almost from scratch.

This makes Lelystad a useful case study for examining the

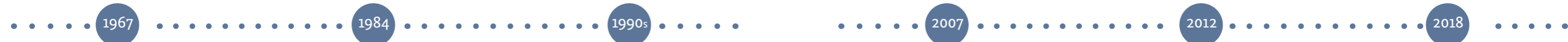
tensions that arise when a city is planned before a strong lived space has had time to develop. The city reflects the ambitions of spatial planning, but also shows the challenges of creating identity, community, and everyday urban life in a place without a long historical foundation. By analysing Lelystad, we can better understand the frictions between planned space and lived experience in newly constructed urban environments.



Case 3: Lelystad

Timeline

Lelystad shows that a new town becomes vulnerable when it is designed too strongly around a not-yet-existing, anticipated future, and too weakly anchored in physical reality, regional relations, and everyday life.



1967

In 1967, Lelystad is already being inhabited while the city still largely exists as a plan on paper. It was designed as a complete new town, but in reality many basic facilities and everyday structures were still missing.

Friction between:
Thought - Lived (and Physical)

1984

By 1984, it becomes clear that everyday urban life is not developing as planned. Basic facilities are still lacking, and the city faces unemployment, vacancy, and rising crime. Despite its strong spatial structure and waterfront location, the planned city does not yet become a livable or identifiable environment.

Friction between:
Thought - Lived and Physical - Lived

1990s

In the 1990s, Almere develops much faster due to its stronger connection to Amsterdam, while Lelystad loses the central role it was once meant to have. The original balance between the two new towns gives way to a different regional reality

Friction between:
Thought - Lived

2007

By 2007, this regional shift starts to reshape planning itself, as Almere increasingly explores more flexible and metropolitan forms of development. Lelystad, in contrast, remains more tied to its earlier role within the polder logic. This results in two competing planning visions within the region.

Friction between:
Thought - Thought

2012

In 2012, Lelystad is better connected to the region through the Hanzelijn, improving accessibility to cities like Zwolle. However, this does not fully solve the city's limited regional embedding, as everyday life and economic dynamics do not automatically follow new infrastructure.

Friction between:
Physical and lived

2018

In 2018, the friction around Lelystad Airport becomes clearly visible. A long-planned future promise runs into resistance and political doubt, making clear that this projected future does not align with local realities and acceptance.

Friction between:
Tght - Lived

Conclusion

Historical lessons and planning principle

The history of Flevoland shows both the power and the limits of the old Dutch planning doctrine. The dominance of the thought space made it possible to imagine, reclaim and organise an entirely new province. Through maps, targets and masterplans, water became land, new towns were built, and national ambitions were given a physical form. In that sense, Flevoland remains one of the clearest achievements of Dutch planning.

Yet the three case studies show that these plans were never simply realised exactly as they were drawn. In Urk and Schokland, spatial transformation did not erase lived identity. Even when the physical conditions changed, island traditions, routines and cultural meanings continued. In the Oostvaardersplassen, the physical space developed in unexpected ways: water, soil, ecology and animals did not simply follow the original industrial plan or later ideas of managed wilderness. In Lelystad, the planned city struggled because everyday life, regional relations and local identity did not grow at the same speed as the masterplan.

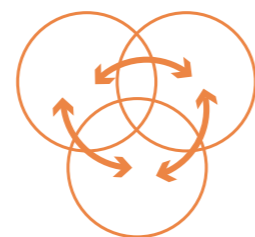
These frictions were not only later complications of implementation. They were already present in the relation between the plan, the landscape and everyday life. A more translational planning approach might not have prevented them, but it could have made them visible earlier and allowed them to be addressed more consciously. The cultural transition of Urk, the ecological development of the Oostvaardersplassen and the everyday needs of Lelystad were not side issues after implementation. They were part of the spatial reality from the start.

The main lesson from the past is therefore not that the old doctrine simply failed. It is that even a powerful planning tradition needed a stronger practice of translation. Planning can create land, but it cannot fully determine what that land becomes. Physical systems continue to behave dynamically, communities continue to attach meaning to place, and cities need roots beyond the masterplan.

Conclusion

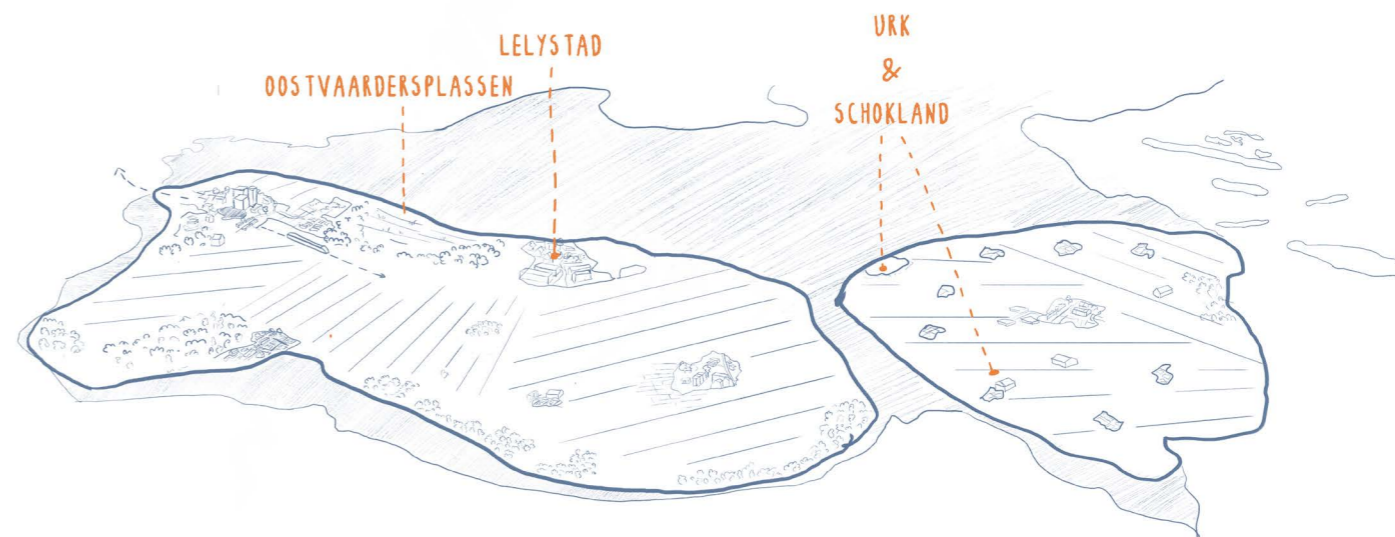
This answers the chapter question: *how does the historical development of Flevoland expose the failure of top-down blueprints to anticipate physical and lived realities, and what planning principle emerges from these past system crashes?* Flevoland's history shows that top-down blueprints became vulnerable when they treated physical and lived realities as issues to be solved after implementation, rather than as conditions that were already part of the spatial problem.

This leads to the first planning principle of a friction-guided doctrine: **Translational Planning**. Spatial claims should not be developed from one space alone and then corrected afterwards. They must be translated from the beginning between policy ambitions, physical conditions and lived realities. In this way, friction becomes visible earlier, before it hardens into long-term spatial problems. Flevoland's past therefore shows why future planning cannot simply place new claims on the map. It must first ask how those claims land in the land itself, and in the lives already connected to it.



Translational planning:
Translate every spatial claim before it lands.

- 1) Communities outlast the plans
- 2) Nature resists control
- 3) Plans need local roots



Introduction

This chapter explores what is currently coming Flevoland's way. It does not aim to give a complete overview of every policy document or spatial claim. Instead, it highlights a selection of key pressures that help explain why Flevoland is becoming a testing ground for contemporary spatial friction.

The chapter temporarily separates these pressures into spatial claims, physical constraints and lived/social challenges. This makes it possible to see where they come from and how they work. At the same time, the chapter shows that these pressures do not stay separate in reality. They come together in the same landscape, on the same soil, and around the same communities.

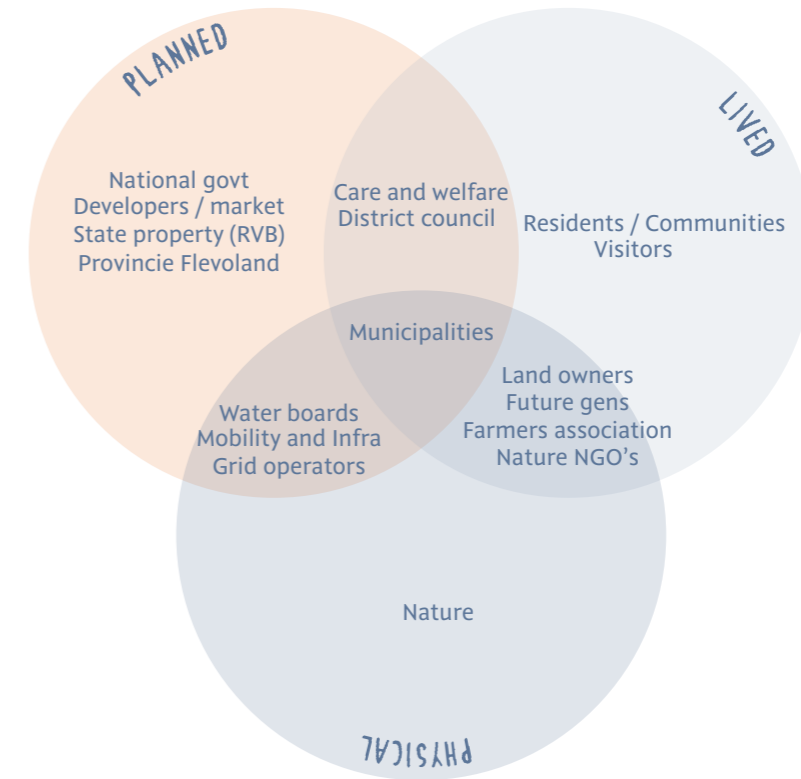
This prepares the ground for the next planning principle, which focuses on the cumulative impact of spatial claims and conditions.

Clashing Perspectives

Actor positions

Because top-down spatial claims now constantly collide with these hard limits, spatial planning has become an arena of conflicting realities. Yet, the language used to navigate this arena often hides the actual friction. In planning practice, terms such as spatial quality often suggest agreement (PBL, 2024). In reality, different actors may use the same words while referring to different values, responsibilities and futures. A wind farm in Flevoland can illustrate this. From the planned space, it may represent spatial quality because it contributes to national energy targets and fits within existing land-use structures. From the physical space, the question is whether soil, water, ecology and infrastructure can support it in the long term. From the lived space, the same intervention may be experienced as a loss of openness, identity or belonging.

None of these perspectives is automatically wrong. The problem is that they often remain implicit. As shown in the diagram, actors do not speak from neutral positions. Governments, residents, landowners, water boards, farmers, nature organisations and infrastructure parties all reason from different responsibilities, experiences and forms of knowledge. Some actors move between several spaces, while others mainly represent one spatial reality. Nature itself is the most difficult to represent, because it does not speak in planning meetings and is therefore usually translated by others.



Figuur 18: Explorative stakeholder mapping

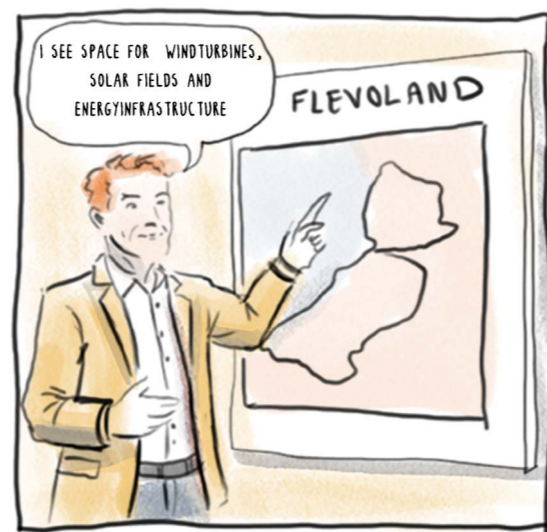
The Pressures

The energy transition

One of the most frequently discussed spatial crises is the energy transition. While the thought space heavily dominates the planning of this sector, translating these abstract targets into reality is proving exceptionally difficult due to the physical complexity of the system.

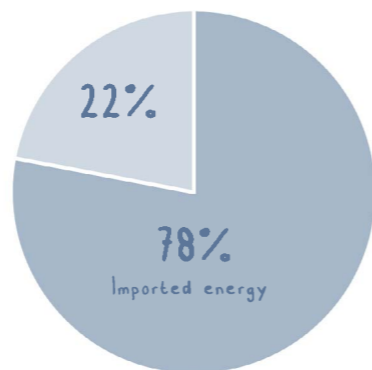
Challenge

The Netherlands faces a dual urgency: reducing the 78% dependency the country has currently on imported energy (CBS, 2025) and aiming to rely exclusively on sustainable energy sources by 2050 (RVO, 2025). This ambition has clear spatial consequences for regions such as Flevoland, where renewable energy production already forms an important part of the energy system (Provincie Flevoland, z.d.). Because this transition shifts the energy model from centralized to highly land-intensive, it positions the open polder landscape as a primary outlet for national targets, forcing fierce competition for land.



Driving Forces & Trends

- Electrification & Policy: High demand and national targets push for rapid deployment of wind and solar (Netbeheer Nederland, 2025).
- Grid Congestion: The physical grid is saturated. This lack of capacity now dictates where development can occur, halting both housing and industry (Interprovinciaal Overleg, 2025).



Figuur 19: Dutch energy dependence on foreign sources in 2024. Note. Author's own illustration based on CBS (2025).

Housing

The housing shortage is perhaps the most visible pressure in the daily lives of Dutch citizens. Planners often treat this crisis as a straightforward numbers game.

Challenge

The Netherlands faces big pressure on its housing market due to population growth, shifting household compositions, and lagging construction speeds. To address this crisis, the national government has set a target to realize 900,000 new homes by 2030 (Ministerie van Algemene Zaken, 2023). To relieve the overheated Randstad, a significant share of this demand is redirected to Flevoland. Until 2040 the government aims to create 170.000 houses in MRA East (Ministerie van BZK, 2024). This top-down allocation will trigger a population surge of 22% by 2040, the highest growth rate in the country (Provincie Flevoland, z.d.).

Driving forces and trends

- Demographic & Social Shifts: Population growth and changing housing needs continue to increase the demand for new homes, both locally and nationally (Ministerie van BZK, 2024).
- Spatial Redistribution: Because the Randstad is under heavy pressure, large-scale housing development is increasingly pushed toward regions like Flevoland (Provincie Flevoland, 2022).



Figuur 20: NOVEX housing construction locations, showing the potential for more than 170,000 homes in MRA East. Note. Reprinted from Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2023).

The Pressures

National Defense

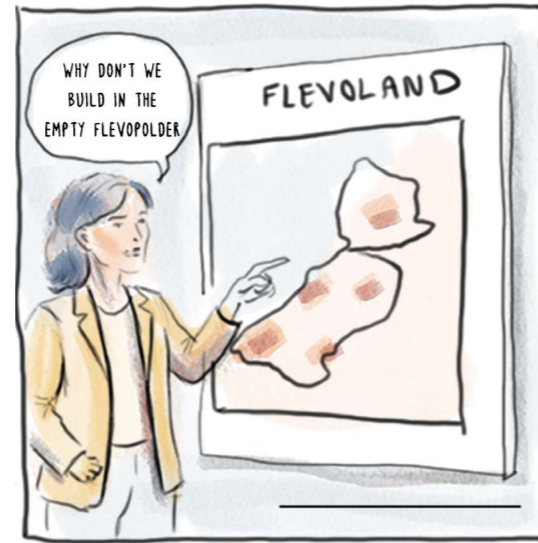
As geopolitical tensions rise, national security suddenly requires physical space. The military needs room to expand, and planners quickly look to Flevoland. This places hard national defense claims, such as the new barracks in Zeewolde, directly into the local landscape.

Challenge

Geopolitical developments pose an increasing threat in the coming years. The Ministry of General Affairs opens its overview of national risks by stating that “security and freedom in the Netherlands have never been so vulnerable” (Ministerie van Algemene Zaken, 2025). Tensions between countries in Europe and worldwide are rising, while modern security threats such as cyberattacks and espionage are becoming more common, placing increasing pressure on national defence capacity. In this context, Zeewolde in Flevoland has been designated as the location for a new central military barracks (Zeewolde Actueel, 2025).

Trends and driving forces

- Rising geopolitical tensions translate directly into physical spatial claims. The Ministry of Defence has designated municipalities like Zeewolde as a preferred location to accommodate a new large-scale barracks, which threatens to sacrifice fertile agricultural land (Verwey-Jonker Instituut, 2024)



Figuur 21: Overview of Defence search locations for thirteen military activities in the Netherlands, including six potential locations in Flevoland. Source: Ministry of Defence.

Ageing population and healthcare

The province must adapt not only to a changing landscape, but to a demographic shift. The rapidly aging population is an immediate, human-centered challenge that cannot be solved by simply building more generic housing volume or large scale solutions.

Challenge

Flevoland is facing a demographic transition that will place structural pressure on both healthcare and the built environment. By 2040, the number of residents aged 65 and over is expected to more than double to 110,000, while the number of residents aged 80 and over will more than triple to 35,000 (Manting & Van Dam, 2019). At the same time, the ratio between the working-age population and non-working elderly will fall to 3:1, increasing care demand while the national shortage of healthcare workers is projected to reach 266,000 by 2034 (Manting & Van Dam, 2019; Van Gaalen et al., 2026). This pressure intersects with Flevoland’s planned growth of 100,000 new homes. Since older residents generally move less often and are encouraged to age in place, many may remain in homes and neighbourhoods that are not adapted to changing care needs. What appears to be a demographic issue is therefore also a spatial one, shaped by housing, infrastructure and care facilities.

Trends and Driving forces

- Double aging in New Towns: Flevoland’s cities experienced a massive influx of young families in the 1970s and 1980s who are now aging simultaneously. This “double aging” creates a concentrated demographic peak that puts acute pressure on local care facilities and the social fabric of older neighborhoods (Brock et al., 2023)



The Pressures

Mobility and daily accessibility

Flevoland faces major housing growth and is a province shaped by car-oriented planning and regional commuting. Almere in particular was developed in close relation to Amsterdam and the wider metropolitan region, creating a spatial structure in which living and working are often separated (van Dijk, 2021; Platform31, 2023). As new residents arrive, this legacy puts increasing pressure on everyday mobility.

Challenge

Accessibility is not only about commuting, but about reaching work, care, education, shops and green space by different transport modes and at different times of day (Bastiaanssen et al., 2022). This access is uneven: car users can reach far more jobs and facilities than people dependent on public transport, cycling or walking (Bastiaanssen et al., 2024). In Almere, this becomes especially visible. The city has one of the lowest live-work ratios in the Randstad and remains strongly dependent on the MRA for employment (Brock et al., 2023). Almeerders therefore travel on average 32 kilometres to work, the longest commuting distance in the Netherlands, contributing to congestion-related “file stress” (Brock et al., 2023). For residents without reliable car access, this increases the risk of transport poverty and exclusion from daily opportunities.

Trends and driving forces

- Scaling down of public transport: Reduced public transport services make it harder to reach jobs and facilities, especially in evenings, weekends, rural areas and urban edges (Bastiaanssen et al., 2024)
- Concentration of facilities and jobs: As jobs and services move toward larger centres and car-oriented locations, people without access to a car become increasingly disadvantaged (Jorritsma et al., 2023).



Social inequality and vulnerable neighbourhoods

Spatial pressure is not only about land, but also about who benefits from growth. In Flevoland, rapid urban expansion takes place alongside existing social vulnerability in older New Town neighbourhoods. According to the *sociale schaalsprong* (Gemeente Almere, 2020) planning attention has been too focused on urban growth causing less maintenance and investments in vulnerable, older neighbourhoods.

Challenge

The challenge is that growth does not automatically strengthen the existing city. In New Towns such as Almere and Lelystad, many neighbourhoods were built quickly and now face combined physical and social pressures, including maintenance issues, poverty, safety concerns and weaker social cohesion (Meere et al., 2024). The question is therefore not only where new homes should be built, but how growth can also improve the conditions of residents already living in vulnerable areas.

Trends and driving forces

- Growth focus on new development: When policy and investment mainly focus on new housing, existing neighbourhoods may miss the support needed to improve housing quality, public space and facilities (De Meere et al., 2024).
- Stacking of social problems: In vulnerable neighbourhoods, problems around income, work, education, health, safety and housing often occur together and strengthen each other (IdeeVersa, 2024)
- Unequal capacity to benefit from growth: Rising housing prices and urban development often benefit higher-income groups more easily, while lower-income residents have fewer resources to access new opportunities (Vermeij et al., 2024).



The Pressures

Subsidence

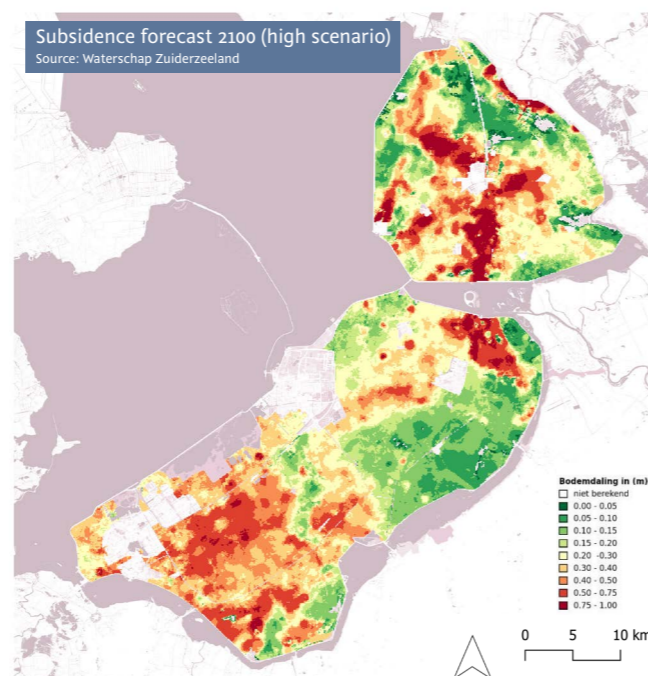
Beneath the surface of the engineered polder lies a silent but relentless threat: land subsidence. Unlike fast-moving political crises, this is a slow, geological reality that constantly undermines the literal foundation of the province.

Challenge

Land subsidence is a structural and long-term challenge in low-lying areas such as Flevoland. The ground level is gradually decreasing, which makes the whole spatial system more vulnerable over time (Deltares, 2022). As the soil literally sinks beneath the built environment, infrastructure, water systems, and urban foundations constantly need to be adjusted at high costs (Van Gaalen et al., 2026).

Driving Forces & Trends

- Geological stress: Soils continue to compact and oxidise, particularly in vulnerable clay and peat areas (Deltares, 2022).
- Infrastructural vulnerability: As the land continues to sink, the costs of maintaining roads, foundations, and water systems increase exponentially (PBL, 2026).
- Irreversible deformation: Artificial groundwater management, used to keep the land dry for agriculture, structurally accelerates this irreversible geological deformation (Deltares, 2022; Van Gaalen et al., 2026).



Figuur 22: Subsidence forecast for Flevoland in 2100, high scenario.

Salination

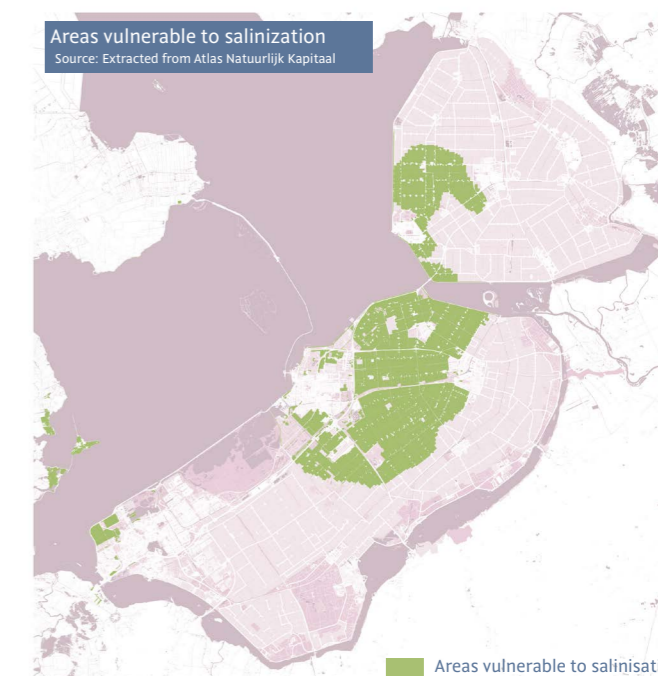
Salinisation adds another layer to Flevoland's water challenge. While the polder depends on carefully controlled freshwater systems, salt is slowly entering the picture through groundwater and changing water conditions. This makes salinisation less visible than flooding or drought, but no less important (Deltares, 2022; Van Gaalen et al., 2026).

Challenge

Salinisation is a growing chemical pressure on Flevoland's soil and water system. It occurs when salty groundwater moves upward or further inland, slowly reducing the quality of land for agriculture and nature. While historically managed through water control, rising sea levels and deeper droughts make the internal saltwater pressure harder to contain (Van Gaalen et al., 2026).

Driving forces & Trends

- Saline Seepage: Sea-level rise increases upward pressure, allowing saltwater to penetrate further into the polder's root zones (Deltares, 2022; Van Gaalen et al., 2026).
- System Overload: During dry periods, agriculture requires immense amounts of freshwater to flush the salt away, putting extra pressure on limited reserves (Deltares, 2022; Van Gaalen et al., 2026).
- Agricultural Tipping Points: As salinity increases, crop yields and soil quality degrade, creating a tipping point where traditional agricultural systems become unviable (Van Gaalen et al., 2026).



Figuur 23: Areas vulnerable to salinisation in Flevoland.

The Pressures

Water quality and fresh water

Water is one of the basic systems that keeps Flevoland liveable and productive. In a polder, it is never just present, but constantly managed and protected (Van Dijk, 2021). Today, the question is not only whether there is enough water, but also whether that water is still usable (Deltares, 2022).

Challenge

Flevoland faces a water crisis where volume shortages collide with ecological degradation. Because the polders depend heavily on external freshwater from the IJsselmeer to sustain agriculture and combat salinisation, they are extremely vulnerable to droughts (PBL, 2026). Simultaneously, local water quality is under pressure from agricultural runoff, urban emissions and the growing demand placed on already vulnerable freshwater systems. (Deltares, 2022) . As clean freshwater becomes scarce during dry periods, there is less water available to flush the polders. Consequently, water systems suffer from higher concentrations of pollutants, which negatively impacts biodiversity and ecosystem services (Van Gaalen et al., 2026).

Driving Forces & Trends

- External Dependence & Climate Extremes: Extreme fluctuations between drought and heavy rainfall expose the vulnerability of Flevoland's reliance on imported freshwater (Van Gaalen et al., 2026).
- Contamination & Runoff: Nutrient runoff from intensive agriculture and urban land use heavily contaminates local water reserves, drastically reducing the pool of usable water (Van Gaalen et al., 2026).
- Fierce Spatial Competition: A fierce battle is emerging between urban development, economic activities, and agriculture over a shrinking and increasingly expensive water supply (Van Gaalen et al., 2026).



Conclusion

Patterns of spatial pressures and planning principle

The current spatial pressures in Flevoland reveal a clear pattern. Housing, energy, defence, agriculture, ageing, mobility, social inequality, subsidence, salinisation and freshwater pressure are often addressed through separate policy documents, programmes and sectoral agendas. This is understandable: each challenge has its own urgency, expertise and institutional framework.

However, by unpacking the pressures separately, two underlying systemic frictions become visible:

- Reduction to abstraction: Complex spatial questions are often made too simple. Large qualitative challenges are translated into numbers, megawatts, and search areas. From the perspective of the thought space, it is logical to search for the most efficient “landing place” (Tennekes et al., 2024). But this logic creates a blind spot: when all national spatial claims are added together, they exceed the available space by a factor of 1.8 (Monster, 2023). The thought space reduces problems to targets, while the physical space shows that not everything is possible.
- Temporal mismatch: The pressures are not only spatial; they are temporal. The thought space works with fast policy cycles and 2030 deadlines. The lived space responds immediately through daily experience. Meanwhile, the physical space (soil subsidence, salinisation) changes through slow processes that take decades. The three spaces are operating on fundamentally different clocks.

Because of these frictions, spatial claims do not land in separate worlds. They meet in the same landscape, within the same physical systems, and in the everyday lives of the same communities. Seen through the Three Spaces Model, integration therefore means more than mere administrative coordination. It requires actively layering the thought, physical and lived spaces to understand the full optelsom (cumulative impact) of spatial pressure.

The key lesson from this analysis is that separate policy documents can be useful as inputs, but they are not enough to understand how multiple transitions actually land in one place. Only by layering the claims across the three spaces does it become visible where ambitions reinforce each other, where they compete, and where they create difficult or even impossible combinations.

Conclusion

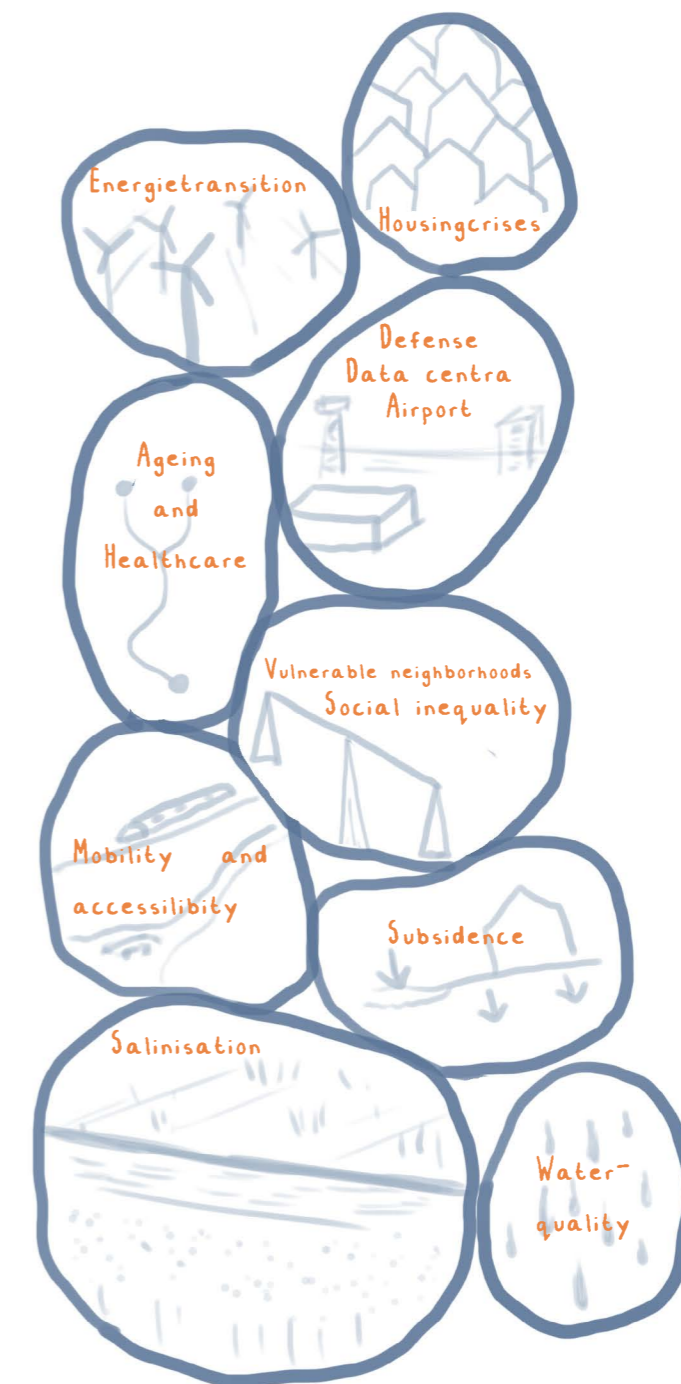
This answers the chapter question: *how do contemporary spatial challenges in Flevoland expose systemic frictions across the three spaces, and how must these frictions be translated into a new planning principle?* The analysis shows that these challenges are often organised separately in policy, but accumulate in the same physical landscape and affect the same communities. This exposes a key friction: the thought space reduces complex spatial questions to targets, search areas and sectoral programmes, while the physical and lived spaces reveal limits, dependencies and unequal consequences

This analysis leads directly to the second planning principle of a friction-guided doctrine: **Integrated Planning**. Integrated planning is not a new concept in itself, but the Three Spaces Model gives it a sharper role. It asks planners to move beyond sector-by-sector problem solving and to evaluate the cumulative impact of spatial claims as they land in one specific socio-ecological system. In this way, integration becomes not just an administrative task, but a method for correcting the reduction to abstraction: it makes spatial friction visible before separate ambitions overload the same landscape.

However, while Integrated Planning responds to the accumulation of abstract claims, it does not fully resolve the temporal mismatch. To understand what happens when fast political targets force slow physical systems and immediate lived realities to adapt, the next chapter crash-tests this unresolved friction through speculative futures.



Integrated planning:
Look at the full optelsom, not separate puzzles.



Introduction

This chapter introduces the future analysis of the research. It uses the Three Spaces Model to construct speculative scenarios in which one spatial logic is temporarily pushed to an extreme. By doing so, the chapter explores which systemic errors may emerge when the thought space, physical space or lived space becomes too dominant.

The chapter first explains the analytical steps behind the scenario method. These steps are shown visually in the accompanying diagram, while the smaller diagrams in the bottom-left corner indicate where the reader is within the process. The scenarios then form the basis for deriving planning principles that can help prevent future spatial friction.

Methodology

From Faint Signals to Extreme Futures

The previous chapters showed that spatial planning in Flevoland is increasingly strained by a temporal mismatch and by the optelsom: the cumulative burden of competing claims landing on the same finite landscape. The Three Spaces Model helped to diagnose these tensions. This chapter takes the model one step further by using it as an active, generative method. Instead of only analysing existing spatial problems, the model is operationalized as a spatial crash-test. It explores what happens when one spatial logic, with its own time horizon, becomes dominant while the constraints of the other two spaces are deliberately pushed into the background.

This requires a future-oriented method, but not one that tries to predict a single or harmonious future. As Bleecker et al. (2022) argue, conventional forecasting often struggles to capture the uncertainty, complexity and lived friction of human systems. For that reason, this chapter combines the Three Spaces Model with Explorative Scenario Planning (XSP) and Design Fiction. The scenarios are not predictions. They are speculative instruments, used to make hidden assumptions, systemic blind spots and unintended consequences in current spatial planning more visible.

To keep this speculative approach methodologically grounded, the process follows an iterative and abductive research-by-design logic. Current spatial phenomena are taken from the previous chapter, then extrapolated into extreme spatial hypotheses, and finally tested to reveal anticipatable structural harms before they occur (Kollig et al., 2025). This process is visualized in a step-by-step workflow (Figure 22), moving from empirical input, to the scenario crash-test, to fictional artifacts, to analytical deconstruction, and finally to the formulation of a new planning principles for the new planning doctrine.

Step 1: Gathering Faint Signals - The Empirical Input

The process begins with the spatial challenges identified in Chapter 4, including grid congestion, housing shortages,

land subsidence and competing land-use claims. These pressures are treated as faint signals: present-day signs that point toward possible future developments (Bleecker et al., 2022). Together, they form the empirical basis for the scenarios.

Step 2: Parameter Isolation and Temporal Extremes

The second step isolates one spatial logic from the Three Spaces Model: the thought space, physical space or lived space. In each scenario, one space is given “absolute power”, meaning that its main spatial goal becomes dominant while the constraints of the other two spaces are deliberately reduced or removed.

Because Chapter 4 showed that the three spaces operate at different speeds, each scenario follows its own time horizon: 2040 for the thought space, 2027 for the lived space and 2100 for the physical space. This creates an extreme but analytically useful baseline. It is not meant to be realistic, but to test the limits of one spatial logic and reveal what more balanced planning approaches may hide (Dunne & Raby, 2013).

Step 3: The Spatial Crash-Test - Generating Frictions

The third step is the actual spatial crash-test. It is conducted as a thought experiment, using three rules derived from the Three Spaces Model. The physical space requires time for natural systems to adapt and respect for the limits of land, water and soil. The lived space requires people to feel at home, continue their daily routines and have a voice in changes to their neighbourhood. The thought space requires plans, targets and rules to make space understandable and governable.

In each scenario, one rule becomes dominant, while the other two are pushed into the background. The crash-test then asks what happens when this one-sided logic enters a more complex physical, social and institutional reality. The focus is on unintended consequences: where the logic fails,

who or what is affected, and which frictions become visible. In this way, the crash-test exposes anticipatable structural harms before they occur (Kollig et al., 2025; Do et al., 2023).

Step 4: Diegetic Prototyping - Materialising the Crash

The fourth step translates the frictions from the crash-test into design fiction through a fictional local newspaper: The Flevo Times. As a diegetic prototype, the newspaper makes a possible future feel temporarily real and therefore easier to discuss (Kirby, 2011).

By using a familiar format, abstract planning failures become recognisable situations: local conflict, resident frustration, administrative crisis or environmental damage. The newspaper is therefore not a decorative output, but a methodological tool that makes the consequences of each scenario concrete and debatable (Bleecker et al., 2022).

Step 5: Deconstruction and Academic Validation -Extracting Warnings

The fifth step moves from fiction back to analysis. The newspaper artifacts are treated as raw material from the crash-test. Their headlines and stories are deconstructed to identify warnings, such as the Comfort Paradox or Survival of the Loudest. These warnings reveal the structural failures that emerge when one spatial logic becomes dominant.

To strengthen academic validity, the warnings are compared with relevant literature, policy reports and existing planning debates. In this way, the scenarios are not random dystopian stories, but grounded extrapolations of mechanisms already present in spatial planning practice (Kollig et al., 2025). These validated warnings then form the basis for a more resilient, friction-guided planning doctrine for Flevoland.

Step 6: Abstracting System Errors - Finding the Underlying Flaws

While Step 5 identifies warnings within each scenario, Step 6 compares them across the different futures. This makes it

possible to move beyond separate future outcomes and identify the deeper system errors in the current planning approach.

This synthesis reveals institutional blind spots, such as the failure to account for human capacity or the tendency to separate social and ecological systems. These errors show why planning becomes vulnerable when one of the three spaces is allowed to dominate the others.

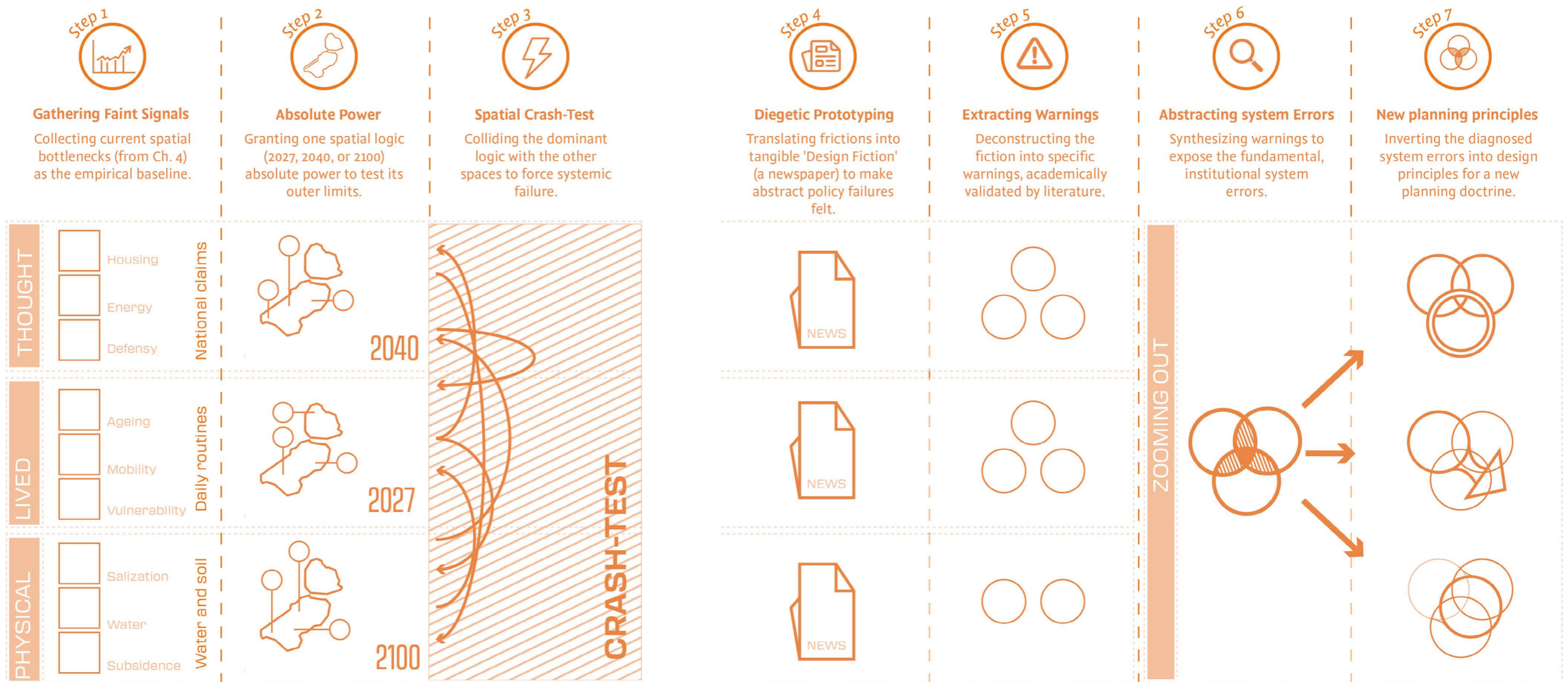
Step 7: Formulating New Planning Principles

The final step translates the system errors into the building blocks of a new planning doctrine. In Chapter 7, the isolated spatial logics are brought back together into an integrated and relational framework.

The diagnosed errors in step 6 are then reversed into practical rules of engagement. This leads to the final planning principles.

Process diagram

Seven-Step Crash-Test Workflow



Figuur 24: Workflow future analysis

The Three Speculative Futures

Time horizons

The speculative futures are built from the current pressures identified in the previous chapter: housing, energy, mobility, ageing, social inequality, subsidence, salinisation and freshwater pressure. These are treated as faint signals: present-day tensions that may grow into larger systemic problems. Each future pushes one space to its extreme. The lived future focuses on immediate routines and local demands, so it is placed close to the present. The thought future follows policy targets and planning deadlines, while the physical future looks further ahead, because soil, water and ecological processes need more time to reshape space.



"What if the thought space is given absolute power to organize Flevoland entirely through abstract targets, spatial efficiency, and policy deadlines?"



"What if the lived space dictates the landscape, forcing Flevoland to be organized strictly from the bottom up based on immediate local needs, autonomy, and daily experiences?"



"What if the physical space overrules everything else, forcing Flevoland to submit entirely to the deep-time ecological limits of soil and water?"



Future 1. Maakbaar Flevoland

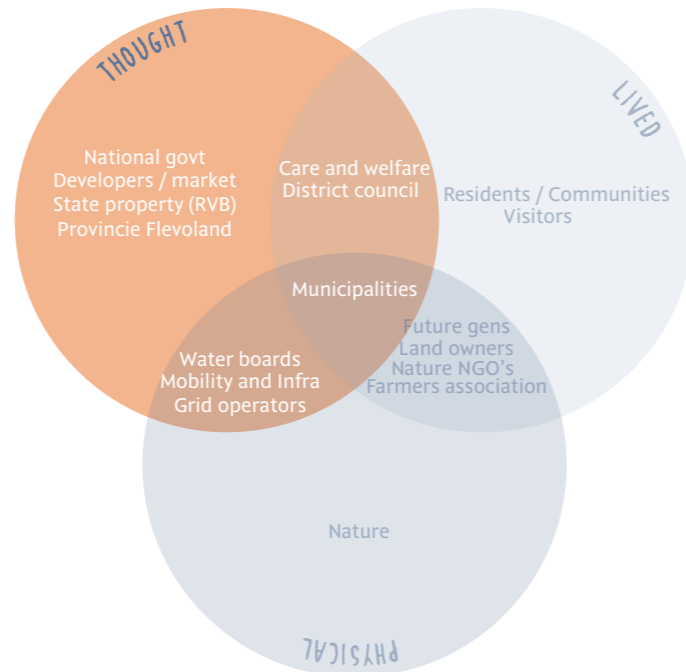
Thought future

Planned Growth In this future, Flevoland follows a planned trajectory that feels close to what we already see today. It is largely business as usual, but scaled up. The focus lies on solving national challenges and contributing to the greater good. Housing, energy, infrastructure and economic growth are translated into targets, policies, maps and designated locations.

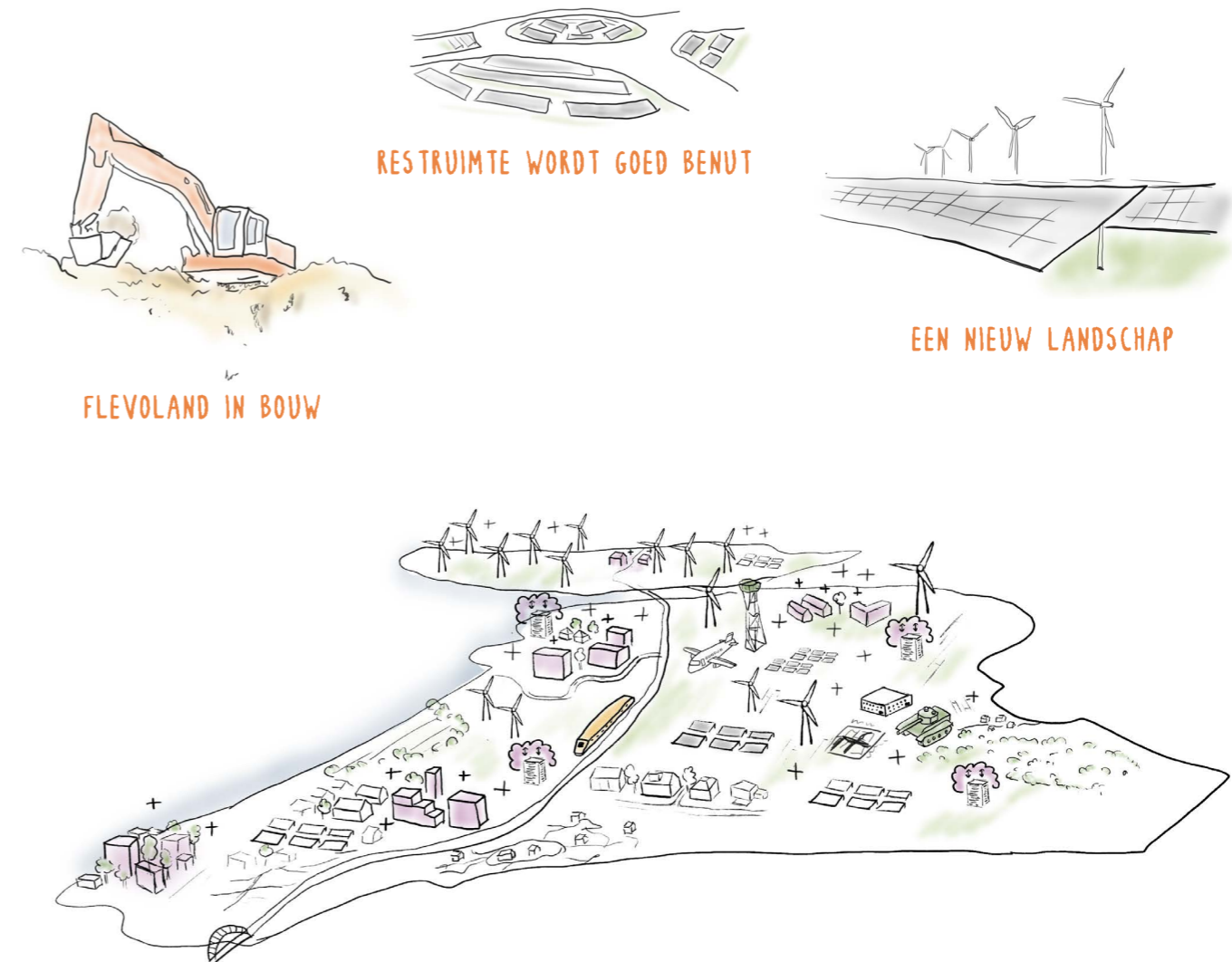
Flevoland as Space Because Flevoland is still seen as open and available, it becomes a logical place for these national ambitions to land. Cities like Almere, Lelystad, Dronten and Zeewolde continue to expand and gradually grow into larger urban centres. Flevoland becomes less of a province at the edge, and more of a strategic space for the Netherlands.

A Changing Landscape Living in Flevoland increasingly means accepting that the landscape changes around you. Wind turbines, solar fields, datacenters and new neighbourhoods become part of the everyday view. This transformation is treated as part of the deal: local change is justified by national need.

Systems Must Keep Up The growth looks organised on paper, but it depends on many systems moving at the same time. Housing needs workers, energy, roads, bridges, public transport and services. Large-scale construction creates jobs, while campaigns try to attract enough people to build and maintain this growth.



"What if the thought space is given absolute power to organize Flevoland entirely through abstract targets, spatial efficiency, and policy deadlines?"



Figuur 25: Speculative drawings of Maakbaar Flevoland



Future 1. Maakbaar Flevoland

Crash-test

Testing the Ideal: In the scenario of Maakbaar Flevoland, the Thought Space is pushed to its absolute limit. But what happens when we try to force paper plans onto real life? To find out, this ideal is 'crash-tested' against the basic rules of the other spaces:

The Rule of the Physical Space: Needs time for natural systems to adapt and respect for the limits of land, water and soil.

The Rule of the Lived Space: Needs people to feel at home, respect their daily routines and have a voice in their neighbourhood.

Ignoring these rules causes the system to break. The newspaper on the right shows what happens when these plans crash into human and physical reality. It is an imagined future of a system that simply forgets how complex real life actually is.

The Time Frame (2040): The Horizon of Deadlines

Because the Thought Space relies on targets and political deadlines, this newspaper fast-forwards to the year 2040. This is the exact year many of these master plans are supposed to be 'finished'. It shows the moment of truth. The deadline has passed, and paper plans collide with the landscape's physical limits and the emotional reality of those who live there.

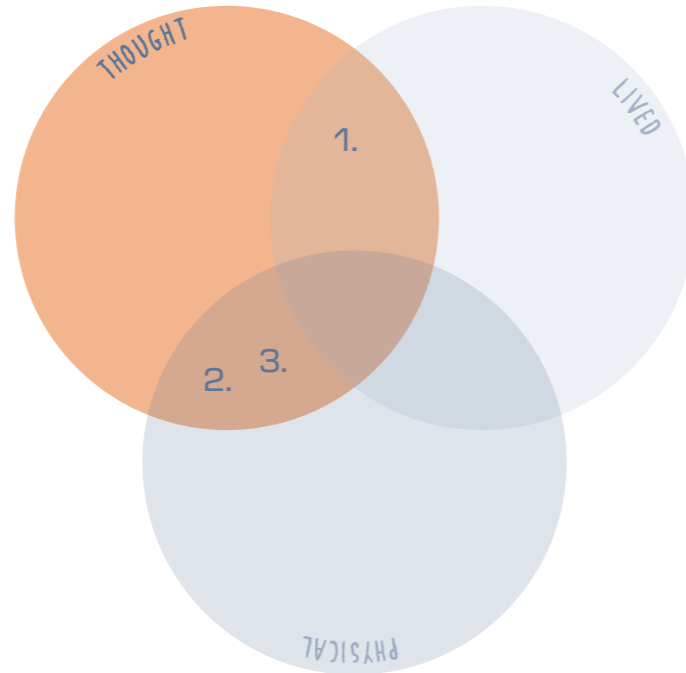


Future 1. Maakbaar Flevoland

Warnings

Deconstructing the News

The fictional newspaper on the previous page is not a random dystopia; it is a collection and illustration of structural failures. By analyzing the headlines, we can see exactly where and why the spatial logics collided. The three warnings on the right are extracted from these articles and they represent bigger warnings.



1) The comfort paradox (Thought vs. Lived)

The housing problem is not only about building more homes, but also about the homes that are already occupied. Many seniors stay in large family houses because these places hold memory, routine and emotional value. Because the system cannot calculate or easily control this attachment, it avoids it entirely. Instead, it chooses the path of least resistance: sacrificing open physical space for new construction.



2) Systemic Capacity Limits (Thought vs. Physical & Lived)

The Thought Space operates on the assumption that spatial plans can be scaled up infinitely. This abstract logic fractures when it hits hard reality. It crashes into the finite material boundaries of the Physical Space (a saturated power grid) and the limits of the lived Space (a severe shortage of human labor).



3) Quality crash: (Thought vs. Physical & Lived):

To meet ambitious political deadlines, the thought space requires unprecedented speed. To achieve this, standards are lowered and democratic procedures are bypassed. The fundamental law of the lived space, the human need for agency, comfort, and a qualitative daily environment, is systematically sacrificed for quantitative success.



1.1 The comfort paradox

Analysis

Quantitative Planning In the 2040 planned-dominant scenario, the housing crisis is not only a shortage of homes, but a failure to translate between the three spaces. The thought space reduces the problem to a numerical target: 1.2 million new homes and 100,000 units per year (Ministerie van VRO, 2025). But the lived space shows a different reality.

Shrinking Households Households have become much smaller. The average household size declined from 3.2 people in 1970 to 2.1 today, and 70 percent of future household growth will consist of single-person households (Platform Woonopgave & International New Town Institute, 2025; Groot et al., 2024). At the same time, people occupy more space: an average of 53 square meters per person, and 87 square meters for single dwellers (Groot et al., 2024). This creates a mismatch between the physical housing stock and the people living in it. While only 26 percent of households consist of four or more people, 64 percent of the housing stock consists of large family homes (Platform Woonopgave & International New Town Institute, 2025).

Hidden Space The crisis is therefore also a problem of distribution. Many homes are under-occupied, especially by older residents: 70.6 percent of Dutch people aged 65 and older live in dwellings larger than their household needs (Ministerie van VRO, 2025). In theory, the existing stock contains enough “hidden space” to house 3 million extra people without constructing a single new building (Platform Woonopgave & International New Town Institute, 2025).

Avoided Complexity Yet the thought space avoids this messy lived reality. Reorganizing existing neighborhoods, supporting seniors to move, or splitting large homes requires dealing with emotions, routines, ownership and attachment. Instead, planning retreats to what is easier to calculate and control: new construction on open land. Even when smaller households are addressed, this often happens

through unsuitable extremes, such as flex homes under 30 square meters, despite short residential durations and rising dissatisfaction with small dwellings (Groot et al., 2024).

The Comfort Paradox This is the comfort paradox of the planned scenario. The system keeps building new space, while a large part of the existing space is poorly matched to actual household needs. Strategies such as senior housing can create longer moving chains, and splitting large homes could theoretically add up to 500,000 dwellings within the existing stock (Goutsmits-Gerssen, 2021; Platform Woonopgave & International New Town Institute, 2025). But these solutions require engagement with the lived space.

Irreversible Expansion The conclusion is that the thought space chooses expansion because redistribution is socially complex. As a result, the physical space pays the price. In Flevoland, every new urban grid built to meet national targets permanently transforms land that could also serve agriculture, water, ecology or climate adaptation. The housing crisis is not only about how much we build, but about why we keep building outward when so much space is already locked inside the existing system.

The friction lies in choosing new construction on Flevoland’s open land because redistributing existing housing space is too socially complex.



1.2 Systemic Capacity Limits Analysis

In this scenario, friction emerges when the speed of the thought space exceeds the capacity of both the lived and physical space. Housing targets are planned as if systems will simply follow, but in practice, they cannot.

Labour Limits The thought space assumes that production can scale up on demand. Yet the lived space reveals a different reality. To meet current targets, the construction sector requires an additional 75,000 labour years between 2026 and 2029 (EIB, 2025). These workers are not abstract capacity, but people with limits, availability, and life cycles. Labour cannot be generated at the pace that planning demands.

Infrastructure Pressure At the same time, the physical space imposes its own constraints. New housing depends on infrastructure that is already under pressure. While €1 billion per year is reserved nationally, €4 to €5 billion is structurally needed, leaving projects uncertain and delayed (IPO, 2025). Existing networks are ageing, and national assessments warn of a “negative spiral” of deferred maintenance and increasing failures (Minister en Staatssecretaris van Infrastructuur en Waterstaat, 2025).

Grid Congestion This tension becomes most visible in the energy system. Over 30 percent of planned housing production is already affected by grid congestion (IPO, 2025), and in provinces such as Flevoland, Gelderland and Utrecht, a significant share of development may become impossible from 2027 onwards (IPO, 2025). With grid expansions taking 8 to 12 years, the physical system moves on a completely different timescale than the plans imposed upon it (IPO, 2025).

Structural Friction This is not a temporary delay, but a structural mismatch. The thought space treats targets as executable, the lived space cannot supply the required

capacity, and the physical space cannot absorb the pressure.

The friction lies in the assumption that systems are infinitely scalable, while in reality they are bounded, ageing and slow to adapt.



1.3 Quality crash

Analysis

Building Faster In the 2040 scenario where the thought space dominates, a second friction becomes visible: the system prioritises speed over spatial quality. To meet the political target of 100,000 homes per year, policymakers increasingly search for ways to accelerate construction. The report Sneller, Meer, Goedkoper frames environmental, spatial and social ambitions as a “drama of good intentions” that slows down production, and therefore argues for simplifying regulations (Adviesgroep STOER, 2025).

Less Quality These type of proposals have a direct implications for the lived space. Measures such as lowering ceiling heights, allowing steeper stairs, and limiting citizens’ rights to appeal reduce spatial quality and user influence in subtle but structural ways (Adviesgroep STOER, 2025). What is framed as efficiency in the thought space is experienced as a loss of comfort, agency and fairness in the lived space. Not all the recommendations of STOER have been applied but it does show how easy the thought space can influence spatial decision making.

Wrong Locations At the same time, the physical space is treated as a constraint that can be managed rather than a condition that should guide development. While climate-adaptive measures require relatively small additional investments of €1,000 to €5,200 per home (Arcadis, 2025), the main risk lies in building in unsuitable locations. Developing on vulnerable soils can lead to long-term issues with flooding, subsidence, water quality and maintenance, exposing the limits of existing water systems (Deltares, 2022).

Policy Gap This is why the Raad voor de leefomgeving en infrastructuur (2024) argues that water and soil must guide spatial decisions. However, in a system focused on speed, these considerations are easily postponed or minimized.

Structural Friction The result is a structural mismatch between the three spaces. The thought space speeds up production by making the rules simpler. As a result, the lived space faces a loss of quality and influence, while the physical space takes on long-term risks.

The friction lies in a system that reduces complexity in the short term, while increasing it in the long term.



Future 2. Lokaal Flevoland

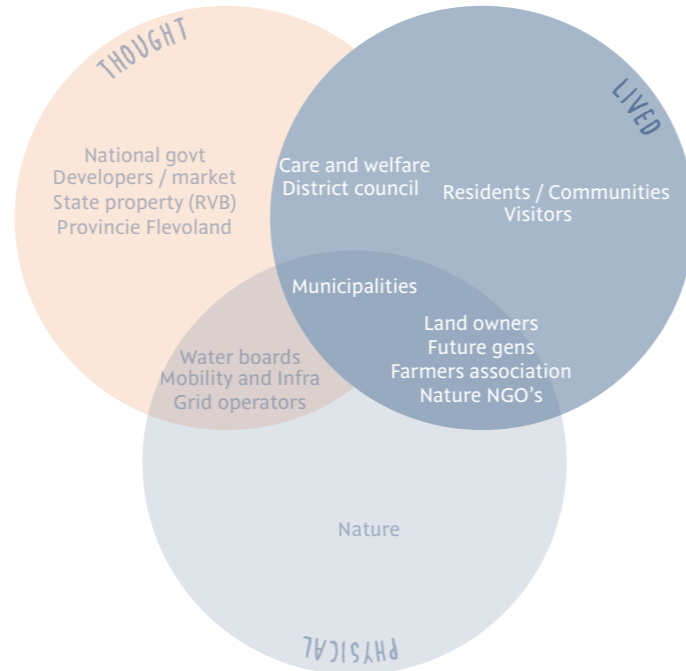
Lived future

Local Power In this future, Flevoland is shaped from the bottom up. Decisions no longer mainly come from abstract plans or distant policies, but from the people who actually live there. Residents have real influence over their environment, something many have wanted for a long time.

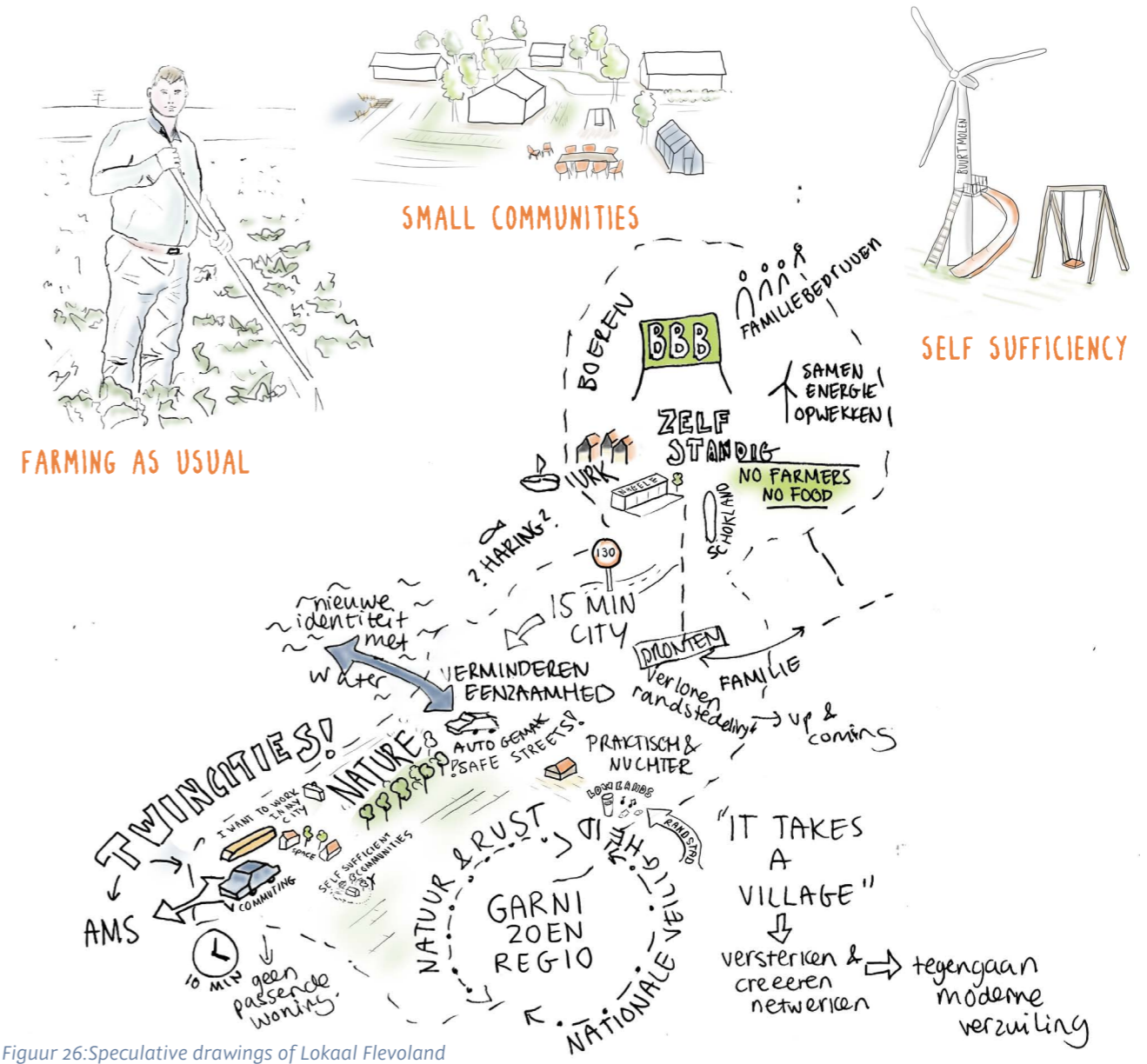
Many Small Worlds At the local scale, this creates room for communities to make their own choices. Neighbourhoods organise themselves, and priorities differ from place to place. Instead of one fixed vision for the whole province, multiple smaller realities exist next to each other.

Self-Sufficient Communities There is also a renewed value in self-sufficiency. People take more responsibility for their own energy, food, water and living environment. This does not create a perfectly ordered landscape, but a more dynamic one.

Controlled Chaos The slight messiness that emerges becomes part of the strength of this future. It allows for experimentation, adaptation and unexpected ways of living together. Flevoland becomes less uniform, but more responsive, diverse and closely connected to the daily lives of its inhabitants.



"What if the lived space dictates the landscape, forcing Flevoland to be organized strictly from the bottom up based on immediate local needs, autonomy, and daily experiences?"



Figuur 26: Speculative drawings of Lokaal Flevoland



Future 2. Lokaal Flevoland Crash-test

Testing the Ideal In the scenario of Lokaal Flevoland, the Lived Space takes full control. But can neighborhoods survive entirely on their own, without a bigger plan? To explore this, we 'crash-test' this local ideal against the rules of the other spaces.

The Rule of the Thought Space: Needs plans, targets and rules to make space understandable and governable.

The Rule of the Physical Space: Needs time for natural systems to adapt and respect for the limits of land, water and soil.

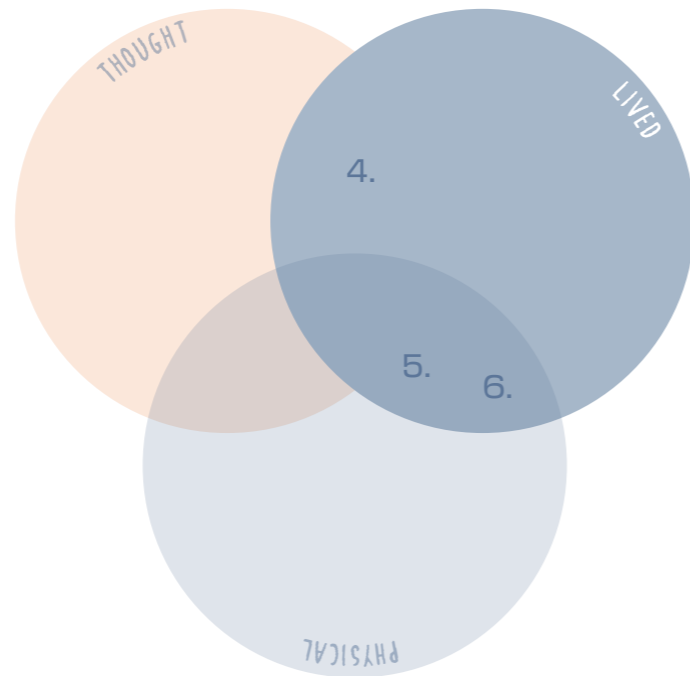
When local wishes ignore these bigger systems, things go wrong. The newspaper on the right acts as a window into this future. It shows exactly what happens when local freedom causes the national networks we rely on to collapse.

The Time Frame (2027): The Horizon of the 'Here and Now' Because the Lived Space cares mostly about immediate, daily needs, long-term planning is abandoned. That is why this newspaper only jumps a year ahead to 2027. It shows how quickly society fractures when we only focus on today's needs. In doing so, we ignore both the slow rhythms of nature and the regional rules needed to keep society fair and functioning.



Future 2. Lokaal Flevoland Warnings

The newspaper on the previous page illustrates the danger of focusing only on the visible, daily environment. By analyzing these events, we uncover the structural flaws of total local autonomy. The three warnings on the right are extracted from these headlines. They prove that human independence cannot exist without institutional frameworks and natural laws.



Dorpsgezicht succesvol gered: landelijke woningnood loopt vast. 5

Buurttuin verdrijft distributiecentrum - regio loopt vast



4) Survival of the Loudest (Lived vs. Thought):
The Lived Space thrives on local agency and direct action. However, when left entirely unchecked, vocal and powerful citizen groups secure their own interests at the expense of others. This destroys the core mandate of the Thought Space: providing institutional justice and protecting the collective good and marginalized voices.



Nationaal stroomnet klappt eruit: lokale wijken dagenlang in het donker door 'eiland-denken'

NAGELE Voor de vierde keer deze maand zitten duizenden huishoudens in de Flevolandse dorpen zonder stroom. Wat begon als een utopisch succesverhaal van lokale burgercoöperaties en zelfvoorzienende buurten, is uitgemond in een infrastructurele nachtmerrie. Doordat elke wijk zijn eigen 'dorpsmolen' en buurtbatterij heeft gebouwd zonder afstemming met het landelijke net, is het hoogspanningsnet van TenneT volledig overbelast geraakt.

5) Illusion of self-reliance (Lived vs. Physical):
Driven by the desire for autonomy, local communities build disconnected, independent energy grids. This ambition completely ignores the physical laws of macro-infrastructure. Small-scale grids cannot handle peak demands without the systemic balance of the national network, leading to inevitable physical collapse.

Behoud van oer-Hollands boerenleven verliest het van verzilting 15



6) Alienation from nature (Lived vs. Physical):
Human perception in the Lived Space relies on the visible, daily present. This creates a dangerous 'temporal mismatch' with the Physical Space, which operates on slow, invisible geological time (like soil subsidence). Because people only react to what they can immediately see, proactive adaptation to slow climate shifts becomes impossible.



2.1 Survival of the Loudest Analysis

Personal value currency In an extreme scenario where the lived space dictates spatial planning, the personal values, experiences, and desires of local users become the primary currency. At first, this seems democratic: the people who live in a place are finally given the power to define what is valuable, harmful, or desirable in their environment. However, this scenario also reveals an important risk. The lived space is not automatically inclusive, because not everyone is equally able to translate their lived experience into political or spatial influence.

Unequal Participation While the ideal of a “participation society” assumes that all citizens are equally capable of initiating action and defending their interests (Tonkens, 2015), this assumption does not hold in practice. Differences in resources, time and capabilities shape who is able to participate effectively. Political sociologist Tom van der Meer (2018) describes this as the participation paradox: the more channels for civic participation are created, the greater the risk that participation becomes unevenly distributed. Instruments such as do-democracy (doe-democratie), G1000 summits, and local town hall meetings therefore do not automatically empower marginalised groups, but often attract those who already have the skills and confidence to make themselves heard (van der Meer, 2018).

The Loudest Voices As a result, spatial decision-making can become disproportionately shaped by a “participation elite.” Soeterbroek (2022) describes this as “NIMBY 3.0”: well-informed and resourceful citizens who use participatory and legal instruments to resist spatial developments in their immediate environment. This does not mean that local resistance is always selfish or illegitimate. Concerns about landscape, health, identity, safety, or daily routines can be real and important. The problem emerges when these concerns are not balanced against the interests of less visible groups or broader societal needs (Van der Meer, 2020;

Bouma et al., 2023).

Missing Correction This is where institutional correction becomes essential. If the lived space becomes dominant without clear public frameworks, participation risks becoming selective rather than just. The Omgevingswet requires participation, but leaves room for ambiguity in how participation should be organised and who should be considered a stakeholder (Bouma et al., 2023). Without clear rules, representation checks, and active inclusion of less vocal groups, participation may mainly reflect the interests of those who are already capable of navigating the system (van der Meer, 2018).

Selective Democracy The warning of this scenario is therefore not that participation is dangerous, but that lived experience alone is not enough to guarantee justice. Without correction, a process that appears democratic can reproduce existing inequalities: the most articulate and organised groups protect their environment, while quieter, younger, poorer, or less institutionally confident groups remain underrepresented (Van der Meer, 2020; Dagevos et al., 2024).

The friction lies in a process that appears democratic, but becomes unequal when only the most vocal and capable groups are able to turn their lived experience into influence.



2.2 Illusion of self-reliance

Analysis

Local Control The illusion of self-reliance emerges from a lived-space-driven future. In this future, planning places strong trust in local ownership, community control and the ability of neighbourhoods, villages or regions to organise their own environment. These ideas are valuable. Local places can reduce demand, organise local energy, share resources, strengthen social networks and adapt to their own landscape. The problem starts when this local capacity is mistaken for independence. A place can become more self-reliant in specific ways, but it never stands fully apart from larger infrastructural, ecological and economic systems.

Local trap Brown and Purcell (2005) describe this risk as the “local trap”: the assumption that local-scale action is automatically more desirable, democratic or sustainable than action at other scales. Their point is not that local planning is wrong, but that the local scale is not inherently better. A neighbourhood, municipality or region is always shaped by flows, decisions and infrastructures beyond its own boundaries.

Connection of systems Russell (2019) gives this argument a more recent and nuanced reading. He shows that the local or municipal scale can be powerful, but should not be treated as an autonomous end in itself. Instead, it can function as a strategic front: a place to begin organising change, while remaining part of a broader politics of scale. This is important for the lived future. Local action has real value, but only when it stays connected to the wider systems that make it possible.

Cross-scale relations This is where the illusion begins. Ecosystems, markets, water systems, housing demand and energy networks do not stop at local borders. When a local place is expected to organise complex systems mostly on its own, a scale mismatch can emerge. Cash et al. (2006)

show that environmental and governance problems often arise when cross-scale relations are ignored. Cumming et al. (2006) describe scale mismatches as situations where the scale of social organisation does not align with the scale of the ecological or physical process being managed.

Local dependency This does not mean that local places cannot act. A neighbourhood can reduce energy demand or organise local generation, but it cannot independently create the regional grid capacity on which it depends. A village can shape local housing choices, but it remains connected to regional housing pressure, land markets, construction capacity and national policy. Local self-reliance becomes problematic only when it is treated as if it can replace interdependence.

This is visible in the Dutch Regional Energy Strategies. RES regions can plan for solar and wind energy, and local preferences matter in shaping where projects land. But these plans remain dependent on the regional and national electricity grid. Tennekes et al, (2024) shows that grid scarcity and net congestion can delay renewable energy projects, and argues that energy planning requires an integrated view of demand, supply and infrastructure. Local energy ambitions are therefore not purely local choices. They depend on whether the larger system can connect, absorb and distribute what is produced.

False independence The warning is that, in a lived-space-dominated future, local control can be mistaken for independence. When communities are expected to organise energy, housing, water or services mostly on their own, planning forgets that local life depends on wider systems.

The friction lies in a lived space that imagines autonomy, while planned and physical systems remain interdependent, regional and national.



2.3 Alienation from nature

Analysis

Understanding the landscape Alienation from nature in spatial planning is not simply a lack of emotional attachment to green space. People can care deeply about a landscape, while still being disconnected from the slow physical processes that make that landscape function. The issue is therefore not a lack of feeling, but a loss of ecological legibility: the ability to read and understand the biophysical systems beneath everyday experience.

Extinction of experience Pyle (2002) describes this as the “extinction of experience”: when everyday contact with flora, fauna and natural processes declines, people gradually lose practical familiarity with the living systems around them (Pyle, 2003; Soga & Gaston, 2016). Miller (2005) shows that this loss of contact can weaken ecological knowledge and concern, not because people are unwilling, but because nature becomes less present in daily life.

Invisible change This becomes risky when spatial planning is driven mainly by the lived space. Lived experience is immediate: it is shaped by what people see, use and recognise in their everyday environment. But many ecological processes do not work at that speed. Soil subsidence, salinisation, biodiversity loss, water pressure and, in some Dutch landscapes, peat oxidation often happen slowly, underground or outside direct perception. Jones et al. (2020) describe this as “shifting baseline syndrome”: each generation starts to see the environmental conditions it grew up with as normal, even when those conditions are already degraded. In this way, long-term change can become invisible simply because it happens gradually.

Temporal mismatch This creates a temporal mismatch between daily human experience and ecological timeframes (Cumming et al., 2006). What feels stable in everyday life may actually depend on continuous management, maintenance and correction. This is especially clear in engineered Dutch

landscapes such as the IJsselmeerpolders. Flevoland depends on dikes, canals, pumping stations and drainage systems to remain liveable and productive (van Dijk, 2021).

Hidden system Because these systems work mostly in the background, the polder can appear self-evident and stable. Yet beneath that everyday stability, the landscape remains shaped by water pressure, soil processes, bodemdaling and verzilting. The Raad van de leefomgeving (2024) warns that Dutch planning has long acted as if everything is possible everywhere, while soil and water conditions place real limits on future development.

The gap between concern and action Furthermore, awareness of these slow physical risks does not automatically lead to adaptation. While a large majority of Dutch citizens express concern about climate change, there is a persistent gap between this theoretical concern and actual behavioral change (Sociaal en Cultureel Planbureau and Protestantse Theologische Universiteit, 2024). Because long-term physical risks remain abstract, local spatial decisions continue to be driven by what is directly experienced in the present.

Caring ≠ Knowing The warning is that care for a familiar landscape can be mistaken for understanding how that landscape works. People may feel strongly connected to a place, while the slow physical processes beneath it remain difficult to see.

The friction lies in a lived space that feels immediate and familiar, while the physical space changes slowly and often invisibly.



Future 3. Natuurlijk Flevoland

Physical future

Natural Logic In this future, Flevoland is shaped by water, soil and natural processes. To prepare the Netherlands for 2100, difficult choices are made early. The goal is to move with the landscape, instead of constantly forcing the landscape to adapt to us.

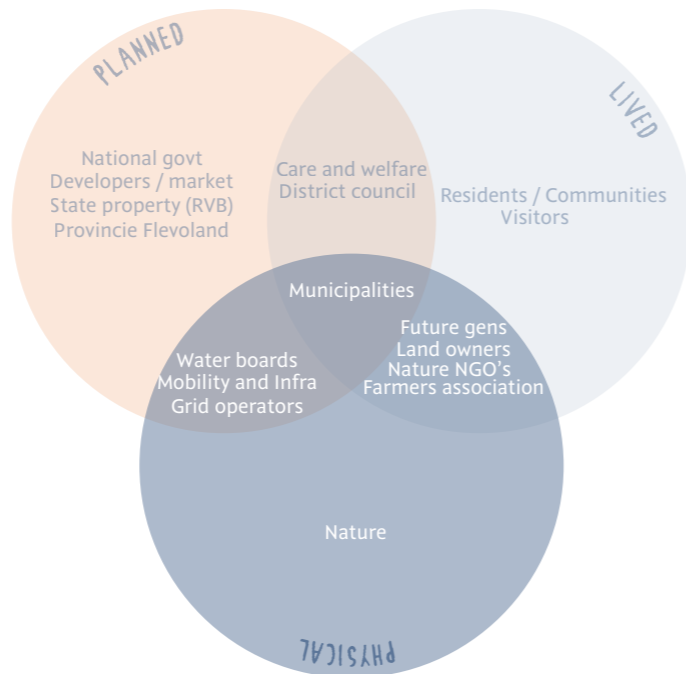
Choosing Where Not to Build This means a radical shift in planning. New development no longer takes place in areas where it may create larger problems in the future than it solves today. Some places are no longer seen as suitable for permanent housing, infrastructure or economic growth.

Use Follows the Soil Land use starts to follow the conditions of the soil and water system. Higher and more stable areas become more important for long-term development, while lower or more vulnerable areas are used differently. Temporary functions may still exist there, but permanent claims become less logical.

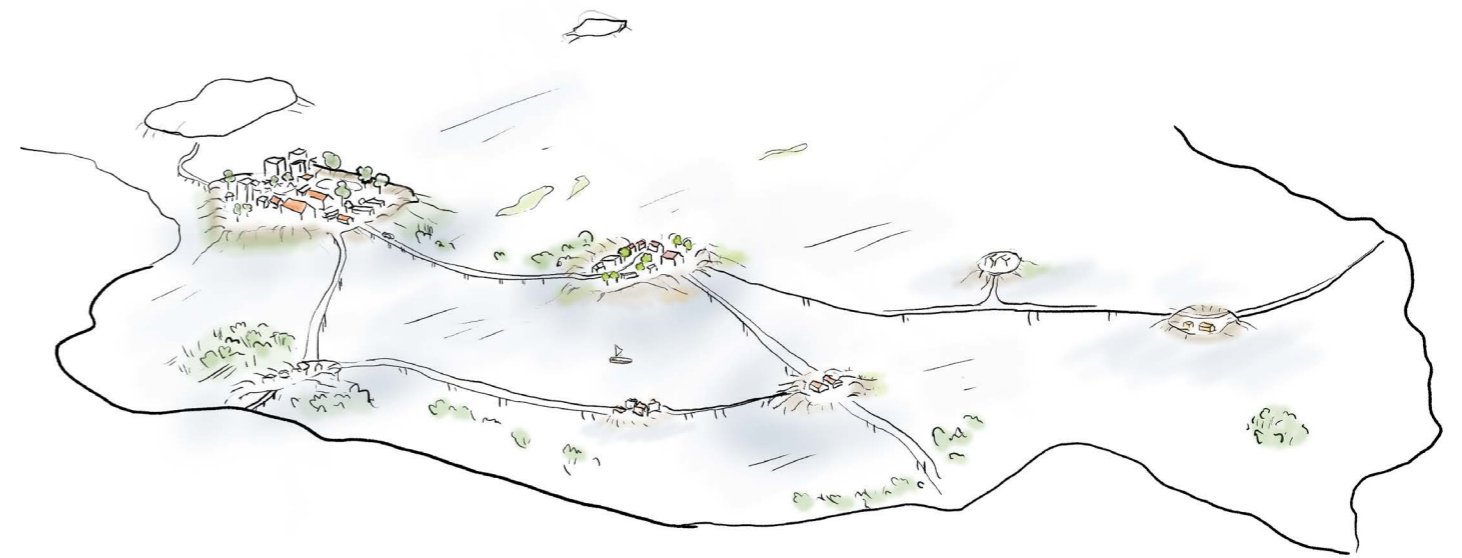
Changing Livelihoods This transition has a major impact on farmers and other land users. Agriculture does not disappear everywhere, but it changes. Some areas allow for new crops and wetter forms of production, while other places may slowly lose their economic function.

Giving Space Back In the most vulnerable areas, the land is no longer defended against wetness in the same way. Instead of continuously pumping, draining and correcting the landscape, Flevoland starts to accept that some places are better suited for water, nature or temporary use. These areas do not disappear, but their role changes. They become part of a more adaptive landscape, where the physical system is no longer treated as an enemy, but as the starting point for future choices.

On paper, this future looks like the perfect solution. But spatial plans rarely survive contact with reality without friction. To discover the blind spots of this utopia, we must turn the page and subject it to a spatial crash-test.



“What if the physical space overrules everything else, forcing Flevoland to submit entirely to the deep-time ecological limits of soil and water?”



Figuur 27: Speculative drawings of Natuurlijk Flevoland



Future 3. Natuurlijk Flevoland

Crash-test

Testing the Ideal In the scenario of Natuurlijk Flevoland, the Physical Space is the only thing that matters. But nature's rhythm often clashes with human needs. To explore this tension, we 'crash-test' this green ideal against the rules of the other spaces:

The Rule of the Lived Space: Needs people to feel at home, respect their daily routines and have a voice in their neighbourhood.

The Rule of the Thought Space: Needs plans, rules and targets to make space understandable and manageable.

When nature's rules overrule everything else, our daily survival and political systems break down. The newspaper on the right is a fictional story born from this clash. It reports on the human drama and political panic that follow when we try to adapt the landscape faster than people can handle.

The Time Frame (2100): The Horizon of Deep Time

Because the Physical Space follows the slow rhythm of nature, spatial planning is forced to look a century ahead. That is why this newspaper travels to the year 2100. The friction you see in these stories is the result of that extreme timeline: it shows the crisis that occurs when we force both everyday citizens and short-term politicians to operate on a 100-year ecological clock.

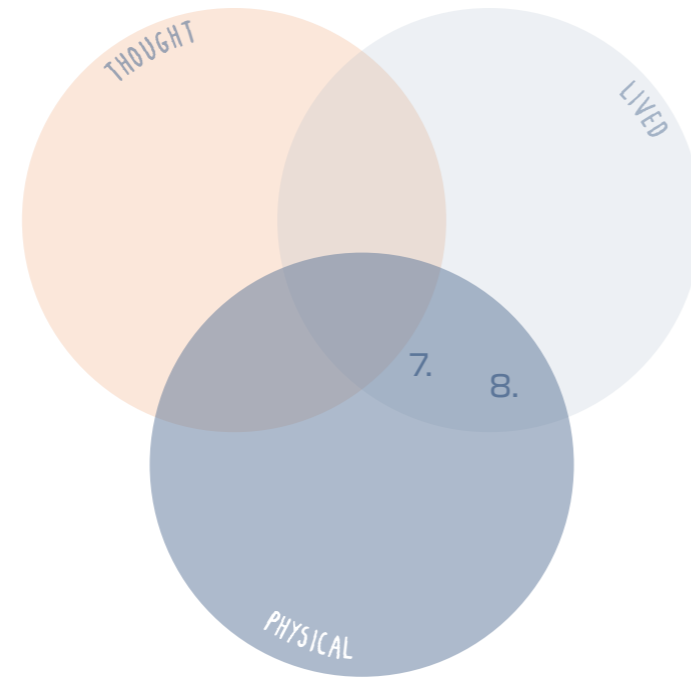


Future 3. Natuurlijk Flevoland

Warnings

Deconstructing the News

The newspaper on the previous page shows that restoring ecological balance is not a painless or neutral process. By analyzing these articles, we uncover the deep social and political trauma caused by rapid landscape transformation. The three warnings on the right are extracted from these headlines, showing what happens when nature's slow rhythm outpaces human capacity.



Het land zakt. De huur niet. Twee bewoners overleven op de rand van het compensatiesysteem. 9



Livelihood security (Physical vs. Lived):

Radically adapting the landscape to ecological laws creates a brutal socio-economic fracture. The Physical Space requires immediate transformation (e.g., flooding agricultural land), which directly destroys the daily income, farming businesses, and basic economic security required by the Lived Space.



De bittere oogst: het Aardappelfeest is voorbij

Voor het eerst in tachtig jaar gaat het Aardappelfeest in de polder niet meer door. Wat ooit begon als een viering van de oogst, groeide uit tot een vast moment waarop het dorp samenkwam.

Grieving young heritage (Physical vs. Lived):

Adapting to natural laws is not culturally neutral. While the Physical Space demands a new landscape, the Lived Space experiences this as trauma. The physical transformation of the polder erases the human history and built identity attached to it, causing deep cultural displacement and grief over their 'young heritage'.



3.1 Livelihood security

Analysis

Beyond income Livelihood security, or *bestaanszekerheid*, means that people have an adequate standard of living now, but also enough certainty that they can maintain this in the future (SCP/PBL/CPB, 2025). A livelihood is broader than income alone. It includes the capabilities, material and social resources, and activities people need to make a living (Scoones, 1998). Because *bestaanszekerheid* is multi-dimensional, one extra adaptation cost can interact with existing insecurity in housing, health, work or social networks (Raad voor Volksgezondheid & Samenleving, 2024).

Cost question An explorative future driven by the physical space, where water, soil and climate strongly guide spatial choices raises a central question: who pays the social and economic price of physical adaptation?

Unfair Burdens Resistance to spatial adaptation should not automatically be framed as ignorance or unwillingness. Many people do recognize the urgency of climate and environmental problems, but they worry about who carries the costs. Sociaal en Cultureel Planbureau et al. (2024) show that a large majority of Dutch citizens consider the distribution of climate costs between citizens and businesses, and between wealthy and poorer citizens, unfair. WRR (2023) also warns that climate policy loses support when costs are not distributed justly. Understanding that adaptation is necessary does not mean people have the financial, practical or social capacity to absorb its consequences.

Unequal Access This risk reaches beyond one sector. It can affect households, workers, small businesses and local economies. Raad voor de leefomgeving and infrastructuur (2025) warns that sustainability policy can exclude vulnerable citizens and small businesses when they have limited access to subsidies, loans or support. In that case, wealthier groups

are better able to benefit from transition measures, while vulnerable households may be left with higher energy bills, poorer housing conditions or fewer options to adapt.

Transition This vulnerability is highly relevant in Dutch spatial planning, where water and soil are increasingly expected to guide spatial choices. That shift is necessary, but it also changes the conditions under which people live and work. In agriculture, for example, the livelihood security of many small and medium-sized farms is already under pressure. The Nationaal Klimaat Platform (2024) shows that switching to a sustainable earning model can be uncertain, because the financial consequences are not always clear. Rli (2021) similarly argues that farmers need future perspective, policy clarity and a viable income within sustainability boundaries.

Institutional Gap The warning is that physical adaptation becomes unjust and unstable when people and local economies are expected to carry systemic costs alone. Physical limits may be translated into rules, restrictions or requirements, but not always into enough practical, financial and social support.

The friction lies in a physical space that demands adaptation, while the lived space depends on income, access, continuity and security.



3.2 Grieving young heritage

Analysis

Young Heritage The friction that emerges here is a grief over young heritage. Flevoland is the youngest province of the Netherlands. Its idea of heritage is still developing (Provincie Flevoland, 2018). But this does not mean that Flevoland lacks identity. Its identity is already strongly connected to space, openness, large-scale agriculture and the deliberate organisation of land (Provincie Flevoland, 2018).

Polder identity These qualities are not accidental. Flevoland was built on the belief that land could be made, controlled and cultivated. The idea of *maakbaarheid* is central to its origin (Provincie Flevoland, 2018). This is also visible in what residents are proud of. Research by I&O (2019) shows that 42% of residents refer to nature, space and water. Another 25% explicitly mention the creation of new land from the sea. Agricultural land is therefore not just a function. It is part of the province's origin story.

Place attachment For a long time, Flevoland could absorb spatial change quite easily. The land was new. Many people had only just arrived. But this has changed. Over time, people build emotional bonds with their surroundings. These bonds become part of how they understand a place, and sometimes themselves (Bernardo, 2023). When new spatial claims threaten familiar qualities, this can disrupt place attachment (Reese et al., 2019).

Losing Farmland This becomes especially visible when agricultural land is transformed or reduced. In Flevoland, farmland is part of the reason the province exists. Changing it does not only change land use. It also challenges collective history, daily routines and the identity people have built around this landscape. When such changes are imposed from the outside, attachment can turn into resistance (Lewicka, 2011). Communities may strengthen their internal cohesion and start defending what they see as their place (Terlouw, 2024).

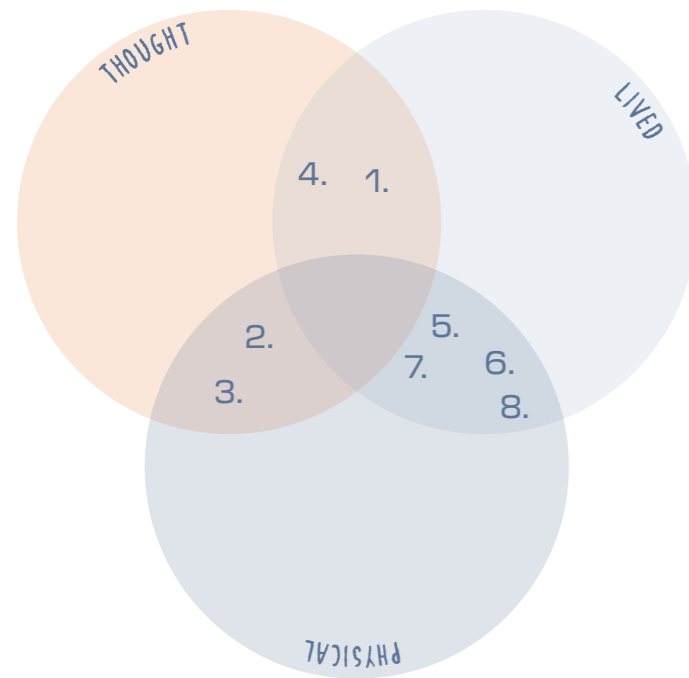
Core Friction Spatial change in Flevoland is therefore not only physical. It is also emotional and identity-driven. What may seem logical from the physical perspective can be experienced in the lived space as undoing the foundation on which the province was built.

The friction lies in the fact that the physical space asks Flevoland to adapt, while the lived space experiences this adaptation as the loss of the landscape it has learned to call home.



Eight warnings from one-sided planning

Synthesis

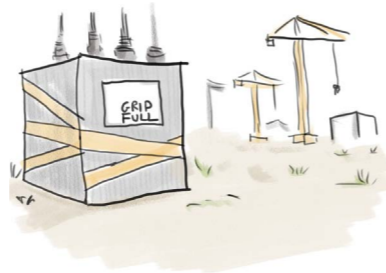


Warnings taken from the thought future



1) The comfort paradox

The Warning: Choosing easy outward expansion on empty land because reorganizing existing homes is “too socially complex”.



2) Systemic Overload

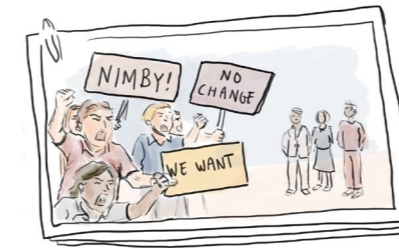
The Warning: Pushing housing and energy targets faster than the physical grid, infrastructure, and labor force can handle.



3) The Quality Crash

The Warning: Sacrificing living standards, basic comfort, and climate-adaptability just to hit political deadlines (e.g. “100,000 homes per year”)

Warnings taken from the lived future



4) Survival of the loudest

The Warning: Letting spatial planning be ruled by the most vocal or wealthy residents, while ignoring the silent.



5) Illusion of self-reliance

The Warning: Designing hyper-local, “self-controlling” neighborhoods and systems while ignoring the massive national spatial claims



6) Alienation from nature

The Warning: Making spatial choices based only on what we see today, because slow, invisible threats like land subsidence and salinization cannot be seen.

Warnings taken from the physical future



7) Livelihood security

The Warning: Forcing the landscape to adapt to water and ecology so aggressively that local economies and daily survival simply collapse.



8) Erasure of young heritage

The Warning: Forgetting that when you return agricultural land to the water, you are destroying the identity, history, and pride that communities built upon it.



Temporal system conflict → Condition-driven planning

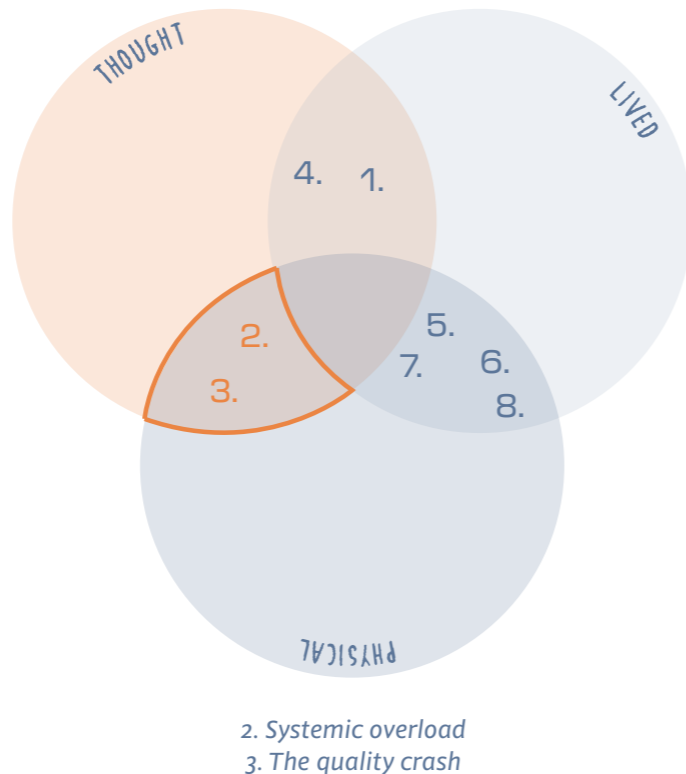
System error 1

Chapter 4 showed that the three spaces each operate according to different rhythms. The thought space works with policy targets, planning years and political urgency. The physical space changes through slower processes such as subsidence, salinisation, water pressure and ecological adaptation. At that stage, this was described as a current pattern: the spaces do not move in the same way.

The future warnings show what happens when this difference is not translated well. The issue is no longer only that the spaces have different rhythms, but that one rhythm starts to dominate the others. In the planned future, the tempo of the thought space becomes leading. Housing numbers, infrastructure goals and delivery deadlines determine the pace, while soil, water and infrastructure capacity are expected to follow.

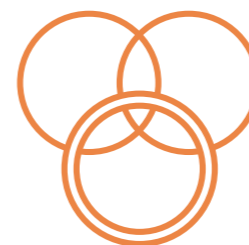
This produces two related risks. The first is gradual: resilience and sustainability becomes weaker when long-term physical suitability is made secondary to short-term delivery. This is visible in the warning of the quality crash. The second is more abrupt: when physical or infrastructural limits can no longer be stretched, the system reaches a hard boundary. This is visible in the warning of systemic overload.

The system error is therefore not simply that the spaces move at different speeds. That was the pattern identified in Chapter 4. The deeper error is that planning often allows the fastest and most measurable rhythm to organise the slower ones. In Flevoland, this is risky because the province can still appear open and available, while its soil, water and infrastructure systems have their own limits. The clash begins when the physical space is asked to keep pace with a target-driven planning system.



Planning Principle: Condition-driven planning

Condition-driven planning replaces fixed policy deadlines with triggers based on physical reality. Instead of deciding in advance when something must happen, development only moves forward when the landscape can actually support it. For example: “Phase 2 will only be built once the water system has demonstrably recovered.” This means that the slowest space, often soil, water or infrastructure, determines the speed of planning.



Condition-driven planning::
Let soil, water and time set the pace.



Institutional absence and presence → Relational-safeguarding planning

System error 2

The speculative futures reveal a second system error: planning struggles to deal with human complexity. People do not enter spatial transitions with the same time, money, knowledge, energy or security. Some can organise, object, apply for subsidies or start local initiatives. Others are already busy trying to keep their household, farm, work or care situation stable.

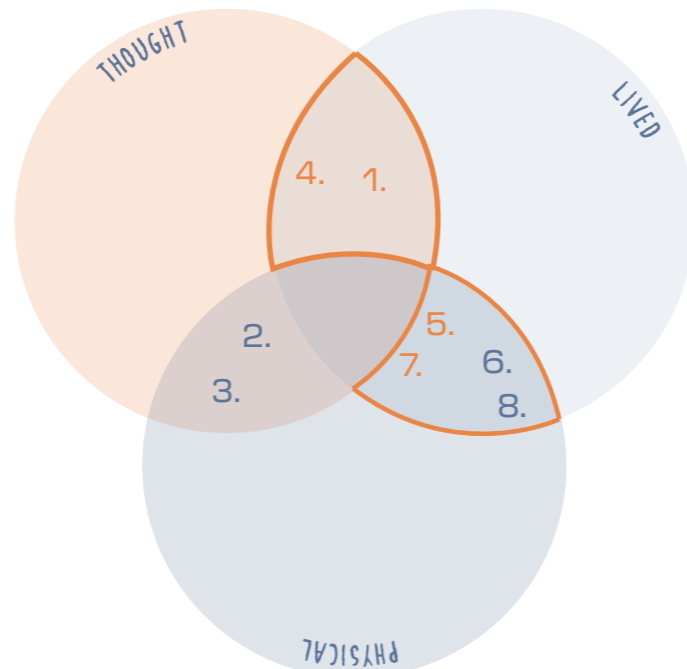
The problem is not simply that institutions are too strong or too weak. The problem is that they often play the wrong role. They are either too rigidly present through rules and procedures, or too absent when people need support, explanation and protection.

Rigid presence: rules that reward capacity

In some situations, institutions stay in control through procedures, categories and formal participation. These systems may look equal on paper, because everyone is allowed to participate or object. In practice, they often reward people who already have the most capacity: those with time, confidence, legal knowledge, money or professional support.

This is visible in the warning Survival of the Loudest. Participation can become unequal when the most organised and vocal groups gain the most influence, while quieter or more vulnerable groups remain invisible. It is also visible in The Comfort Paradox. Instead of dealing with socially complex solutions, such as helping older residents move or reorganising existing housing, planning often chooses what is easier to calculate: building outward on open land.

Here the institution is present, but in the wrong way. It manages complexity through rules and abstractions, instead



- 1. Comfort Paradox
- 4. Survival of the loudest
- 5. Alienation from nature
- 7. Livelihood security

of actively correcting unequal capacity.

Institutional absence: local responsibility without real support

In other situations, the institution disappears too much. Communities are encouraged to become self-reliant, but are left to deal with systems that are far bigger than the local scale. Energy grids, water systems, housing markets and ecological transitions cannot be solved by neighbourhoods or farmers alone.

This is visible in Illusion of Self-Reliance. Local initiative is valuable, but it becomes dangerous when communities are expected to manage regional or national systems by themselves. It is also visible in Livelihood Security. Ecological adaptation may be necessary, but people cannot support long-term landscape change if their income, farm, home or daily survival is under pressure

Here the institution is absent at the wrong moment. It asks people to take responsibility, but does not provide the structural support needed to make that responsibility fair.

System error: human capacity is treated as unlimited Both rigid presence and institutional absence lead to the same problem: spatial influence becomes dependent on personal capacity. People who can navigate bureaucracy, organise resistance or start self-reliance projects gain more control over their environment. People with less time, money, knowledge or security are pushed aside.

This is the blind spot for human complexity. Planning treats citizens as if they are equally able to participate, adapt and organise. But they are not. Without protection, spatial transitions reproduce inequality.

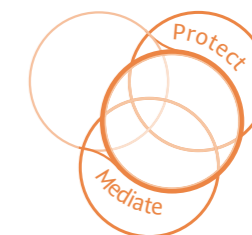
Planning principle: Relational-safeguarding planning Flevoland therefore needs relational-safeguarding planning. This means that institutions should not return as top-down

blueprint makers, but as fair mediators and protective backbones.

The institutional role should be threefold:

- First, protect basic conditions. Basic spatial quality, access to services, liveability and livelihood security should not depend on how well people can participate or organise.
- Second, support local agency without romanticising self-reliance. Communities should have real influence over their living environment, but they should not be made responsible for systems that require regional or national coordination.
- Third, mediate between scales. Institutions must make clear what people can shape locally, what depends on larger systems, and what the government will continue to guarantee.

Flevoland therefore needs neither rigid top-down planning nor romantic bottom-up self-reliance. It needs institutions that understand human limits, protect vulnerable groups and help translate between local lives, regional systems and national responsibilities.



Relational-safeguarding planning:
Protect people where transitions hit hardest.



Denied socio-ecological entanglement → Socio-ecological transition planning

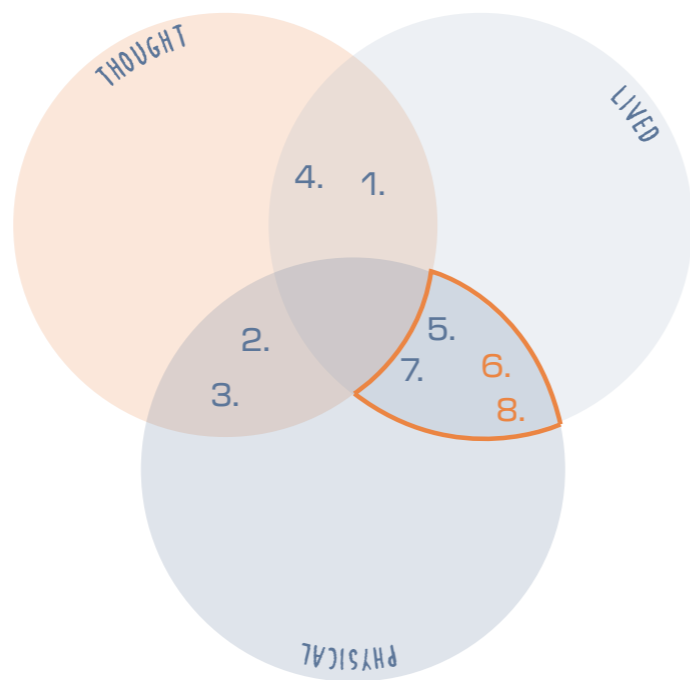
System error 3

The physical-dominant future tests what happens when soil, water and ecology become the starting point for planning. This is necessary, because Flevoland cannot keep forcing the landscape to adapt to human demands. However, this future also shows a risk: landscape-led planning becomes one-sided when it treats adaptation as only a technical land-use change. Changing land use also changes how people remember, value and belong to a place.

The two warnings are connected through a double disconnect. The first is a disconnect from the depth and future of the landscape. Slow processes such as subsidence, salinisation and water pressure often remain invisible in daily life. Because they are hard to see or feel, the need for adaptation can stay abstract, even when it is urgent.

The second is an attachment to the surface and history of the landscape. The landscape that has to change is visible, familiar and meaningful. In Flevoland, farmland, openness, reclamation and cultivation are not just spatial conditions. They are part of the young identity of the polder. The land may be newly made, but it already carries family histories, work routines, pride and collective meaning.

System error: Together, these warnings expose the denial of socio-ecological entanglement. The system error lies in how the Thought Space mediates the clash between physical reality and lived identity. Planning can map water, soil and land use, but it has fewer tools for memory, attachment and grief. As a result, it may treat a cultural and emotional transition as a technical necessity. People are asked to adapt to invisible physical risks while also letting go of a visible landscape they know and value. Resistance can then be misread as obstruction, while it may also be grief over landscape change.



6. Alienation from Nature
8. Grieving Young Heritage

Planning principle: Socio-ecological transition planning.

System change: Socio-ecological transition planning. The necessary change is socio-ecological transition planning. Water, soil and ecology must guide future choices, but these choices need to be translated into lived realities. Slow ecological processes should be made more visible and understandable in daily life. At the same time, transition strategies must include cultural loss, memory and identity from the start. Budgets should support not only physical interventions, but also phasing, dialogue, social support and local co-design. Only when grief is acknowledged can resistance become stewardship for a new ecological landscape.



Socio-ecological transition planning:

Let landscapes and communities
change together.



Conclusion

Three planning principles

This chapter answers the question: when the logics of the Three Spaces Model are pushed to speculative extremes, what future systemic errors become visible, and which planning principles must be derived to prevent them?

The speculative futures show that planning can fail in three main ways. First, fast planning tempos can overrule slower physical systems. Second, institutions can either control too rigidly or withdraw too much. Third, ecological adaptation can be treated as a technical task, while its social and cultural consequences are ignored. These system errors lead to three planning principles: **condition-driven planning**, **relational-safeguarding planning**, and **socio-ecological transition planning**. Together, they show that future planning must align different tempos, protect human capacity, and treat ecological change as both physical and lived.

Introduction

The following graphic novel translates the research into a more experiential form. While the previous chapters developed the argument through theory, analysis, speculative futures and planning principles, abstract ideas such as condition-driven or relational-safeguarding planning can be difficult to imagine in practice.

The graphic novel therefore does not function as a separate illustration after the research, but as a final act of translation. It asks what spatial friction looks like when it enters everyday life: when a participation procedure does not reach the people it should, when a farmer experiences landscape change as loss, or when fast planning targets collide with slow soil, water and infrastructure systems. These stories may appear personal at first, but each one reveals a larger planning problem.

Drawing on graphic journalism and design fiction, the story makes the Three Spaces Model tangible through character, setting and conflict. Anne-Marie, the ombudswoman of spatial friction, becomes a narrative device through which the thought, physical and lived spaces can be brought into conversation. In doing so, the graphic novel moves beyond the format of a conventional report. It invites the reader not only to understand the proposed friction-guided doctrine, but to feel where planning starts to break down, and to reflect on what it would mean to respond to friction earlier, more openly and more carefully.

HET VERHAAL VAN ANNE-MARIE
DE OMBUDSVROUW VAN
RUIMTELIJKE FRICHTIE



By Juliette Feldbrugge

Annemarie: de Ombudsvrouw van Ruimtelijke Frictie

Een graphic novel over ruimtelijke frictie en het voorstel van een nieuw-planning doctrine

Gemaakt door **Juliette Feldbrugge** als onderdeel van het afstudeerproject *Towards a Friction-Guided Planning Doctrine* binnen de MSc Urbanism aan de Faculty of Architecture and the Built Environment, Delft University of Technology.

Deze graphic novel vertaalt de onderzoeksresultaten naar een verhalende vorm, waarbij de scènes zijn gebaseerd op een analyse van de implementatie van het Three Spaces Model met Flevoland als planningscasus.

Onderzoek, tekst, concept en vormgeving

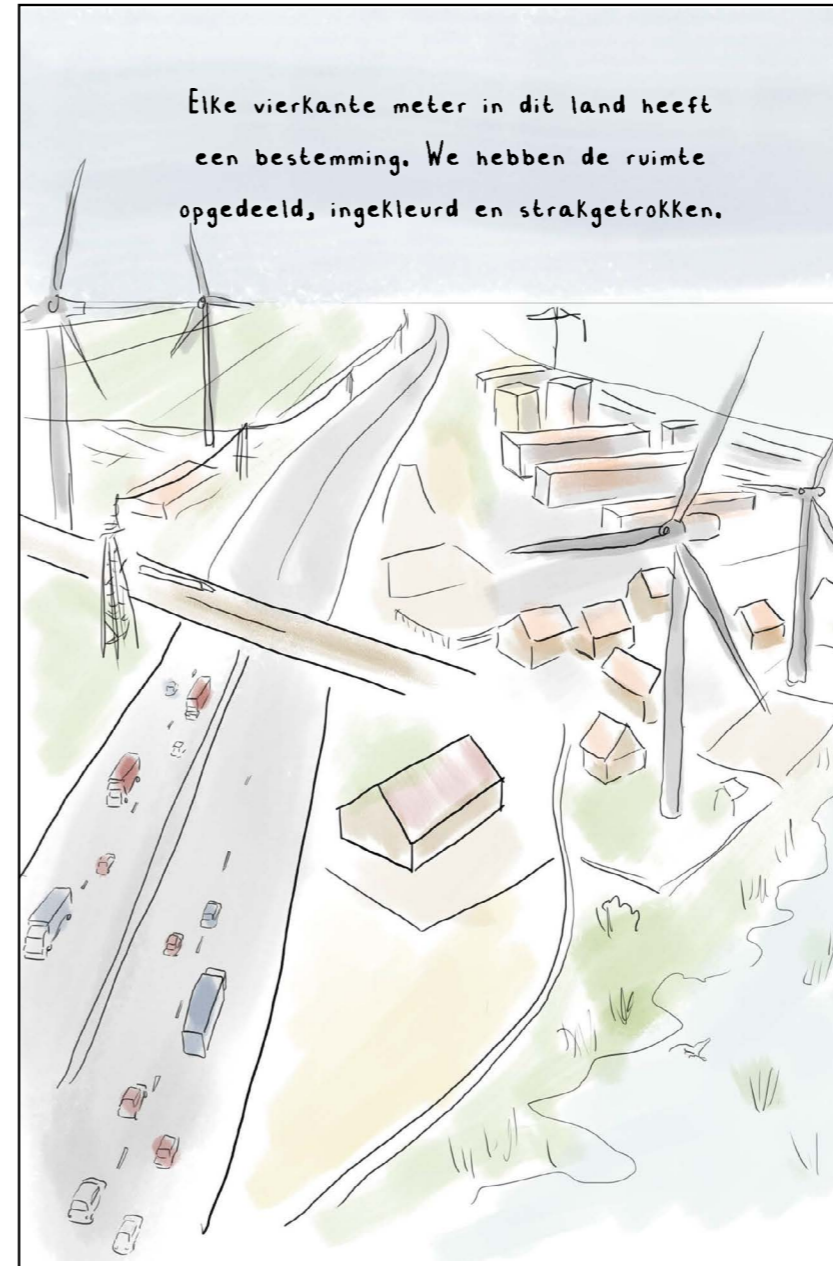
Juliette Feldbrugge

Begeleiding

Peter Pelzer
Tess Broekmans

TU Delft, 2026

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Ombudsvrouw van Ruimtelijke Wrijving

Welkom in de Kamer voor Ruimtelijke Frictie. Tussen de bergen vastgelopen dossiers zit de toekomst van ons land te wachten. Van ambitieuze plannenmakers tot de boer met modderlaarzen: iedereen eist zijn plek op. Maar onze leefomgeving loopt vast wanneer blauwdrukken, luide stemmen en fysieke grenzen los



6

Graphic Novel

van elkaar de planning gaan bepalen. Aan dit loket botst de snelle tijd van beleid en het acute ongeduld van mensen op de trage tijd van klei en kabels. We lossen hier geen puzzeltjes op, we vertalen werelden. Trek maar een nummertje.”



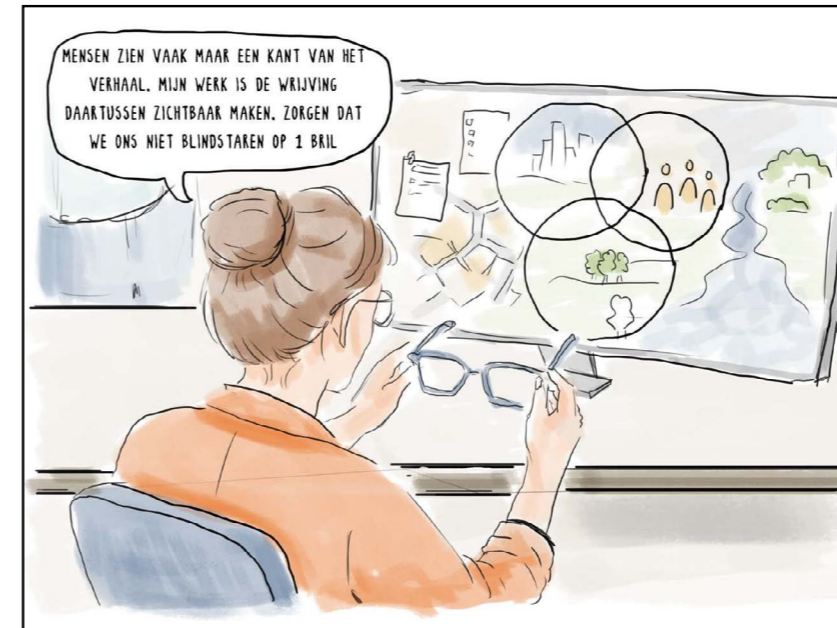
Ombudsvrouw van Ruimtelijke Wrijving

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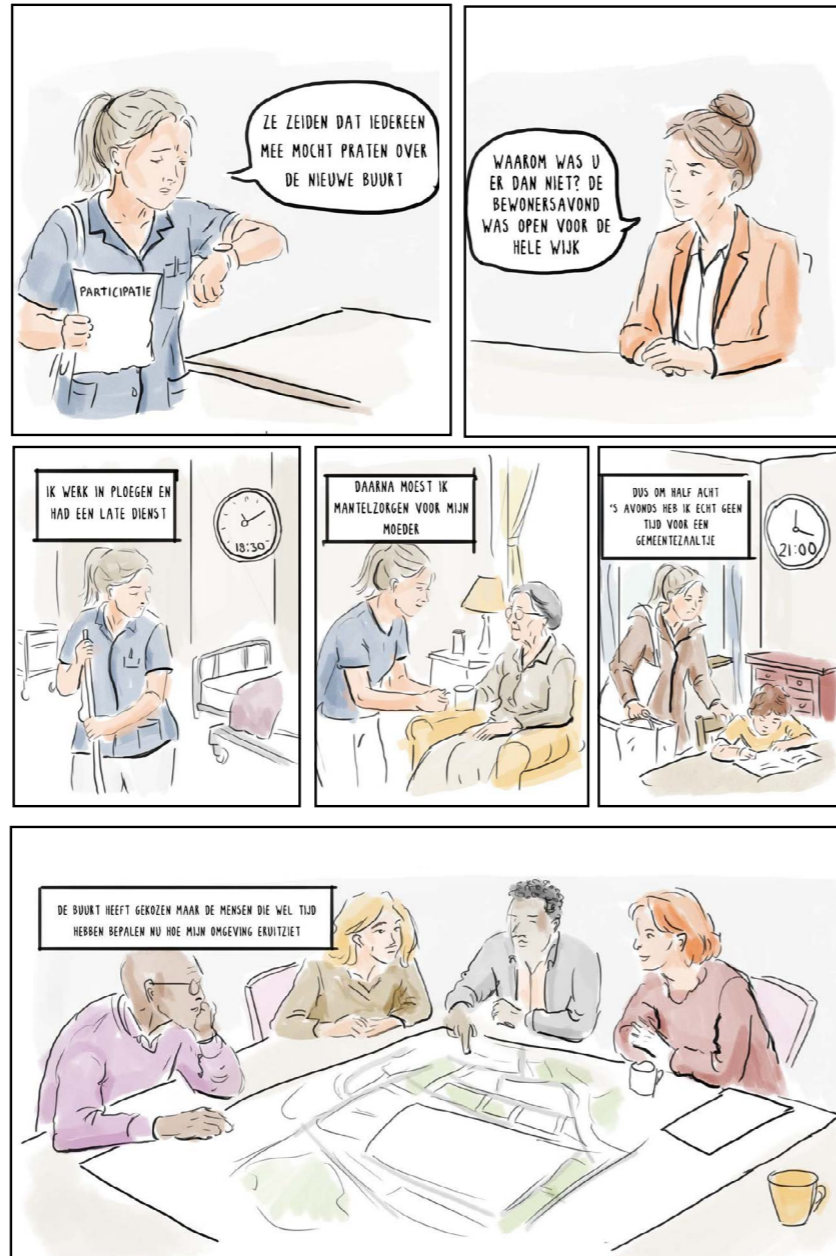
Graphic Novel



Ombudsvrouw van Ruimtelijke Wrijving

9







MIJN VADER HEEFT ZIJN HELE LEVEN KEIHARD GEBOUWD AAN DIT BOEKENBEDRIJF, EN NU WILLEN JULLIE HET WATERPEIL GEWOON WEEK OMHOOG GOOIEN?!



WE KUNNEN ER HELLAAS NIET MEER TEGENOP POMPEN MENEER, DE BODEM ZAKT STEEDS VERDER IN, EN DAARDOOR DRIJKT HET ZEEWATER STEEDS HARDER OMHOOG.



MIJN OUVENNEER HEEFT DEZE KLEI DESTIJD MET BLOTE HANDEN BEWERKT, ZESTIG JAAR LANG HEBBEN WE DE BESTE AARDAPPELEN TER WERELD GEPRODUCEERD.



MAAR DE LAATSTE JAREN SCHEUKT DE GROND OPEN VAN DE DROOGTE, OF DE OGGST MISLUKT OMDAT DE GROND WIT UITSLAAT VAN HET ZOUT.



VROEGER SPOELDEN WE DAT ZOUT GEWOON WEG MET RIVIERWATER, MAAR NU DE ZOMERS STEEDS HETER WORDEN, IS DAAR VRAK NIET GENOEG ZOET WATER VOOR.



WE HEBBEN MET DE TREKKEERS DE SNELVEG GELOKKEERD UIT WANHOOP, MAAR IK WEEET HET OOK WEL... TEGEN DE NATUUR VALT NIET TE PROTESTEN.



EN NU?? MIJN HELE FAMILIEGESCHIEDENIS VERDWIJNT VOOR MIJN OGEN, WAT VERWACHTEN JULLIE DAT IK GA DOEN?



"HIJ HEEFT GELIJK, WE BEHANDELEN ZIJN POLDER ALS EEN KILLE TECHNISCHE REKENSOND OP PAPIER, MAAR IN DE ECHE WERELD STOPPEN WE NIEK EEN COMPLETE FAMILIEGESCHIEDENIS.

"IK HOEK U, MENEER, DE OVERHEID MAG UW VERLIES VAN IDENTITEIT EN LANDSCHAP NIET AFDOEN ALS EEN SPREADSHEET, DIT EIST ERKENNING.



MIJN OUDERS KOCHTEN DERTIG JAAR GELEDEN EEN DROOMHUIS. NU ZIT IK MET EEN ZINKENDE BOUWVAL OMDAT JULLIE ZO NODIG "TARGETS" MOESTEN HALEN



WEER DIT PATROON: EEN TEMPOREEL SYSTEEM CONFLICT. SNELLE POLITIEKE DOELEN EISEN NU HUIZEN, OP EEN BODEM DIE CONTINU WEGZAKT. KORTE TERMIJN BELEID BOTST OP TEGEN DE TRAGE BODEMPROCESSSEN.



MIJN OUDERS WAREN DOBLIJ MET HUN NIEUWBOUWHUIS, DE POLITIEK STAMPTE WIJKEN UIT DE GROND OP PLEKKEN WAAR DAT EIGENLIJK NIET KON.



OM GELD EN RUIMTE TE BESPAREN WAS DE KWALITEIT NET OP HET RANDJE. TE LAGE PLAFONDS, STEILE STRAPPEN EN IN DE ZOMER EEN SNIKHEET HUIS.



HET HUIS STAAT OP PALEN, MAAR DE POLDERBODEM EROMHEEN ZAKT WEG. DERTIG JAAR LATER LIGT DE TUIN LAGER EN SCHEURT DE RIJLERING.



ELKE TIEN JAAR MOET DE GEMEENTE DE STRAAT OP HOGEN, DE WIJK IS EEN ECHTE KOSTENPOT GEWORDEN.



JULLIE LOSTEN DE WONINGNOOD OP DOOR HUIZEN IN EEN ZINKEND MOEAS TE ZETTEN. HET HUIS STAAT DAN NOG WEL MAAR MIJN LEEFOMGEVING STAAT CONSTANT ONDER WATER.

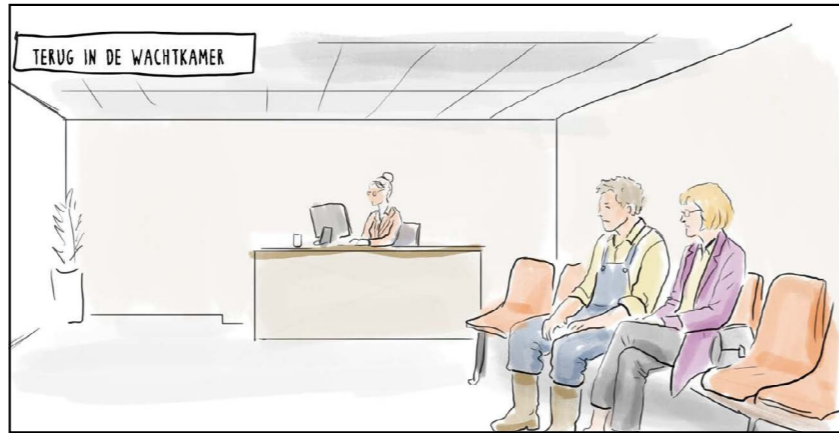
U BETAALT DE PRIJS OMDAT HET SYSTEEM DE FYSIEKE RUIMTE TE LANG HEFT GENEGERD. DE SCHADE IS ONOMKEERBAAR EN WE SCHUIVEN DE BROKSTUKKEN DOOR NAAR DE UW GENERATIE.

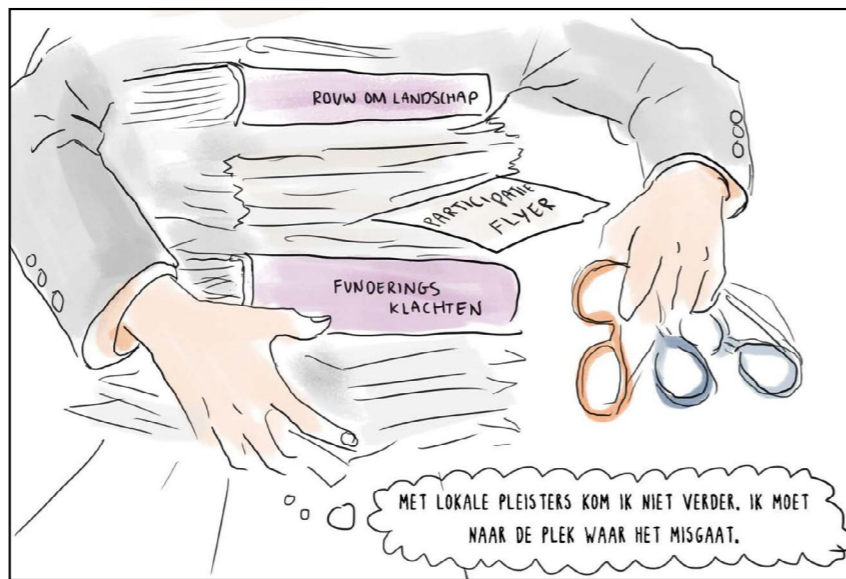


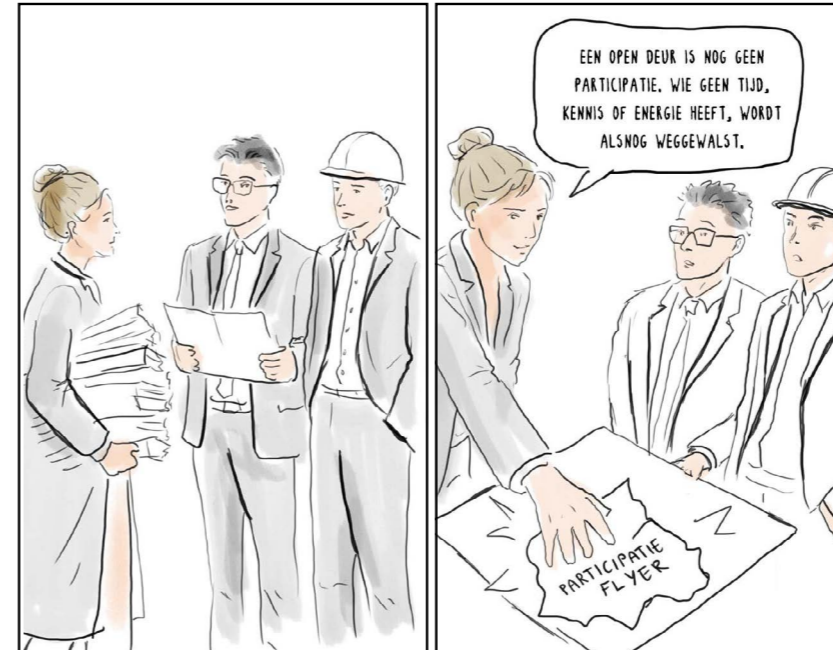
GENOEG GELUISTERD. DIT PATROON DOORBREEK IK NIET VANACHTER EEN BUREAU.

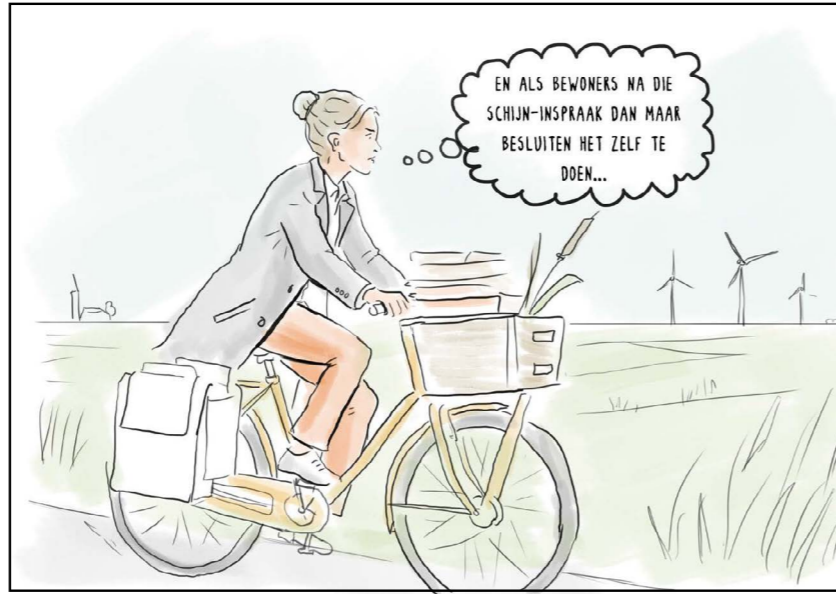
100.000 HUIZEN TARGET

BODEM LEIDEND

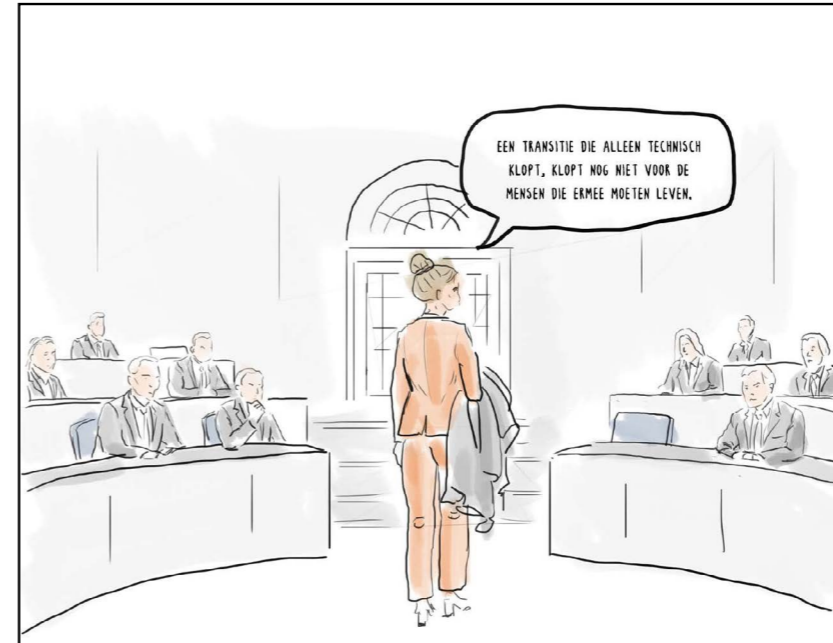














Introduction

This final chapter brings the research together. It first answers the main research question by outlining the conditions and planning principles of a friction-guided doctrine. It then discusses the limits of the research and how the doctrine could be tested further, before ending with a reflection on the research process and my own position as an urbanist.

Conclusion

Conditions and principles

To what extent can the Three Spaces Model serve as a conceptual basis for a new planning doctrine in Dutch spatial planning, and what conditions and planning principles does this require?

The Three Spaces Model offers a robust conceptual basis for a new Dutch planning doctrine because it makes the limits of traditional planning visible. The older ‘Rule and Order’ doctrine was historically powerful because it created coherence through spatial concepts and national coordination. However, its limitation today is that this drawing-board logic fails when space is already saturated, physically constrained, and socially contested. By distinguishing between the thought, physical, and lived spaces, the model acts as a diagnostic compass, identifying exactly where abstract political ambitions clash with the finite limits of the land and the communities already living there.

Ultimately, when physical and lived realities are taken seriously from the beginning, they do more than simply adjust an existing plan; they change the spatial question itself. For Dutch spatial planning to remain meaningful, it needs a doctrine that treats the physical soil and the lived communities not as obstacles to be managed later, but as the fundamental starting points for defining the spatial problem.

By separating these three forms of space, the model helps planning move away from drawing-board solutions and towards an approach that starts from spatial friction.

In this conclusion, a distinction is made between planning principles and institutional conditions. The principles describe how friction-guided planning can be applied in practice, design and education, while the conditions describe what must be organised more formally within Dutch planning governance to make this way of working possible.

The Planning Principles

To operationalize this model, an open doctrine requires clear rules for action. Derived directly from the historical, current, and future spatial frictions in Flevoland, the five principles below provide these initial rules. They do not fix the final spatial outcome, but define how spatial claims should be translated, tested, and governed:

- *Translational Planning*: Derived from historical system crashes, this principle dictates that spatial ambitions must be continuously translated between the thought, physical, and lived spaces from the very beginning. Planners must categorically stop treating the landscape as an empty “solution space” for top-down projections.
- *Integrated Planning*: Moving beyond isolated, sector-specific targets, this principle recognizes the absolute entanglement of spatial claims landing on the same vulnerable landscape. Planners must evaluate the cumulative impact of all claims together, rather than attempting to efficiently puzzle conflicting policies onto a map.
- *Condition-Driven Planning*: This principle dictates that political deadlines must stop overriding physical limits. Soil, water, and slow ecological clocks must set the hard, absolute boundaries for development, rather than forcing nature to adapt to urgent political targets (e.g., housing numbers for 2030).
- *Relational-Safeguarding Planning*: This principle demands that the institution acts as an impartial mediator and protective backbone, guaranteeing basic spatial quality and living standards for all citizens
- *Socio-Ecological Transition Planning*: Recognizing that ecological adaptation inevitably erases built identity, this principle dictates that planning must allocate time, space, and capital for community dialogue and the grieving of lost landscape identity (such as Flevoland’s “young heritage”). Communities must be given the psychological and spatial room to transition alongside the physical landscape.

The Institutional Conditions

For planning institutions to actively weigh these principles

and deal with spatial collisions, the system itself requires a new framework. Synthesizing these principles reveals that a friction-guided doctrine relies on three fundamental conditions:

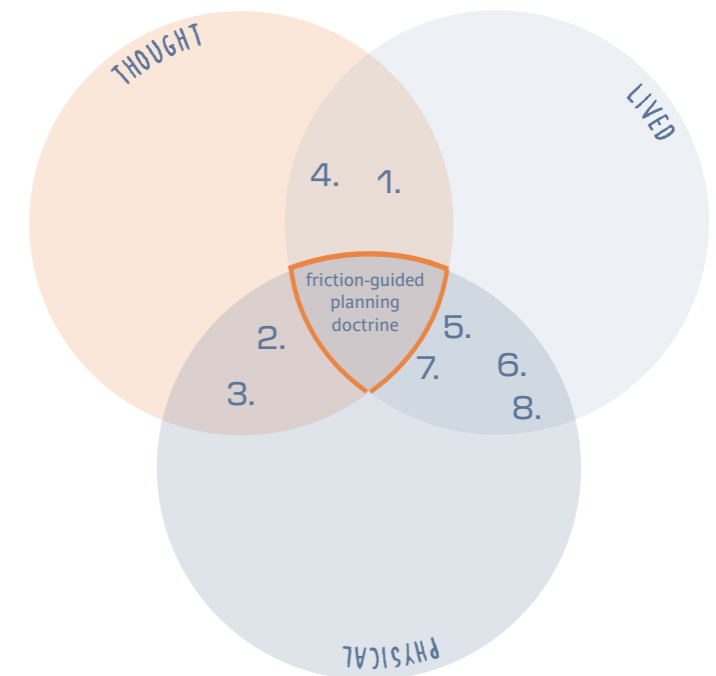
- **Methodological openness** (direction without a fixed end-state): Earlier planning theories already argued that doctrines should be adaptable rather than fixed blueprints. Yet they often remained unclear about when and how this adaptation should happen. The Three Spaces Model makes this more concrete by turning openness into a structural part of the planning process. In this proposed doctrine, stability does not come from one fixed map or final vision, but from the continuous translation between the thought, physical and lived spaces. Every major spatial claim must therefore be tested across these three realities. When an abstract policy goal starts to clash with ecological limits or social realities, the plan cannot simply continue as if this is only an implementation problem. It must be adjusted. Friction is therefore not treated as a failure at the end of the process, but as an early warning signal. It shows where the doctrine needs to respond, so that planning remains open, coherent and grounded in reality.
- **Power accountability** (revealing and correcting spatial inequality): A doctrine must treat friction as more than a problem of poor translation. Spatial conflicts are shaped by unequal legal, economic, and political power. Some actors are better able to turn their claims into policy, while others mainly experience the consequences. Friction should therefore be used to actively reveal who is able to shape spatial outcomes, who is excluded from them, and where spatial burdens are being displaced
- **Temporal alignment** (planning across different spatial tempos): A doctrine must recognise that thought, physical, and lived space operate at different speeds. Policy targets and political deadlines often move faster than soil, water, ecology, infrastructure, and social trust. The challenge is not only to connect the three spaces conceptually, but to organise institutions that can work across these different tempos. A friction-guided

doctrine should prevent the fastest administrative logic from automatically dominating slower material and social realities.

Final Reflection

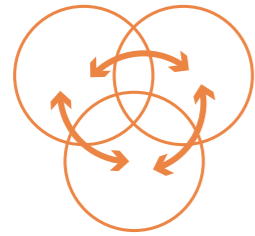
Ultimately, the Three Spaces Model offers a useful backbone for moving Dutch planning beyond the limitations of rigid blueprint thinking. It helps formulate a more open and dynamic doctrine, in which stability does not come from fixed outcomes, but from clear ways of working: translating between spatial logics, recognising friction early, and making underlying tensions explicit.

By using friction as an analytical starting point, the doctrine makes power relations and internal contradictions harder to ignore. In this way, it helps planning stay closer to the realities of the landscape itself: the physical conditions that set limits, and the lived relations that give space meaning.



5 Principles

How friction-guided planning can be applied in practice.



Translational planning:

Translate every spatial claim before it lands.



Integrated planning:

Look at the full optelsom, not separate puzzles.



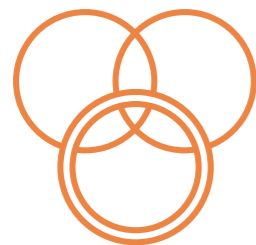
Relational-safeguarding planning:

Protect people where transitions hit hardest.



Socio-ecological transition planning:

Let landscapes and communities change together.



Condition-driven planning:

Let soil, water and time set the pace.

3 Conditions

What Dutch planning governance must organise to make this possible.



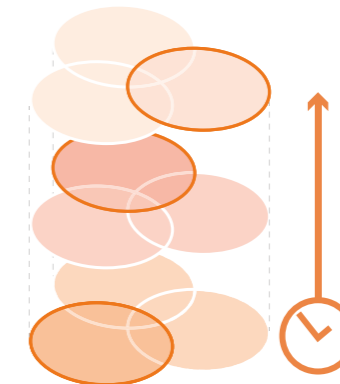
Power accountability:

Use friction to reveal who carries the burden.



Methodological openness:

Give direction without locking the future.



Temporal alignment:

Make planning work across different clocks.

Discussion

Limitations and further research

This research contributes to the current search for a new planning doctrine in Dutch spatial planning. In line with Faludi and Van der Valk's plea for an open doctrine, and Verdaas' recent call to rethink national spatial planning, this thesis argues that a doctrine should not become a fixed blueprint. It should offer direction while remaining open to conflict, changing conditions and local realities.

The PBL's Three Spaces Model is valuable in this debate because it is itself an open model. It does not prescribe one outcome, but creates a structure in which different actors, interests and forms of knowledge can be positioned. A farmer, resident, water board, developer or national ministry can all be understood through the space they mainly speak from. In this way, the model does not only show that conflicts exist; it helps explain where they come from.

The outcome is a foundational proposal for a new planning doctrine based on five key principles: translational planning, integrated planning, condition-driven planning, relational-safeguarding and socio-ecological transition planning. Rather than presenting a finalised, closed system, this doctrine serves as a theoretical springboard for a friction-guided approach to urbanism. A critical look at the boundaries of this research reveals important limitations, but also clear and productive directions for future exploration.

The Boundaries of the Lens: A Baseline for Future Principles

To build a coherent argument, the focus within the Three Spaces Model was deliberately narrowed. Physical space was mainly understood through soil, water and landscape vulnerability, while lived space was approached through daily routines, identity and attachment. This helped expose systemic friction, but also meant that other spatial realities, such as mobility, migration, gender and economic inequality, remained outside the immediate scope.

Although these themes could be fit into some of the

system errors, the proposed doctrine should not be read as exhaustive. It can be seen as a useful starting point: the five principles provide a first framework that future research can expand by integrating and testing missing layers or themes.

Methodology: The Spatial Crash-Test as a New Policy Tool

The most important methodological choice in this thesis was the use of Explorative Scenario Planning and design fiction. The warnings identified, such as "systemic overload" or the "survival of the loudest", are rooted in qualitative research of current policies, spatial pressures and historical planning logics. By pushing these trajectories to their extremes, the scenarios acted as a spatial crash-test, shifting the research from observing the present to exploring possible future consequences.

Although these scenarios are not statistical predictions, that does not make them less valuable. Their strength lies in exposing structural blind spots that spreadsheets, maps and policy targets often fail to capture.

This suggests that speculative narrative can be used as a diagnostic planning tool. Future research should therefore explore how local and regional governments could use spatial crash-testing to assess the human, ecological and institutional impacts of policies before they become fixed.

Institutional Prototyping

Applying the five principles in practice will inevitably create new frictions. For example, condition-driven planning, in which water and soil guide spatial choices, can cause social harm if it is not combined with protection and support. Farmers may be pushed out, housing may become less affordable, or communities may be asked to adapt too quickly.

This is why relational-safeguarding is essential. Government institutions should not only manage spatial targets, but also act as mediators who protect livelihoods,

access and basic spatial quality during transitions. This shift will be difficult, because it asks governments to change established ways of working. However, this difficulty also points to the need for institutional prototyping: testing new roles, procedures, safeguards and decision rules before they are formalised. Future research should explore what legal, cultural and administrative changes are needed for planning institutions to take on this mediating role.

Moving Forward

The systemic errors uncovered in Flevoland reflect a wider Dutch planning problem: the persistent belief that space can always be engineered. Because this research offers a speculative and theoretical groundwork, the next step is to bring it back into real planning practice.

This thesis should therefore be read as a first step towards a friction-guided planning approach. The principles need to be tested in real processes, with real actors, sites and institutional constraints. The scenarios, warnings and graphic novel can play an active role here as participatory tools. Their value lies not only in whether they feel realistic, but in whether they help actors ask better questions: Do they reveal missing perspectives? Do they make cumulative pressure visible? Do they clarify what can be decided locally, what depends on regional systems, and what must be institutionally safeguarded?

Testing the doctrine beyond Flevoland would also strengthen it. Because Flevoland's planned history makes the dominance of the thought space especially visible, applying the principles in older, organically grown cities could show how they function in places with layered histories, fragmented ownership and different forms of attachment.

Ultimately, this thesis does not solve Flevoland's spatial puzzle. Its value lies in offering a sharper and more honest language to discuss the spatial realities that traditional planning often fails to see.

Reflection

Personal position

From Flevoland to a larger planning question

This graduation project started with Flevoland. I began with many questions about the province: why it was planned the way it was, why it is still often approached as a place for national spatial claims, and what this says about the Dutch planning system. During the process, Flevoland became more than a case study. It became a way to understand how spatial decisions are made, why certain perspectives become dominant, and why frictions often appear only after plans have already been set.

At first, I thought I might end with a vision or strategy for Flevoland. But the more I worked with the Three Spaces Model, the more that started to feel contradictory. If the project argues that one dominant spatial logic creates friction, then it would be strange to end by imposing one fixed future myself. The project therefore shifted from designing one answer towards understanding the tensions behind spatial decision-making.

"I started by looking for a future for Flevoland, but ended by questioning how futures are made."

Learning to look through different lenses

The Three Spaces Model became more than a theoretical framework. It became a way of looking. It helped me understand that the planned, physical and lived space each have their own logic, urgency and blind spots. More importantly, it taught me that these perspectives often come from good intentions.

This changed how I look at spatial conflict. I learned to see resistance less as obstruction and more as a signal that something has not been properly translated. A farmer defending land, an elderly person not wanting to move, a

resident opposing a wind turbine, or a government trying to reach urgent housing or climate goals: these positions are not automatically right or wrong. They show that people wear different spatial glasses.

"I learned that resistance is not always a refusal of change, but often a request to be understood."

That is something I want to take with me into practice. I would like to gain experience in all three corners: policy and strategy, physical systems, and lived experience. I think I can only really understand the frictions between them if I also experience what it means to work from those different positions.

Accepting friction as part of planning

After years of studying urbanism, I was used to projects in which almost everything still seemed possible. In a studio project, you can imagine a future, draw a vision and create a coherent proposal. This graduation project made me realise that the real planning field is much less clean. There are always limits, conflicts, delays, emotions, regulations, money issues, political choices and physical boundaries.

At times, focusing so much on friction felt pessimistic. But near the end, I started to understand it differently. The point was not to show that planning is hopeless. The point was to show that friction is unavoidable, and that good planning should not ignore it or smooth it over too quickly. There is a need for a new approach. If frictions are not recognised at the beginning of a process, we may spend the next decades repairing problems that could have been addressed earlier.

This changed my view of the urbanist's role. I do not think an urbanist should only make attractive future images.

There is also a responsibility to reveal tensions, ask better questions and make different realities understandable to each other. In that sense, this project also taught me that spatial planning requires continuous reflection on the assumptions behind our own ideas. Similar to the way Faludi and Van der Valk reflected on the planning doctrine in 1994, and Verdaas recently reopened that debate, I see it as part of my responsibility as an urbanist to keep questioning where my views come from, what they make visible, and what they may leave out.

Design is not only about making futures visible, but about making their consequences discussable.

Finding my way of working

This project also taught me a lot about how I work. I do not think in a straight line. I need to move between reading, sketching, writing, talking, making diagrams and restructuring. That sometimes made the process messy, but it also helped me make the theory my own.

The project had many side tracks: local identity, justice, natural systems, participation, heritage, agriculture, governance and the future of the Netherlands. Many of these themes were relevant, but not all of them could have the same weight. I had to learn to filter, choose and kill my darlings. That was difficult, but it made the argument stronger.

The search for the final product was part of this process. I considered several forms, from a strategy to a workshop or game, before arriving at the graphic novel. This became the

right form because it allowed me to show frictions instead of only explaining them. It helped me make abstract theory more visible, accessible and recognisable.

Looking ahead

Only in the final phase did I start to feel more confident in turning the analysis into a plea for a different kind of planning. That felt uncomfortable at first, because it is easier to analyse than to take a position. But gradually I realised that the project had given me enough ground to stand on.

I now believe more strongly that planning should start earlier with the relationship between the planned, physical and lived space. In new projects, this means asking different questions from the beginning. Are we starting from a predefined target, or from the conditions of the place? Are soil, water and ecology really guiding, or are they only checked afterwards? Are people invited to participate, or are they asked to respond to decisions that have already been made? And when we focus on local experience, do we also understand the larger systems that shape what is possible?

I see this graduation project as the beginning of a longer search into spatial planning in the Netherlands. Work experience, conversations, conferences and future projects will probably change how I look back on this research. For now, it has helped me understand what kind of urbanist I want to become: someone who can move between policy, landscape and daily life, and recognise tensions before they become impossible to ignore. And as a designer, I do not only want to expose where spatial systems clash. I also want to search for creative ways to work with these challenges, through new questions, visual tools, spatial strategies and processes that help different realities come together.

Figures and References

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Note. Reprinted from Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2023).

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Part 1 - Problem statement

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AI statement

During the preparation of this graduation report, the author used ChatGPT, Gemini and Notebooklm as a writing and reflection support tool. The tool was used to improve language, test the clarity of arguments, generate critical questions, and explore alternative formulations for the report and presentation. Generative AI was not used as an autonomous source of factual information. All substantive claims, data, references, interpretations and design decisions were checked, edited and approved by the author. The author takes full responsibility for the final content of this work.

Appendix

Core ideas principles

Characteristic	Core idea	The systemic failure it corrects	Practical application
Translational Planning	A region is never an empty canvas although on a map it might look like one. Every spatial claim must be carefully translated between the planned (thought), physical, and lived spaces from day one, rather than imposing abstract blueprints from the top down.	Corrects the assumption that a landscape is just an empty “solution space” where national ambitions can be endlessly projected without encountering local friction.	Reversing the starting point: Recognizing existing communities and physical boundaries as the foundational starting point for any spatial design, not as obstacles to be managed later. E.g. 3 spaces model workshops as first exploration.
Integrated Planning	Moving beyond isolated, sector-specific targets to recognize the absolute entanglement of spatial claims landing on the same vulnerable landscape.	Corrects the habit of reducing complex, messy spatial issues into abstract numbers, targets, and spreadsheets, which creates a blind spot for the cumulative crash in reality	Evaluating the systemic clash: Instead of trying to efficiently puzzle policies together on a map, planners must evaluate how combining claims impacts the entire socio-ecological system. Cumulative claims map, layer all the spatial claims on a dashboard/app. Accessible for everyone.
Condition-Driven Planning	Soil, water, and ecology dictate the hard, absolute boundaries of what is possible in the long term. Within these strict physical limits, there is flexible room for design, possibilities, and development.	Corrects the error of forcing slow, natural systems to adapt to fast, unrealistic political deadlines (e.g., hitting 2030 targets regardless of physical capacity).	Physical triggers: Replacing fixed political deadlines with physical triggers e.g., “phase 2 of construction only proceeds when the local water system is demonstrably restored”. Into a map that anyone could look up to see in what place which conditions are.
Relational-Safeguarding Planning	The Core Idea The institution (the Thought Space) must return as an impartial mediator and protective backbone, rejecting both top-down dictation and romanticized bottom-up independence. Recognizing the limits of human capacity, it guarantees basic spatial quality and living standards for everyone, regardless of their ability to participate.	It corrects the institution’s “blind spot for human capacity” by resolving two opposite but equally damaging extremes: Rigid Presence (Avoiding Complexity) and Absent Mediation (The Institutional Vacuum).	Protective analysis: The institution actively intervenes to ensure that basic living standards and spatial quality are guaranteed for everyone, even those who lack the resources to participate or self-organize. For example: minimal spatial quality guarantee, silent stakeholder mapping, macro-responsibility lock, spatial ombudsperson.
Socio-Ecological Transition Planning	Landscape transitions are deeply cultural and emotional transitions. Adapting to natural laws is not culturally neutral, as people build their identity and daily routines around the existing landscape.	Corrects the trauma of losing familiar environments, and addresses the “extinction of experience” where people fail to see slow, invisible ecological dangers like subsidence.	Budgeting for grief and dialogue: Allocating time and resources not just for physical interventions, but for community dialogue, mourning lost landscape identity, and making invisible ecological processes visible to everyday users. A funeral for a landscape.