

**Transportation as a means for densification – or the other way  
around?**

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## **Samenvatting**

### *Transportation as a means for densification – or the other way around?*

Huidige ruimtelijke planvorming in Nederland is in sterke mate gericht op ‘verstedelijking’ oftewel het beter benutten van het bestaande bebouwde gebied. Een verbeterde bereikbaarheid is essentieel om dit mogelijk te maken, en vice versa: hoe compacter gebouwd, des te minder autokilometers.

Hiervoor is het nodig bereikbaarheid en ruimtelijke verdichting als twee kanten van dezelfde integraal strategie te zien; om het huidige mobiliteitsnetwerk te verbeteren, zal dit gelijktijd moeten worden gepland met ontwikkeling of herstructurering rond dit netwerk en de openbare ruimte rondom het netwerk. Dit geldt in het bijzonder voor vervoersknopen, zoals stationsgebieden.

Deze integrale aanpak is niet nieuw en wordt in veel beleidsdocumenten beleden. Er wordt echter op veel fronten gezocht naar hoe zo’n integrale planning er dan uit zou moeten zien. Hier komen veel onzekerheden bij kijken; hoe zijn middelen verdeeld, hoe wordt samenwerking georganiseerd, zijn er gezamenlijke doelen, etc.

Dit *paper* gaat in op deze onzekerheden en mogelijke manieren om hier mee om te gaan op basis van persoonlijke observatie van twee lopende projecten: Stedenbaan en het Programma Hoogfrequent Spoor.

## 1. Regional ends and national means

In the Netherlands, the current spatial strategy of both national and regional governments has a strong focus on 'densification' (*verdichting*). The positive impact of compact cities for sustainable development is widely acknowledged (PBL, 2009). In various forms, the concept of compact development has been one of the leading concepts in post-1945 planning in the Netherlands, albeit in various forms such as 'clustered deconcentration' in the 1970s and 'concentration' in the 1980s. (de Roo and Miller, 2000)

Currently, 'densification' is a major planning policy goal, meaning that developments should take place within existing urban areas. An example is the planning strategy for sustainable development of the Randstad area up until 2040, which mentions 'improved accessibility' in combination with 'building within the existing urban fabric' and 'growth around nodes' as the key parts of the strategy. The ambition to grow denser within the existing build up area is 'crucial' for the region to become competitive on a global scale (Ministerie van VROM, 2008). According to this planning strategy, over 40% of new developments should take place within the existing build up areas.

Improving accessibility and building within the existing urban fabric at the same time implies planning strategies that integrate land use and transportation planning. To reap the benefits of this, the improvement of the transportation network has to go hand-in-hand with the planning of functions in (dwellings, offices, services) and the design of the public space of the areas adjacent to the network. This is especially true for areas surrounding railway stations.

There are many uncertainties involved in this planning for integrative land use transportation strategies surrounding railway stations. This paper will address some of these uncertainties and present an observation on two different planning strategies and their results so far: Stedenbaan (a regional land use/transportation program) and High Frequency Rail (a national program with the aim of increasing rail frequencies).

In the next chapter, the theoretical framework of Christensen will be introduced, in which she describes four ways of dealing with uncertainty in planning. In the third chapter, both land use / transportation planning projects will be described. In chapter four, an analysis is made how the various planning conditions and planning roles introduced by Christensen can be recognized in the national and regional planning strategies.

## 2. Theory

According to Christensen (1985), 'discover, assess and address uncertainty' is a crucial planning task. Planning can reduce uncertainty if planning processes and problem characteristics are matched. Planning processes therefore are tools of which the use must vary depending on circumstances.

These circumstances can be set out in a matrix, divided along two dimensions: *technology* and *goal*. Technology is *the knowledge to do something*, or means. The goal is *the desired outcome*, or ends. Both dimensions can be either known or unknown. So, planning conditions derive from the means being either known or unknown, combined with the ends being either agreed upon or disagreed upon.

This leads to the following matrix

		Goal; ends	
		Agreed	Not agreed
Technology; means	Known	Programming: predictable, efficient	Bargaining; multiple preferences
	Unknown	Experimentation, innovation	Chaos; creation of order

For every condition, a different planning process is needed. Within the planning process, various roles can be defined. As Christensen says, "thus planners must assess the actual conditions of uncertainty that characterize the particular problem they are confronting and then select a style of planning that suits those conditions".

In transportation and land use planning, this can only be done through an evolutionary approach, from which policies emerge that are both *resilient* and *adaptable* (Bertolini, 2007). The way in which the problem is framed defines the applicability and acceptability of proposed solutions. A joint identification of problems and solutions, in which all stakeholders are involved, can lead to a robust combination of goals and means (Bertolini, 2010).

### **3 The cases: Stedenbaan and High Frequency Rail**

#### *3.1 Stedenbaan and the South Wing*

In the southern part of the Randstad, the South Wing, regional and local governments cooperate on a trans-scalar level in the Administrative Platform South Wing (Bestuurlijk Platform Zuidvleugel). The national government does not take part in this platform. The platform was created out of a 'necessity to cooperate in order to improve the international position of the South Wing' ([www.zuidvleugel.nl](http://www.zuidvleugel.nl)).

Through this platform, agreements have been made on the development strategy of the South Wing. The region is the most urbanized part of the Netherlands. It comes as no surprise, then, that up to 80% of new developments are planned within the existing urban area: the 'South Wing Densification Strategy'.

This 'densification strategy' can only succeed if three requirements are met:

- improved accessibility of inner city locations
- availability of sufficient, accessible and usable open green space
- reduction of environmental hindrances (noise, air pollution, safety)

(Bestuurlijk Platform Zuidvleugel, 2010)

These three requirements involve different actors on not only the regional, but also the national and the local level. Accessibility can be improved by building infrastructure, which is mostly financed by the national government. Environmental hindrances have to be reduced to comply with national legislation, but the effects are felt very locally.

Therefore, the national government is necessary to make realization of the 'densification strategy' possible. Both transportation links and environmental legislation is defined as a task for the national government.

Talks and negotiations take place with both the Minister of Transport, Public Works and Water Management (VenW) and the minister of Spatial Planning (VROM) in the MIRT (*Meerjaren Investeringsprogramma Ruimte en Transport*; long-term investment program on spatial planning and infrastructure).

Even before the above-mentioned planning documents and agreements were made, the South Wing started with Stedenbaan, an integral planning-land use strategy that combines 'densification' around transport nodes with better public transport. This has been called a 'dual purpose strategy' in which 'hybrid coalitions' engage in a 'complex process of agenda setting and negotiation' (Balz & Schrijnen, 2009). Stedenbaan originally came out of a 'creative leap' (Bertolini, 2010) that was the result of a joint identification of problems and solutions: because of High Speed Rail, less trains were going to ride between The Hague and Rotterdam. To prevent the public transport service level from falling, land use surrounding stations needed to be 'intensified'. This was seen as a problem-solution combination with positive effects for all South Wing governments, and Stedenbaan was formed.

Stedenbaan has led to an agreement between multiple levels of regional governments on the one hand, and the transportation company (NS) and infrastructure provider (ProRail) on the other hand. In these contracts, all parties involved state that they 'share the philosophy that coordinated development of land use and transportation networks gives

an added value to the accessibility and livability of the South Wing' (Programmabureau Stedenbaan, 2007). The contract is about agreements on the numbers of dwellings and offices planned around stations, and a business case that makes it profitable for the transportation company to ride more trains (six stopping trains per hour instead of the current four).

One of the prerequisites for an increase in train frequencies however is the availability of capacity on the railway network. As long as the infrastructure provider cannot provide this capacity, there is no Stedenbaan agreement. This is explicitly mentioned in a clause that can unwind the contract: if there is not enough infrastructure available, the number of trains will not increase. The provision of infrastructure for railway links that are deemed of national importance is the responsibility of the national government, who are not included in the Stedenbaan contract. The infrastructure needed is the doubling of the railway tracks between Rijswijk and Rotterdam, from two tracks to four.

So, apart from making agreements between the 'hybrid coalition' or regional governments and negotiate with municipalities to carry out the regional planning strategy (Balz & Schrijnen, 2009), a third process was needed: plan for more railway capacity. For this, the national government, provider of infrastructure, was needed. In 2007, a chance arose to start up this process.

### *3.2 High Frequency Rail*

In 2007, after a 'nationwide analysis of the transportation market and available capacity' (LMCA), the national government concluded that growth figures for rail transportation (of persons) needed to be adjusted. Both passenger and goods transportation exceeded growth expectations as mentioned in the Mobility Report (Nota Ruimte) of 2004. Up to 23 billion passenger kilometers per year were predicted, instead of 17 billion as stated in the then three-year-old Mobility Report.

On top of that, a further ambition of 5% growth each year was stated, in order for rail transportation to be a 'better alternative for the car' (Ministerie van Venw, 2007).

Also, goods transportation by rail grew faster than expected. Further growth was predicted, even after a dedicated goods railway link is put into use, so a 'futureproof strategy' for goods transportation was also needed.

This led to the announcement of the High Frequency Rail Program, with the goals of

- more frequent passenger trains on the busiest corridors in the Randstad (the central urban area in the Netherlands)
- more trains as a backbone for regional public transportation networks
- better travel times to the 'outer parts' of the country
- a futureproof routing of goods transport

Basically, the main goals were to look for ways of increasing the frequency of trains to 6 intercity's and, where feasible, 6 local trains on each corridor. The main research questions posed in the beginning were directed toward this goal:

- Which futureproof transportation product is needed to make the ambition of 'high frequency rail transit' a reality?
- Which routes are futureproof for goods transportation?
- Where do bottlenecks occur if both the transportation product and the goods transportation routes are improved?
- Which solutions and measures are needed to realize High Frequency Rail?
- What is needed to implement these measures?
- What do these measures cost and what is their effect?

The available budget for these measures was fixed on 4,5 billion euros. Also at the start of the program two alternative scenarios were identified, alongside a 'do-nothing'-scenario. These alternatives differed in the number of trains per corridor. The first alternative had 6 intercity trains on each corridor plus a corridor-specific ('tailormade') number of stopping trains, the second alternative consisted of both 6 intercity trains and 6 stopping trains on all corridors. Also fixed was the decision to invest the entire available amount of money in the existing network, so not in new railway links. After decades of investment in high profile projects like BetuweRoute and High Speed Rail Line South, and the failure to get these projects up and running in time and on budget, this can be marked as a major policy shift (Bekkers, 2008).

The program is directed by the national government. However, several other stakeholders play an active role in the program: the regional government, the infrastructure provider (ProRail) and the current service provider, the national railway company (NS).

The role of the regional government is defined as delivering 'relevant regional policy aspects, figures on both land use and regional transportation networks, and cooperation in the decision making processes'. The regions have direct contact with the national government, but not with the infrastructure provider and the railway company.

The infrastructure provider carries out the technical analysis and cost calculations. The transportation companies (both passengers and goods) had to provide insight in the current and expected transportation market.

Within the national government, the program is carried out by one Ministry, the Ministry of Transport, Public Works and Water Management, which will coordinate with all other ministries, including that of Ministry of Housing, Spatial Planning and the Environment (Ministerie van Verkeer en Waterstaat, 2008).

The South Wing governments chose from the start to cooperate strongly in this program, because of the close links to Stedenbaan and the importance of increased railway capacity for the accessibility of the region.

#### **4. The uncertainties**

##### *Regional uncertainties*

The regional government sees infrastructure provision for high frequent rail transport as a sine-qua-non for their 'densification' strategy. The planning process of the region aims at a simultaneous planning and development of both transportation and land use. Stedenbaan is the prime example of this and functions as backbone of both the regional public transportation network and the regional densification strategy. The goals of Stedenbaan, and also more broadly the 'densification strategy' of the South Wing of the Randstad, are agreed upon by all regional stakeholders. For Stedenbaan specifically, this includes the railway company and the infrastructure provider.

The major uncertainty in the South Wing is the lack of sufficient infrastructure for Stedenbaan. More specific: it is uncertain if enough railway capacity can be realized to make the Stedenbaan agreement come together. This uncertainty is beyond the regional planning strategies, because the one stakeholder who decides on and finances national railway infrastructure is the national government. The national government has not been a member of the Stedenbaan coalition.

So, from the regional perspective, the *ends* are clear, but uncertainty remains on the *means* to reach those ends. According to Christensen, experimentation and innovation is needed.

##### *National uncertainties*

The national government has started a nationwide program with specific transportation aims and a nationwide scope. Their planning process is aimed at increasing the number of trains, if deemed necessary by the transportation company and possible by the infrastructure provider, in cooperation with regional governments. The problem characteristics are therefore mixed: They are of a technical (railway network capacity) and business (market demand for transportation) nature, combined with the problem characteristics of the various regions.

The goals of the High Frequency Rail Program were all agreed upon when the Program started. However, the stated goals were all broadly interpretable, and so there were no stakeholders who were strongly opposed to them. What exactly 'more frequent trains' and 'better routes' meant was going to be made clear during the analysis phase of the program. There seemed to be a belief that through (what Christensen calls) 'programming' in the analysis phase, the technically 'best' solution could be found. However, due to the involvement of multiple parties, especially the regions, the major uncertainty within this program was the agreement on ends when solutions were proposed. Depending on which problem-solution combination was found, agreement could be found with a larger or smaller number of stakeholders involved. According to Christensen, this means constant bargaining with the various regions.

This did not mean, however, that uncertainty on means was absent. Legislation on planning for infrastructures and on the relations between government, transport company and infrastructure provider was being made during the process. So, experimentation and innovation was also part of the process. As of yet however, this did not have a large impact on the decision making process.



### *The framing of the problem*

The regional governments have framed the problem of their region largely as a problem of combining intensification around railway stations (within the existing built up area) with increasing public transport service levels. This is the *conceptual* frame of the project (Salet, Gualini, 2007).

To be able to fulfill these purposes, the regional governments struck strategic alliances with each other, and through Stedenbaan with the railway company (NS) and the infrastructure provider (ProRail). One missing element in the way the process was framed, was the involvement of the national government, as the authority on improvement of the national railway infrastructure and services.

The national government framed the problem from a transportation perspective. Growth in passenger transport by train needed to be made possible, alongside a 'futureproof' routing of goods transport. This serves multiple policy objectives: increased level of service for passengers, better accessibility of the Randstad area and better use of the existing dedicated goods railway (BetuweRoute), among others. This was the *conceptual* frame of the project.

Through involving the regional governments, the railway company and the infrastructure provider, there was a broad strategic scope within the program. This strategic but ad hoc 'working group' had to deal with the uncertainty on ends within the conceptual frame, and at the same time be adaptable to changing institutional and legal relations between the stakeholders involved.

## 5. Addressing the uncertainties

### *Experimenting regional government*

Stedenbaan can be seen as one big experiment for the regional government. Through the strong conceptual framework, both 'intensification' and 'better transportation' are seen as one 'dual purpose strategy'.

However, further experimentation was needed to include the last remaining requirement to realize the 'dual purposes' : more capacity on the railway infrastructure.

Experimenting steps were taken:

- the three transport authorities (3 out of 8 regional governments in Stedenbaan) are also the three authorities with which the national government deals on land use and transportation planning issues in the MIRT. These three decided to join forces in PHS and act as one within the High Frequency Rail program. So, instead of the Rotterdam City Region, the The Hague City Region and the Province of South-Holland as separate identities, it is the South Wing moniker which the three governments combined use. There were no specific agreements made for this construction, it was based on mutual trust and ad hoc talks. A two-man project team, apart from Stedenbaan or other existing structures, was put together. This project team had regular talks with representatives of the three South Wing governments involved.
- The Port of Rotterdam was approached to be part of the regular talks on an ad-hoc basis. This was needed because a futureproof strategy for the routing of goods was one of the purposes of the High Frequency Rail program. So, because of a broader conceptualization, new alliances were sought.
- Also, the Drechtsteden, a cooperation between three municipalities in the Dordrecht area, was part of the regular talks. This was also because of the importance of a futureproof routing of goods to free up capacity for increased level of service of passenger transportation.

### *Multiple strategies by the national government*

In the High Frequency Rail program, several strategies were needed, compliant with the roles the several stakeholders have (see 3.2). Whereas the goals were clear on an aggregated level, they were strongly interrelated and mutually exclusive. The railway network in the Netherlands is dense and heavily used. Making a certain route choice possible or impossible in one part of the country can have direct effects on routes and levels of service in other parts of the country.

- A new approach was to see goods transport and passenger transport as two components of one system. Solutions needed to solve problems on a system level.
- The nationwide scope, instead of a focus on single corridors or high-profile projects, was a major policy shift. With this came the search for new means for cooperation with regional level governments.
- The infrastructure provider did most of the technical research on a 'programming' basis. However, bargaining between the infrastructure provider and the national government was done on the budget needed, the necessity of the calculated measures in relation to one another, and the scope of the program.

- The regional governments were actively involved, which also resulted in a bargaining process with the national government. The scope of the regions varied; whereas one region put more focus on the importance of High Frequency Rail for land use policies ('intensification'), in other regions safety issues were more prevalent. So, ends were not always agreed upon when translated into visible infrastructural measures.
- Involving the regions was somewhat of an experiment. New legislation on how to plan for transportation infrastructure was being made during the process. In High Frequency Rail, an attempt was made to work in a way that was compliant with the new legislation. Despite this new legislation, most legal powers and institutional arrangements remained the same, so the means were mostly agreed upon.

Chaos emerged where High Frequency Rail was strongly interrelated with other policies, programs or projects. A railway capacity problem might be solved by increasing capacity, if this prevents effective spatial planning or impacts the environment in an unacceptable way, the solution can be worse than the problem. Tension arose when policies related to High Frequency Rail, but not part of the program, were involved. The regional governments have area-specific policies of which rail transportation is (or is not) a part; the national government wanted a network-based policy for rail transportation in the Netherlands.

## **6. Concluding remarks**

Both High Frequency Rail and Stedenbaan are a long way from being 'finished'. As of yet (August 2010), there is no formal decision made on High Frequency Rail, so it remains to be seen if investments are made at all and if so, how the elaborate plan and interrelated measures which are the result of the bargaining and experimentation process hold under political and societal scrutiny.

This obviously also means continuing uncertainty for Stedenbaan. The importance of this policy program for the South Wing is almost a justification for stronger cooperation on South Wing level.

The mismatch between the area-based bottom-up land use/transportation planning of the region and the network-based top-down planning of the national government remains.

## **7. Disclaimer**

The above-mentioned observations were made by myself, as part of the regional project team for High Frequency Rail in the South Wing, and as such also being closely involved with Stedenbaan.

I will use these observations, along with other methods and techniques, as a PhD-candidate at the University of Amsterdam. For now however, I want to stress that all of the above is based on personal observation and interpretation, and some non-guided discussion. In the following months, more scientific methods of data collection will be used.

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