POLICY INTEGRATION OF RAIL AND PROPERTY DEVELOPMENT IN TRANSIT ORIENTED DEVELOPMENT STATION PROJECTS

A COMPARATIVE ANALYSIS OF MULTIPLE GOVERNANCE MODELS IN DUTCH AND INTERNATIONAL CONTEXT

BY
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Colophon

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Preface

This Master thesis is the final report to conclude the Master Construction Management and Engineering at the University of Technology in Delft, the Netherlands. The research is executed within the company Arcadis in Amersfoort, the Netherlands, using their resources and network. With great pleasure I am finalising my academic adventure at the TU Delft, while exploring new fields of interests and getting the opportunity to get a glimpse of what the engineering life holds for me in the future.

This research was of course not possible without the help of many people, which I would like to thank. Herewith I would like to thank my graduation committee. The chairman of my committee, Martin de Jong, thank you for your insights and introducing me to valuable literature. I would also like to thank my first supervisor from the TU Delft, Haiko van der Voort, for taking time to help me better my research and provide guidance throughout my entire research. His enthusiasm, pep talks and mini-deadlines were contagious and motivated me a lot during my process. And most important, his humour has made this journey not only educational but also very enjoyable. Another person I would like to thank is my second supervisor from TU Delft, John Baggen, for helping me to overcome one of my largest struggles during this process; structuring this research report. I would also like to thank Bas Bollinger and Martijn Duits, my supervisors from the engineering firm Arcadis. They were always available to help me out in all kind of ways in spite of their busy schedules. Next to my graduation committee I also want to thank the stakeholders and experts I have interviewed for my case study and reflective analysis.

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Noufissa Mzallassi
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Executive summary

The relevance of this research is derived from the current ambition of multiple cities around the world to change towards a much more sustainable future. Transit Oriented Development (TOD) is a concept that responds to this ambition by focusing on efficient transportation modes other than the automobile by integrating transit and urban development. In the Netherlands, many substantive issues are taken into account when it comes to stimulating the transition from a car-oriented development path towards a more TOD driven path. However, formal and informal barriers still hamper the implementation of such concepts due to multiple policy differences between transit and urban development. The main problem that is addressed in this report is the policy difficulty that appears when realising TOD projects in practice.

Scope

Multidisciplinary urban interventions such as a TOD require the support of multiple other actors and these actors find themselves in an actor network. Experts acknowledge that the complexity in the decision making process by combining two different sectors is mainly due to the lack of a trigger factor, a "psychological ownership," which fulfils the directing role for the station development. That signifies that the dutch manner of implementing broad concepts such as TOD is in need of innovative governance methods. These methods are required during the decision making processes in actor networks of these type of projects in order to improve the integration of the policies. Policy integration occurs in processes of multiple actors. In order to be able to improve integration is it important to get an insight to the effect of governance in the first place by combining policy integration, TOD and decision making in actor networks.

Research question

In order to achieve the objective and to investigate the decision making process in the case study is the following research question established:

What is the effect of governance on policy integration in Transit Oriented Development?

Research method

This research report applies theoretical and practical insights on the effect of governance on policy integration in TOD by analysing and comparing two alternative mechanisms of implementing the integration of transit and urban development: the multiple entities (divergent model) and single entity (convergent model) approach. Use is made of a combination of a deductive and an inductive process. Chapter two consists of a literature review which provides theoretical insight on the three fields that define the research scope. The fourth chapter of the research is a single case study that goes into depth by observing the decision making process that took place during the divergent case Rotterdam Central District. The reflection in chapter five has the function to put the conclusions of the case study in a wider perspective by comparing them to convergent reference cases: Schiphol and Hong Kong.

Single case study

The rounds of the case Rotterdam Central District (RCD) have illustrated that policy integration is shaped in a process which takes dynamic place in actor networks. RCD has encountered three changing directions over a period of time. The case started with the aim of developing the area through an integrated development which was mainly led by the municipality. The direction of the process changed due to financial reasons and the stakeholders decided to divide the station from the urban development and solely focus on the station. Halfway through the process did

the municipality adjust their perspectives on the station area by bringing an integrated urban program together with the private actors.

Four main effects are encountered after analysing the case RCD. These effects played a massive role when it comes to the attempt to achieve integration using the divergent governance approach:

- Land ownership trumps institutional control in policy integration.
- The aftermath of cooperation legacy plays an important role in the willingness of multiple entities to achieve policy integration in TOD.
- Lack of financial interdependence; the financial flows of the transit and urban development were not integrated due to the divergent approach.
- Free ridership of private actors; concerns the public investment of the station which is not earned back by these financing parties but by private real estate actors as a result of the financial separation.

Reflection of reference cases on Rotterdam Central District

Altogether does the comparison of Rotterdam with Schiphol and Hong Kong illustrate the similarities and differences. Four essential effects have appeared while analysing these convergent reference cases:

- Roles in institutional framework; clear definition in the convergent governance model when it comes to institutional responsibilities and freedom of movement of the multiple stakeholders within the policy integration.
- Real estate used as financial driver for transit hubs; in Hong Kong is the main stimulator for integrated development in order to bridge the funding gap to finance the transit system through real estate.
- Democratic legitimacy; when integration of semi public domains such as transit and land use is governed and executed by a single entity like MTRC, clarity about their ambitions to the public of Hong Kong is necessary.
- Compactness as a result of convergence; the convergent governance model tends, if new, to stimulate physical integration of different functions to such a compact extent that it influences the governance flexibility of the stakeholders by intensifying the interdependencies of actors.

Conclusion

The final chapter answers the research question by combining the divergent and convergent governance effects on TOD station projects. In the cases that have been studied or analysed, the following similar and different effects have been observed:

The divergent model could have a hampering effect on the integration of TOD projects due to the interdependencies between the multiple entities. These multiple entities are not solely from the public sector but also from the private sector. The entities of the public sector initiate such TOD developments and coordinate its decision making. There is no formal incentive to involve the market players into the decision making because of the separated manner of operating. The coordinating mechanism between the multiple entities is regulated by means of institutional instruments such as policies and zoning plans. The choice of collaborating in an integrated manner by building on top of the station for example is free of obligation. The market players are able to develop real estate nearby a transit hub without being involved with the complex decision making process of policy integration within TOD. The divergent governance model is in general a low gain/low risk mechanism because each actor can operate within their own domain with lower risks and is not obliged to increase value. It is a known process whereby

everyone is familiar with the rules of the game and wants to avoid complexity even though it could mean a chance on higher gain. It is easier and even possible to not opt for an integrated approach in governance.
According to Modder et al. (2015) is it essential for the success of a TOD project that investments in transit and land use are joined together whilst initiating an area development. The case study has demonstrated a paradox regarding this principle. A great risk could play a role when financial flows of transit and real estate are joined together from the beginning. At the moment that one of the two domains does not generate the expected profits, the other also suffers financially. A financial crisis is an example of such a scenario where the housing market can collapse and as a result the station is also on hold. The high vulnerability risk that comes along with this mind set is caused by the urge to overvalue the revenue of real estate. The down side of a financial separation on the other hand is free ridership of private actors. The outcomes of TOD projects is low risk / low gain for the public sector and low risk / high gain for the real estate owners. Both the investments as the revenues are not shared by the multiple entities; the public sector finances the station development and the real estate owners benefit the most from the profits. There is no assurance that the profits generated from the station are being reinvested in development.

In the convergent governance model is development led by a single entity. The single entity is pivotal when it comes to the planning and coordination of the development of the station sites. The effects that are discussed in chapter four of the research are essential in order to be able to execute such a role. The single entity is in need of some form of control in order to receive such a position compared to the other involved entities. Institutional control over the land by a promotor of policy integration is essential in order to accomplish integrated area development. When it comes to financial interdependence is value being maximised and generated by the integration of transit and land use. The generated value is kept in the financial system of the development because the single entity invests in the station and receives the value that is derived from it through real estate. These generated values are used to reinvest in the development. The convergent governance model does join the investments of transit and land use together while initiating an area development. However, this is not simple to realise. The institutional framework of a country or city would have to be structured in such a way that there is room for the convergent model. The policy integration that plays a role in these type of projects should be supported by actors derived from both domains, which are both public and private. As long as a less complex manner of governance is possible, the parties tend to opt for it sooner. On the other hand, a less complex way of governance has an effect on the quality of the integration of transit and land use. The considered high gain of this model is due to the high integration rate between transit and property. In order to get parties such as real estate developers involved by these complex integrated station developments it is important that the single leading entity posses certain institutional privileges such as exclusive development rights and the right to tender them.

All in all, the effects of both models could function as advantages or disadvantages in the context of policy integration in transit oriented development. The context of a case and its social, economical and spatial circumstances determine whether an effect could be beneficial or disadvantageous.

	Benefits (+)	Circumstance
Divergent governance model	- Less risk full and complex approach to manage - The urban landscape is diverse and offers character - Financial flows between transport and land use are independent	- Stakeholders are familiar with the rules of their own game, there is no incentive to involve with other actors - The different visions of various entities are expressed in the urban landscape of a city - When one of the two domains are financially not feasible as in time of a financial crisis
	Disadvantage (–)	
	- Policy integration of transport and land use is spread over several entities - Financial flows between transport and land use are independent - Lack of formal incentives to include market players	- In times of tension or disagreements it is more complicated to reach an agreement - Free riders appear when there is no strong incentive for policy integration on terms of financial flows - When financial flows between transport and land use are independent
	Benefits (+)	Circumstance
Convergent governance model	- Policy integration of transport and land use falls within a single entity - Financial flows between transport and land use are interdependent - Independent influence in order to promote policy integration - The single leading entity has a pivotal role in planning and coordination	- In times of tension or disagreements they still share the same goals - When value increase through property is used as an incentive to finance the station - Land ownership is not spread over several stakeholders - To improve the communication between the stakeholders
	Disadvantage (–)	
	- Democratic legitimacy is at risk - Highly dense and compact station areas	- When the public suspects a centralisation of control - When property is used to finance the transit development entirely

Table 6: Pro's and con's of the divergent and convergent governance models in a nutshell (own ill.)

The main outcome of this research is the awareness of the effects that are associated with different governance approaches.

Recommendations

1. Integrated transportation projects are influenced by governance in different ways. Market players (project developers, housing corporations and institutional investors), transport (rail agencies and operators) and municipal actors join together from an early stage on to develop the direction of Transit Oriented Developments. The policy makers and executers are then combined together from an early stage. In order to create awareness of these effects during the decision making process, it is essential for involved public and private stakeholders to investigate diverse governance arrangement plans. It concerns the relationship between the alternatives of the governance models and their effect on both the masterplan and the associated business case. In order to be able to make the effects of these governance decisions visible and to steer on them, it is essential to work in sets of alternatives whereby each set exists of a governance plan with a corresponding masterplan and business case. In order to create awareness of the key elements in a certain context, the effects that are derived from this research could function in the form of parameters during the decision making process.

Thus instead of policy makers developing the governance plans through visions, planning departments developing masterplans and market players or ministries business cases separately, these should be combined and connected through alternative sets. One single governance plan is developed with a connected masterplan and its business plan and this set is developed by multidisciplinary key stakeholders.

2. In order to develop an integrated area development efficiently, it is suggested to make use of a combination of the divergent governance model and the convergent governance model. The next example is suggested in which manner this combination could be formed efficiently.

   One of the main characteristics of the convergent governance model is its set up, it brings rail and land use stakeholders together from the very beginning in order to shape an integrated area development. This quality can be used to (1) start big by making complete visions and strategies. All involved parties (rail agencies and operators, the municipality and other policy makers, real estate developers and housing corporations) follow and develop the same guidelines through the complete visions and strategies for the entire area. However, it is essential to consider the scale of these guidelines. It is not recommended to intend, for example, that a municipality has the opportunity to go into detail about how a station should fit together. The development of these visions and strategies could be led by a neutral quality team whereby the different domains are represented by involving for example the Railway Master, the Chief Government Architect etc.
   After defining the guidelines, a characteristic of the divergent governance model could be used in order to lower down the complexity through separation. The area can then be (2) zoomed in on and divided into sub-areas by delimiting them into projects. To keep the complexity manageable, the area is divided into smaller pieces as if the area is seen as a puzzle. Each actor focusses then in these smaller parts of the puzzle, their own specialism while being aware that their unique project is part of a larger entirety.
   Finally in order to put the projects into perspective it is highly recommended (3) to place the projects repeatedly back in and out the total development. The subdivision is necessary to bring about the smaller scaled decision making, but it is important to be aware that each sub-area is part of a strategy.

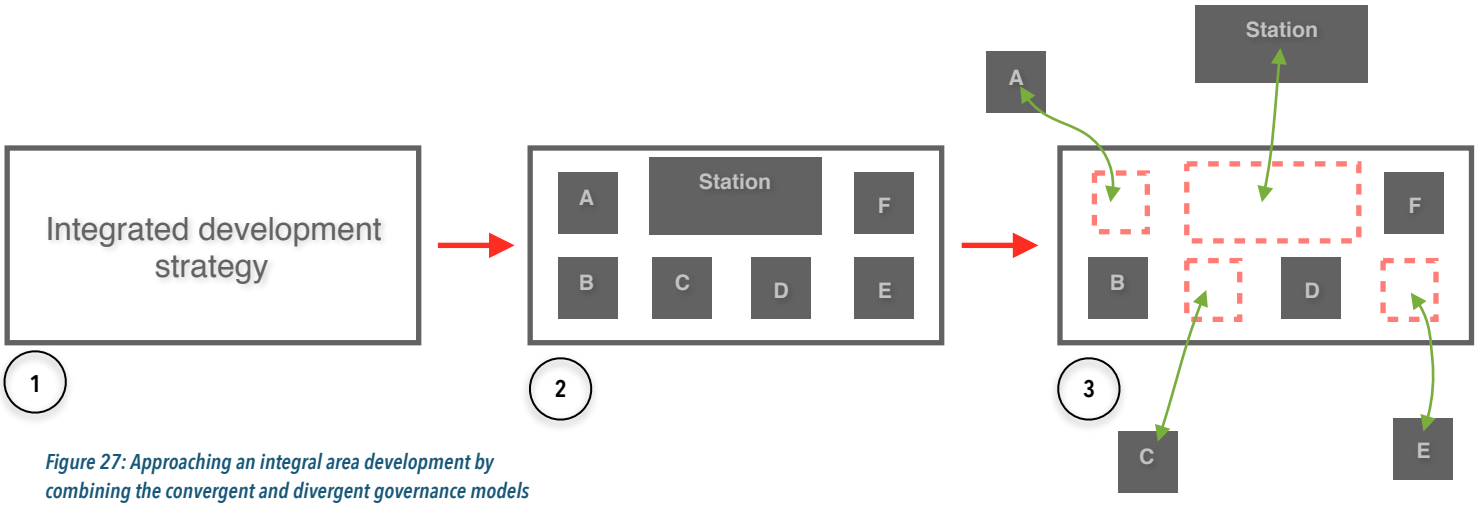

Figure 27: Approaching an integral area development by combining the convergent and divergent governance models (own ill.)

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MRT	Mass Rapid Transit
MTRC	Mass Rapid Transit Company
NS	Nederlandse Spoorwegen which stands for the Dutch railway operator
NSP	Nieuwe Sleutel Projecten which stands for New Key Project
ProRail	The Dutch railway agency
RCD	Rotterdam Central District
SB	Stedenbaan program
SRR	Stadsregiorail program
TOD	Transit Oriented Development
TODS	Transit Oriented Development Strategies
V&W	Ministry of Transport and Water management
VROM	Ministry of Housing, Spatial Planning and the Environment

Reading guide

1. *Introduction*
   In this chapter the research context will be introduced, providing the reader the first confrontation with the subject and the problem derived from a brief literature and practical study. The introduction sets the foundation for further research on the problem. Nonetheless an overview regarding the research set up will be given. This chapter is important because it will clarify the purpose of the research by means of the research questions.

2. *Literature review*
   Chapter two investigates the literature and theories regarding Transit Oriented Development, policy integration identification of the barriers and stimuli and decision making in actor networks. The relevant concepts and their interrelations are herewith explored to form a starting point for the theoretical framework regarding integration of transit and land use. The outcome of the review functions as an input for chapter four and five.

3. Governance models
   Chapter three introduces and describes the investigated governance models. In addition, the projects for the single case studies will be introduced.

4. *Case Rotterdam Central District as divergent governance model*
   Chapter four explores the analysis regarding the project Rotterdam Central District. The focus lies on the course of the decision making process and the interaction between the stakeholders in a divergent governance model.

5. *Reflection of reference cases on Rotterdam Central District*
   Chapter five compares Rotterdam Central District with multiple versions of the convergent governance model. The similarities and deviations are being revealed.

6. *Conclusion and recommendations*
   The final chapter concludes this research and presents the final results derived from the single case study and comparative study. In addition, recommendations will be given regarding the projects and further research.

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1. Introduction

1.1 Research context

The world is facing large challenges and changes than it did in the past. More than half of the world's population lives currently in urban areas and this will increase to 70% by 2050 (UNHabitat, 2013). The economy has also transferred more than ever to the urban regions. Cities generate globally 75% of gross national product (Chan, Nakamura & Imura, 2014). This transition brings on new requirements on urban cities. Demands such as proximity, services, density, interactions, attractive meeting places and fast transfer options are the conditions for a healthy urban economy and living according to Modder, et al. (2015). Transformation of urban areas, to serve these needs, has not developed as rapidly as the population change, considering the fact that less than 40% of the world population lived outside the cities in the early 1970s (UNHabitat, 2013).

The combination of the amount of urbanisation that has taken place within the short timespan within it took place caused urban sprawl. This sprawl has been the main urban form for many cities in the past century. It is known for its low-density and car-oriented characteristics, which has resulted in adverse outcomes for both people and planet. Proceeding this manner of urban development will end up in a threefold of the current total area covered by cities (Marks et al. 2016). The question of several institutions and governments is how to manage this urban growth without threatening the planet. The most efficient way to transport a large amount of people within a city is by making use of rapid transit systems (Marks et al. 2016). Motorisation causes negative impacts such as congestion, greenhouse gas emissions, lengthy commutes and has been a leading contributor to climate change and air pollution especially in rapidly growing cities (Suzuki et al. 2015). Enrique Peñalosa, president of the Institute for Transportation and Development and former mayor of Bogotá, Colombia, said in 2005:

"Transport differs from other problems developing societies face, because it gets worse rather than better with economic development. While sanitation, education and other challenges improve with economic growth, transport gets worse" (cited by Suzuki et al. 2015:34).

Motorisation increases with economic growth in the case of developing countries, as property increases, people shift more towards more motorised modalities (bicycling, to motorbikes and to driving cars). China for example is estimated to have 900 million motor vehicles by 2050 which equals more than the total amount in the world a few years ago (Fulton and Cazzola, 2008). The use of automobiles as main transportation mode is clearly not sustainable and should change to develop the world towards a much more sustainable future (Kay, 1997).

The 21st is the century of the need for sustainable mobility especially in cities. The manner in which modern cities function does not correspond with the sustainable ambitions of many governments. Traffic jams, environmental pollution and unattractive public spaces that arise from road traffic are motives for governments to start looking for alternative methods to maintain cities accessible, affordable and attractive (ITDP, 2014). Cities need to change to function better than the current situation, this change is translated in several fields and among other things in urban mobility. Governments apply interventions in the physical space and in particular the lay out of that physical space to achieve the desired change. But changing the functionality of a city is a broader context than just the lay out of the physical space alone. Transit Oriented Development (TOD) is a concept of the last decades that responds to the ambition to change by focusing on efficient transportation modes other than the automobile (Chan, Nakamura & Imura, 2014). This concept is currently very popular in many countries by the notion of sustainable mobility aspirations (Bertolini, 2013). TOD stands, in a nutshell, for the creation of a compact, walkable, mixed-use

communities surrounded by high quality rail systems. Driving can be reduced by 85% when urban areas are being developed and planned based on TOD (Chan, Nakamura & Imura, 2014). There are various reasons to be interested in using TOD as a guideline in spatial planning. There are according to Rietveld (in Tan et al.,2013) three main arguments for the desirability of TOD, from the publics interest point of view, namely that this form of spatial planning is sustainable, leads to efficient use of scarce open space and helps to unburden the road network. Implementing TOD on intensive transit nodes in urban areas creates opportunities to realise advanced residential environments with high urban qualities. TOD focusses on the people and community, but responds also on the sustainable mobility needs of the 21st century. The accessibility in intensive transit areas is being improved by stimulating the use of biking, walking and public transport. This effects the wellbeing of people and the economic support of activities in a positive manner (ITDP, 2014). Urban citizens who have experienced the development of their city according to the principles of TOD are pleased with the results. Their city has become a most desirable environment to live, work and recreate in (Chan, Nakamura & Imura, 2014).

There is as well in the Netherlands among policymakers, scientists and transport companies abundance of attention for TOD. The government has been investing substantially during the last decades in elaborating and improving the public transport network (Koster in Tan et al., 2013). These investments have shown the governmental parties the importance of a greater utilisation of the development potentials that have occurred around transport nodes (Smit, et al., 2014; Bertolini, 2013). The realisation of this importance had led in the southern wing of the Randstad to the establishment of the TOD program Stedenbaan (Plus) and the formulation of an urbanisation ambition with regard to living near high frequency public transport stops and stations (MIRT SSW, 2014).

TOD is viewed in the Netherlands as an instrument to make better use of transit nodes for urbanisation issues. This point of view has caused that TOD is viewed under the same category as Transit Adjacent Development (Smit et al., 2014; Bertolini, 2013; Modder et al., 2015). The ambition of TAD is among other things improving the use of existing public transport systems by concentrating spatial densification around transit nodes (Bertolini, 2013). In this perspective TOD is viewed as a method to establish urban development along existing stations to optimise the connection between the rail network of cities and its urban environment.

1.2 Problem analysis

The Netherlands has compared to other countries a high quality of public transport and rail network. Besides, there is considerably invested in the stations, the network, the frequencies and the connection on the international high speed rail network. The Netherlands is also very urbanised and has a number of important urban regions. The Dutch policy strategies for TOD are essentially about TAD with the focus on the rail network and train stations. TOD has in this context the goal to *"improve the interaction, between station and city on one hand and the rail on the other, in such a degree that both function better"* (Modder, 2015, p.15). The opportunities for TOD lie in station areas that function as important transit nodes in urbanised regions and next to the stations on the rail corridors with high occupancy (Modder, et al., 2015).

Lack of coordination between public parties

TOD projects experience in spite of the favourable conditions, the multiple opportunities and administrative attention, difficulty in practice (Koster & Tan, 2013). For the success of a TOD project it is essential that investments in stations, public transport, rail network (capacity, frequency, etc.) and the environmental area (real estate and public space) are joined together while initiating an area development (Modder, et al. 2015). Professionals indicate that in practice public parties (infrastructure, planning and housing) often do not find each other whereby they

work on themselves and do not collaborate or even work against each other. The interests within the public parties are not always aligned with one another.

The province, municipalities, transport companies and infrastructure operators have different views on TOD. The interests of these parties are not always mutually aligned. The ambitions of local authorities in spatial development for example relate to development of estate near stations. The rail sector on the other hand operates relatively autonomously and showed until recently confining affinity with issues beyond the immediate business environment. The Dutch railway operator (NS) for example, as the owner of the stations and surrounding estate, is an important stakeholder for stimulating TOD in station areas (Modder, et al. 2015). Moreover, there is between NS and the municipal transport companies barely alignment, which results in an inefficient public transport chain (Modder et al. 2015). The connection between the station and its environment is missing which results in underutilising the opportunities of station areas.

Differences between mobility policy and urban development policy

Besides the lack of coordination between the public parties, do the differences between the two sectors (mobility and spatial development) function as barriers for a specific implementation of TOD in the dutch context. These barriers which are referred to, arise from the connecting the differences between the mobility policy and the urban development policy. The projects are in both fields technically complex, longterm based, comprehensive in equipment and personnel and expensive. These aspects cause that both sectors are very separate and the projects are considered of high risk (Bertolini, 2013; Modder et al. 2015).

The mobility policy focuses on realising large infrastructure projects, which is supply driven and funded directly by the ministries. Market parties are barely involved during the construction and execution of these policies. These type of projects are organised and executed on a regional scale and all project risks are borne by the national authorities.

Urban development policy however is primarily the responsibility of the municipalities. The implementation and financing of the policy is mainly done by the market players (project developers, housing corporations and institutional investors) which also signifies that they bear the project risks. This results in the presence of a larger risk aversion rate than in the case of infrastructural projects. Finally, is the scale of urban development projects much smaller (district/neighbourhood) than infrastructural projects and it functions based on a market mechanism. If the supply of dwellings does not meet the demand they will not be sold and the project does not generate financial income (Koster in Tan et al., 2013).

The policies of these sectors differ from each other when it comes to the manner in which they are constructed, implemented and by which entity. In addition, the financial and along with it risk mechanisms are dissimilar.

In short it seems that spatial planning and transport are two totally different ‘worlds’, which each speaks their own language, use separate instruments and are financed in different manners. This leads to a vicious circle that hinders the implementation of TOD (Bertolini, 2013; Kosmeijer, 2011). Combining these two complex 'worlds' in the progress with regard to phasing, procedures, logistics or financial flows is a difficult assignment (Modder, 2015; Rietveld in Tan et al., 2013). The complexity in the decision making process by combining two different sectors is mainly according to experts due to the lack of a trigger factor, a "psychological ownership," which fulfils the directing role for the development of especially station its surroundings (Modder, 2015). A trigger factor in the form of a neutral directing role which formulates the 'win-win' and brings parties such as rail operators, housing corporations and market players together and supports the development of an integrated vision for a TOD area.

Ishikawa diagram of the problem analyses

In this report is an Ishikawa diagram, also known as a cause-and-effect diagram, used to illustrate a clear image of the problem analyses of the research. The diagram describes in which manner to relate potential causes and sub-causes to a problem. The Ishikawa diagram is also called the fishbone diagram because of its shape whereby the 'fish head' is seen as the main problem (Wong, 2011). The causes of the problem which are derived from the literature research, are formulated in the 'fish bones' of the diagram. The Ishikawa diagram illustrates the primarily and secondary causes of the effect that is seen as the main problem in this research. In this case is 'TOD projects take off difficultly in practice' seen as the main problem which is caused by primarily 'Lack of coordination between public parties' and secondarily by 'Difference in view on TOD' e.g

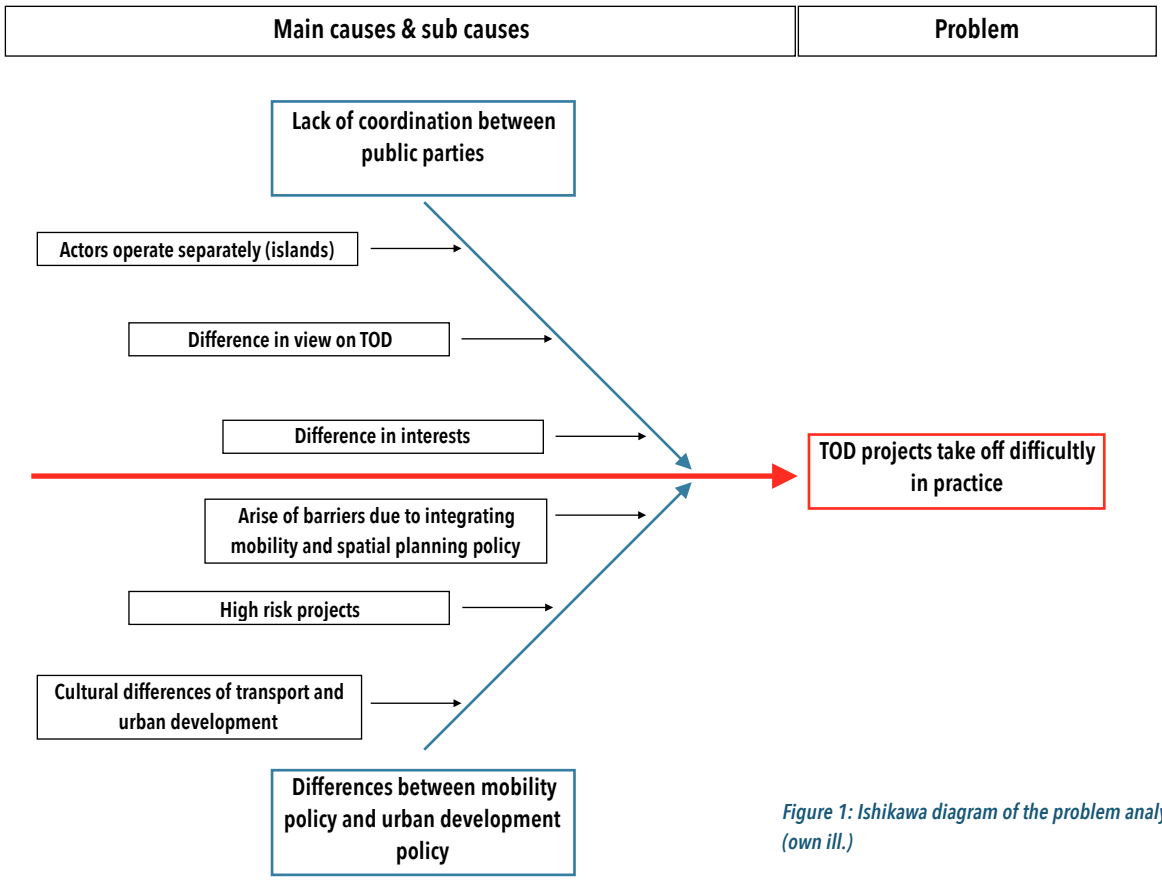


Figure 1: Ishikawa diagram of the problem analysis (own ill.)

1.3 Problem statement

Each project is unique on its own but the overall similarity of TOD projects remains the integration of the two main sectors; transit and urban development. According to Modder et al. (2015) it is essential for a TOD project that investments in stations, public transport, rail network and the environmental area are joined together while initiating an area development. This essential factor demands a high integrality rate from an early stage of the project. This integration objective is currently complicated to achieve in practice because it concerns various domains where each domain contains a lot of different active actors with their own language, methods, interests, goals and markets (Tan et al., 2013). This research focusses therefor on this main requirement for all forms of TOD projects which is integral coordination and entirely involvement of all key actors from the early stage throughout the entire project. The difficulty that appears when effectuating TOD projects in practice is addressed as the main problem in this report.

1.4 Research objective

The problem analyses asserts, based on theory, that certain governance aspects interfere with the take off of TOD projects in the Netherlands. *The objective of this research is to gain insight on the effects of governance on policy integration in Transit Oriented Development*. This research functions as a preliminary study to give insight on the essence of the problem by revealing the barriers and governance effects that occur in policy integration in TOD from a theoretical and practical point of view. Results of this research will lead to practical recommendations in the form of potential governance strategies.

1.5 Research scope

The broad context of TOD does not only require substantive changes of the current situation on an urban and physical level. In the Netherlands, many substantive issues are taken into account when it comes to stimulating the transition from a car-oriented development path towards a more TOD path. However do formal and informal barriers still hamper the implementation of such concepts (Banister, 2004; Rietveld & Stough, 2004; Hull, 2011). Tan et al. (2013) define these barriers as financial, legal and socio-cultural impediments that avert actors from implementing TOD.

Realising a multidisciplinary urban intervention such as a TOD requires support of multiple other actors, which means that everyone depends on everyone else. The actors that are involved in a station development have their own power positions and there is no actor that possesses the position to impose an integrated strategy unilaterally. Given this fact and the fact that actors are in need of the support of others means that the involved actors find themselves in a network. According to Bruijn and Heuvelhof (2008) can a network be defined as (1) a number of actors with (2) different goals and interests and (3) different resources, (4) who depend on each other for the realisation of their goals. Policy integration occurs in processes of networks.

In the problem analyses are two main causes of the problem described; lack of coordination between public parties and differences between mobility policy and urban development policy. In addition is in the problem analysis acknowledge by experts that the complexity in the decision making process by combining two different sectors is mainly due to the lack of a trigger factor, a "psychological ownership," which fulfils the directing role for the station development (Modder, 2015). That signifies that the dutch manner of effectuating broad concepts such as TOD is in need of innovative governance methods during the decision making processes in networks of these type of

projects in order to improve the integration of policies. In order to be able to create these innovative methods it is important to get an insight on the effect of governance in the first place.

In order to research the effects of governance on policy integration in TOD are two different governance models being studied. The so called 'divergent' and 'convergent' model, are being analysed and compared in this research. The divergent model refers to an institutional governance method where the integrated station development is implemented separately by multiple entities whereby for example land use is realised by developers and the railway construction by a transport agency. The convergent model on the other hand is designed to implement integrated development by a single entity which could be seen as the trigger factor that is missing according to Modder (2015). The governing effects of implementing TOD's by separate parties or one single entity is being analysed through these models. These models will be explained more elaborated further on in the research.

This report focusses on the effect of governance by combining policy integration, TOD and decision making in networks. All in all this research considers the context of three fields, their intersect on a station scale will be the scope of this research (figure 2):

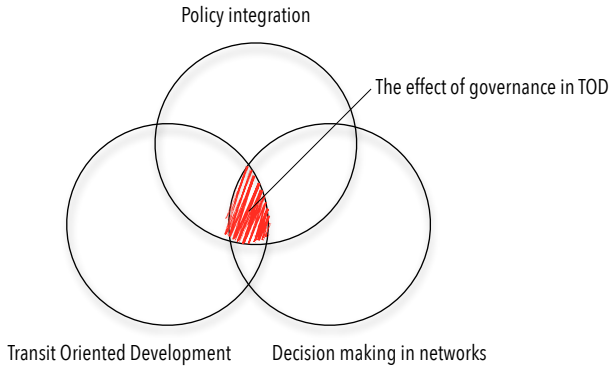


Figure 2: Scope of the research (own ill.)

1.6 Research flow chart

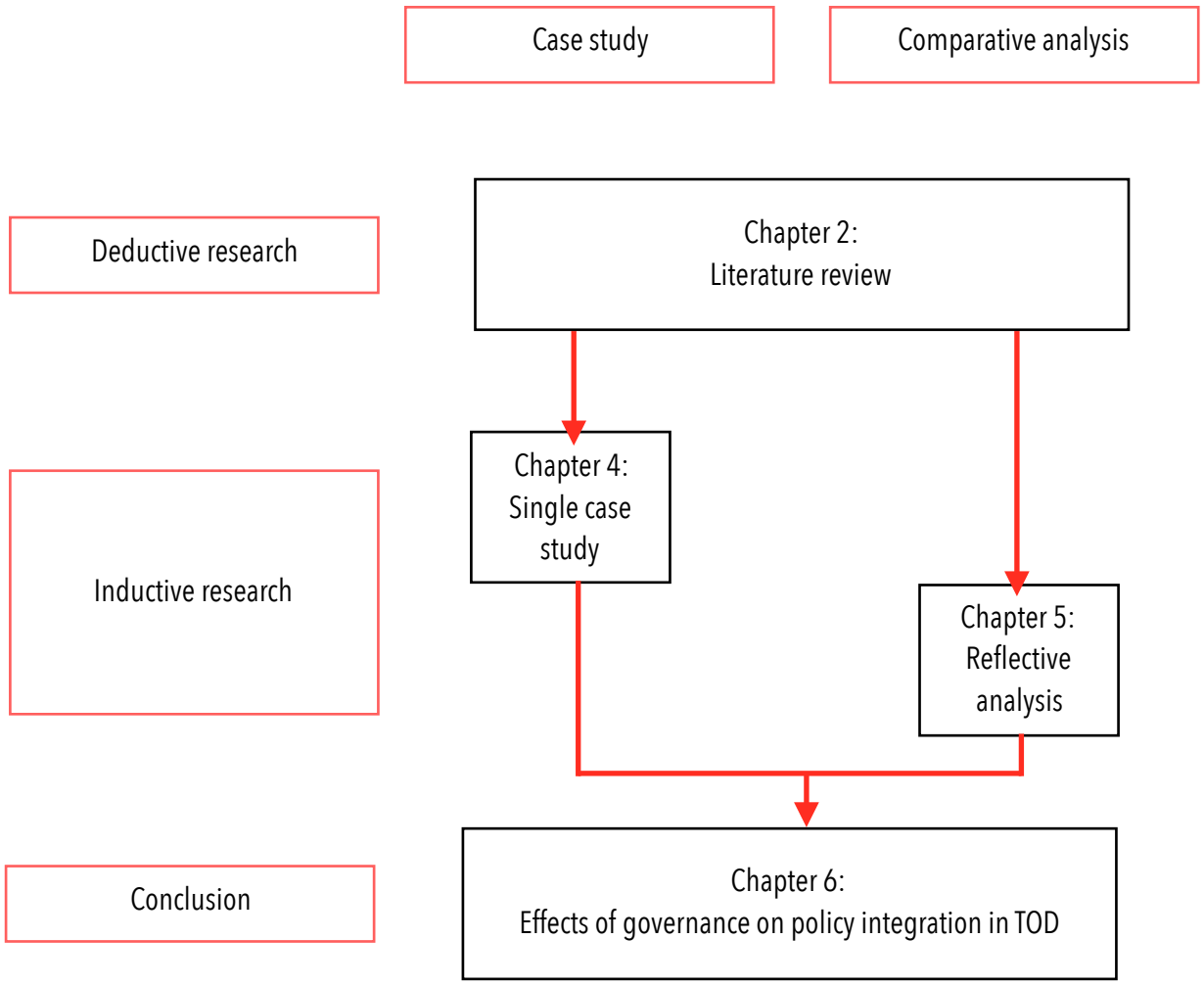


Figure 3: Research flow chart (own ill.)

The structure of the research is divided into three main chapters (figure 3). Chapter two is the literature review which provides theoretical insight on the three fields that define the research scope; policy integration, TOD and decision making in networks. The deductive research is used as input for case interviews (details of the questionnaire are given in Appendix D) to collect data in order to go into depth during the fourth chapter of the research on one hand. Chapter four is a single case study that goes into depth by observing the decision making process that took place during that specific case.
On the other hand functions the literature review as input to gain data from experts for the expert interviews in order to compare the single case to reference cases in chapter five, details of the questionnaire are given in Appendix E. The reflective analysis in chapter five has the function to put the conclusions of the case study in a wider perspective by comparing them to reference cases.

The single case study in chapter four is based on the divergent governance model and the reference cases in chapter five are more leaning towards the convergent governance model. These models will be explained more elaborated further in the research.

1.7 Research question

RESEARCH QUESTION

The objective as mentioned in previous section leads to the main question of this research:

What is the effect of governance on policy integration in Transit Oriented Development?

The research process can be structured by dividing the main research question into relevant sub questions. There is made use of a combination of a deductive and an inductive process as mentioned in the precious section. The deductive process starts with theoretical concepts from a literature analysis which is the foundation of this research. From here on the research continues with the inductive process whereby elements from the theoretical framework are searched for in practice.

DEDUCTIVE RESEARCH

The research starts in the second chapter with a literature review of the conceptual meaning of policy integration and Transit Oriented Development. The depth is sought for by identifying the barriers that play a role in the area of policy integration within TOD. This part of the research results in a list consisting of theoretical barriers and stimuli. After gaining underlying knowledge on these specific topics will this chapter proceed with the network mechanisms that take place in multi-actor decision making processes such as in TOD. The subjects that are explored in the theoretical framework function as input for the interviews (see Appendix D and E) that are part of the inductive research.

CHAPTER 2: LITERATURE REVIEW

- What is the meaning of policy integration?
- What is Transit Oriented Development?
- What are the institutional barriers and stimuli of policy integration in Transit Oriented Development?
- How are actor networks in integrated urban developments managed?

INDUCTIVE RESEARCH

The inductive process of the research is subdivided into two chapters, chapter four being a case study of a divergent case and chapter five a reflective analysis with reference cases that are based on the convergent governance model. A combination of inductive and deductive processes is proposed to identify the effects of the governance models through the experience of important stakeholders and experts.

CHAPTER 4: CASE STUDY ROTTERDAM CENTRAL DISTRICT

- What are the essential events that have played a role during the process rounds of Rotterdam Central District?
- What are the barriers and stimuli that have occurred in Rotterdam Central District during time?

CHAPTER 5: REFLECTION OF REFERENCE CASES ON ROTTERDAM CENTRAL DISTRICT

- What are similarities and deviations between Rotterdam Central District and the reference cases?

2. Literature review

2.1 The meaning of multi-disciplinary co-operation, coordination and policy integration

The need for integrating interrelated policies from different disciplines is caused by various concurrent developments. Examples of these trends are globalisation and along with it greater convergence of decision-making processes. Factors such as, public participation and the expanding role of non-governmental organisations, pressure groups and agencies in the decision making process, have caused an increase of stakeholders in the policy process. These aspects have made the ambition of policy integration very complex but more indispensable to accomplish (Meijers & Stead, 2004). Meijers and Stead (2004, p:1) define policy integration as:

"Policy integration concerns the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields, which often do not correspond to the institutional responsibilities of individual departments."

Examples of these cross-cutting issues are poverty, equal rights and sustainable development in general. One of the most familiar one is greater policy integration as an essential aspect to improve environmental sustainable development.
Policy integration is a familiar concept in the academic literature although it is not always referred as 'policy integration,' there are more related variants of this term. Variants such as; coherent policy-making (e.g., OECD, 1996), cross-cutting policy-making (e.g., Cabinet Office, 2000), holistic government (e.g., Wilkinson and Appelbee, 1999), joined-up government (e.g., Ling, 2002) and policy co-ordination (e.g. Challis et al., 1988; Alter and Hage, 1993). These concepts appear in organisational theories such as inter-organisational co-operation and coordination (Rogers and Whetten, 1982), collaboration, intergovernmental management (Agranoff, 1986) and network management (Kickert et al., 1997). These theories are focused on collaboration between different organisations instead of between different departments within one organisation and can be relevant for cross-sectoral objectives. The main difference between operating within one organisation and between organisations is that the interdependence factor is subject to a larger amount of control.

The concept policy integration can be divided in different variants, of which four examples are being described by Geerlings and Stead (2003, p:188):

- **vertical integration:** policy integration between different levels of government
- **horizontal integration:** policy integration between sectors or professions within one organisation (i.e. inter-sectoral)
- **inter-territorial integration:** policy integration between neighbouring authorities or authorities with some shared interest
- **intra-sectoral:** policy integration between different professions within one department (integration between different transport fields such as roads, public transport, cycling or walking for example).

The OECD asserts that policy integration differs from policy co-ordination and is considered more sophisticated in two manners: (1) the level of interaction; and (2) the output (OECD, 1996). The main difference is caused by the objectives which these theories have. Co-operation is seen as the amount of collaboration exists in terms of programs, resources, information, etc. (Alter and Hage, 1993). The organisations work together to achieve their own

individual goal. Policy coordination focuses mainly on adapting sectoral policies in order to make them mutually enforced and consistent, which results in different policies that share more or less the same objectives. While policy integration aims on forming the specific sectors into one joint policy with one clear cross-cutting objective such as sustainable development.

Geerlings and Stead (2003) separate the different integration trends and rank them according to interaction as followed:

1. **Policy co-operation**: the lowest level, which solely implies dialogue and information

2. **Policy coordination**: which implies co-operation and transparency without getting engaged in policy conflicts. The goals are in this case not necessarily alike.

3. **Policy integration**: includes dialogue and information (policy co-operation), transparency and avoidance of conflict (policy coordination) but also includes joint working, attempts to create synergies between policies and the use of the same objectives to formulate policy

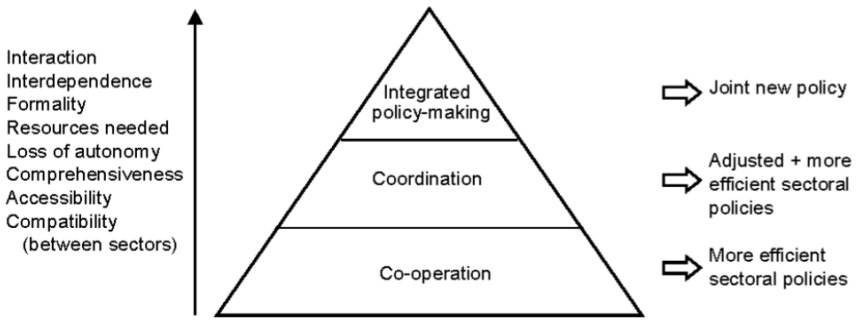


Figure 4: Integrated policy-making, policy co-ordination and co-operation (Geerlings & Stead, 2003)

According to Underdal (1980), the basic requirements for policies to be qualified as 'integrated' are (1) comprehensiveness, (2) aggregation and (3) consistency. Co-operation and coordination cover parts of the process to integrate policies but not the entire element. Policy integration requires more from the involved stakeholders which results in a more intensified interdependency factor between them. Integration requires more interaction, accessibility and compatibility, formal institutional arrangements, involves more resources, demands stakeholders to give up more autonomy (Meijers & Stead, 2004).

2.2 Institutional barriers to policy integration

There are multiple types of inhibitors of policy integration that are mentioned in academic researches, but this thesis focuses mainly on the institutional barriers that influence the integration process. Peters (1998) identified three key elements that influence the horizontal management of sectoral policies and Stead (2008) reacted on these by describing processes to overcome these barriers.

1. **Uniformity/autonomy of departments:** Not all governments are such equal integrated as others. Some organisations consist, at the extreme, of autonomous departments which are minimalistic connected to each other and form solely a collection of different departments.

   It is less likely to achieve policy integration when governmental departments have an island mentality where they are able to develop their own policies and programmes without considering other departments. Overall goals and objectives for all departments are needed to realise a form of integration at a policy level. In many cases, policy goals, targets and instruments in the transport and environment sectors are often still quite sectoral in nature and determined at the departmental level. The isolation of these departments still cause inconsistencies between them. Accountability for policies and their effects are departmental in nature, which means that policy measures are usually primarily designed to fulfil departmental goals and targets rather than to address wider objectives outside the department. Thus, transport policies typically primarily address issues such as congestion or providing and managing infrastructure. There has been a transition of this confined nature whereby sectors like transport is considering issues outside their comfort zone such as air quality or noise, and health issues such as road safety. Some even consider these adjustments limited when it comes to including health and environmental objectives into transport policy such as physical activity for example. Another aspect which causes a barrier to develop and implement policies in an integrated manner are the numerous differences between professional culture and practice of governmental departments (e.g., vocabulary, education, procedures, priorities) (Peters,1998).

   Promoting joint organisational arrangements and accountability

   In terms of mechanisms to promote horizontal and vertical cooperation, several institutional mechanisms can be conducive to joint policy-making. One way to enhance horizontal cooperation is by setting up organisational arrangements that function as an interdepartmental body such as committees, commissions, working groups and steering groups which have the goal to gather different ministries together and cooperation between departments and sectors. A steering role with the focus on cooperation can help to coordinate policies from different departments and develop inter-sectoral programmes involving cooperation between departments in both terms of development and implementation.
   The extent to which these examples could have an effective result on policy integration depends densely on a certain amount of conditions. Sharing overall accountability reinforces the importance of joint enterprises. These joint enterprises between departments could be encouraged by adding incentives related to financial rewards for all partners to get policy integration off the ground. A second condition is making use of common set of analytical indicators and parameters and to synthesise the sets of performance indicators persuades sectors to have a comprehensive and complete illustration of the policy issues and consequences. Citizens and NGO's can be seen as proponents of integrated policies, because they experience them in a holistic manner. Their critical point of view of exclusively sectoral policies is much appreciated, therefor is their role through public debate very important.

2. **Connectivity of departments:** The extent of interdependence between government departments differs; some are more connected to each other than others. Besides networks do even exist between autonomous departments.

   Network mechanisms between sectors already exist in many countries but are not seen as a powerful or influential strategy. Some of them are an illusion of a functional network rather than a contribution to promote policy integration. Professional networks between departments are not well encouraged because of the low political interest regarding to these networks. The low interest is especially present since it is often difficult to show concrete results from them. In many cases, there is no coordinating body, agency or structure to manage the horizontal relationships between sectors. Rotating staff between different policy sectors has its benefits, especially when it happens between different departments. But it has also its downside, namely; frequent rotation can lead to loss of continuity in an organisation (low 'institutional memory') and a lack of long-term expertise in a department. In some countries there is no tradition of working or even communicating with other policy sectors, there is thus minimalistic connectivity between sectors. In some instances, there is even the feeling that the sectors are in competition and one another component. Departments may even have to compete against each other for funding, which creates a poor climate for mutual collaboration or trust between sectors (Peters, 1998).

Strengthening inter-sectoral relations and awareness

Organisational arrangements such as job rotation could be used to promote vertical as horizontal relationships although it is not currently used to a great extent. In the Netherlands for instance, governmental organisations adopted an internal mobility programme and joint trainee programme for employees which promotes job rotation. The extent of the importance of attracting and developing multidisciplinary professionals or specialisation and sectoralisation of professions differs from country to country. Both focusses have their own up and downsides. Encouragement of specialisation and sectoralisation provides stability of personnel within departments but also discourages creative thinking or innovation in policy development as a result of the disintegration of tasks and policies. Employees are getting used to a certain way of functioning that it will even create resistance to innovation and can be seen as undermining roles, power and identity. Providing workshops and other training activities could be helpful to create a better understanding and positive movement to built inter-sectoral characteristics (Stead, 2008).

In terms of monitoring the consistency of sectoral policies with sustainability objectives, some countries have management structures in place where units within ministries are responsible for the monitoring and assessment of cross-cutting issues such as environmental issues or sustainable development. Examples can be found in Belgium, where each Federal Ministry has a unit responsible for sustainable development to ensure that all national sectoral policies comply with the national sustainable development plan, and in Ireland, where the Department of Transport has a sustainability unit. These units often contain multidisciplinary teams.

3. **Overpowering actors in networks:** Networks between actors may be formal or informal. Formal networks may be more manageable (less pluriform) but their connections may make them less predictable and manageable.

   Even though there is a case of formalised and established relationships between sectors there is still often a feeling that one sector overpowers the other. Sectors get the feeling that many decision making processes are based on economic benefits rather than an overall environmental or sustainable vision. There is also often the feeling that the transport sector is large, dominant and strong while the environment sector is small, subservient and weak. As well as the internal relationships between departments, it also needs to be recognised that there are formal and informal relationships between these departments with a range of public and private sector organisations that exert their influence and shape policy. In the case of transport for

example, there are formal relationships between public transport providers (which can be public or private) and infrastructure operators (e.g., track companies, port authorities) as well as informal relationships with construction companies (e.g., infrastructure building and maintenance firms) and signalling companies. Each of the sectors has its own set of constituents with their own separate priorities and interests.

Linking integrated policy development to integrated policy implementation

Some countries attempt to include several sectors in their national sustainable development plans or strategies by integrating for example transport, health and environment. However there are not much examples found whereby the focus is equally spread throughout all the sectors. A number of examples of strategies can be found that focus mainly on transport and environment (e.g., Finland's energy and climate change strategy and Ireland's climate change strategy). There are also examples of integrated strategies that focus more on environment and health but less on transport, such as national health and environment plans (e.g., Albania, Belgium, Finland, the Netherlands and the Former Yugoslav Republic of Macedonia). It is much more common to see the use of mechanisms to anticipate, detect and/or resolve conflicts between policies in different sectors or at different levels of decision-making. These include internal consultation, strategic environmental assessment for policies and programmes (e.g., Czech Republic, Finland, Germany, Hungary, Lithuania, Malta, Netherlands, the United Kingdom) and health impact assessments in a more limited number of cases (e.g., Lithuania, Malta, Netherlands, Serbia and Montenegro). Joint inter-ministerial conferences are additional mechanisms to anticipate, detect and resolve conflicts between policies (see also OECD, 2007).

Cross-sectoral issues are largely uncommon, at least in their scale, and the institutional structures to cope with them often do not exist. The typical case is that a number of departments are responsible for one aspect of the problem or another but none is responsible for it in its entirety. Integrated policies across different sectors require organisational support that transcends institutionally defined policy fields, while respecting departmental portfolios. The traditionally vertical, compartmentalised structures of government tend to limit information flows among ministries, and to impede co-ordinated action. Co-ordination mechanisms are designed to overcome vertical structures, and to ensure horizontal consistency among identified policy fields (Geerlings & Stead, 2003).

Attempts to identify factors contributing to more co-ordinated or integrated policies clearly point at the existence of a gap between the existing situation and the desired situation: policies are often not sufficiently integrated to effectively address policy issues, particularly those that have a strong cross-cutting nature. Simply stating that policies should be more integrated and providing tools to do so, gives a rather simplistic representation of the complex endeavour of policy integration. A review of the lists of facilitators, inhibitors, costs and benefits of policy integration makes clear that achieving better integrated policies is dependent on a multitude of different types of factors concerning for instance individuals, organisations, culture, process, instruments, politics and so on. Achieving more integrated policies is dependent on a multitude of different types of indicators such as organisational factors, behavioural or personalised factors, political factors, economic or financial factors, process or instrumental factors, contextual factors and specific factors relating to the issue involved.

Even though the ambition to achieve policy integration arises more and more, there are in practice also limits to the degree of integration. The OECD refers to a concern that intensive efforts to increase coherence can result in a massive central control which will erase the flexibility of the policy making system (OECD, 1996). With respect to the gap between the need for coherence and the capacity to achieve it, they conclude that this is due to the complexity of governing contemporary society and the multifaceted nature of the public policy domain. They discern different spheres of coherence (e.g., economic, social and political), attributing a different internal logic to each of them. Another key lesson is that governing in a democratic political system necessarily involves a degree of incoherence. Social and political factors bring into play an array of forces that rarely converge toward coherent policies. Incoherence can hardly be avoided, rather managing it is the way to proceed. The recent report of the Dutch Scientific Council for Government Policy on sustainable development expresses similar views, stating that

the propensity for integrality 'disguises the fact that there are always multiple, complex and conflicting goals at issue in the public arena, which do not generally complement one another but require choices to be made' (Scientific Council for Government Policy, 2002).

2.3 Transit Oriented Development

Sustainable cities will never appear if the transport system is not sustainable. Increasing energy consumption, extensive travel and poor natural resource management must be redirected. Urban sprawl and the need to commute great distances for work and shopping must be curbed. – Natalija Kazlauskiene, director, Directorate General for Regional Policy, European Commission, 2009.

Two main reasons to transform automobile dependency to transit dependency are (a) shifting commute from private motorised vehicles to non motorised and public transport, and (b) reducing urban sprawl by promoting TOD which is supported by high-quality public transit services. Transit-oriented development (TOD) aims for transit and land use integration by "concentrating urban development around stations in order to support transit use, and develop transit systems to connect existing and planned concentrations of development" (Curtis et al., 2009, p. 3). Promoting TOD is one practical approach that promises to reduce traffic congestion, greenhouse gas emissions, and other environmental problems (Calthorpe, 1993; Cervero et al. 2005; Curtis, Renne and Bertolini 2009). Public transport is the most efficient form of mobility considering consumption of energy or land, urban space that has been taken by roads or parking surfaces, shortens trip distances and it also reduces heat-island effects and water pollution. Cities that are planned with the focus on creating short distances encourage walking, cycling, and the use of the public transport. These cities have also the cities with lower levels of air pollution, energy consumption and CO2 emissions. Providing high quality access to everyone allows people from all sorts of society to get in contact and to interfere with each other which helps to build a social capital.

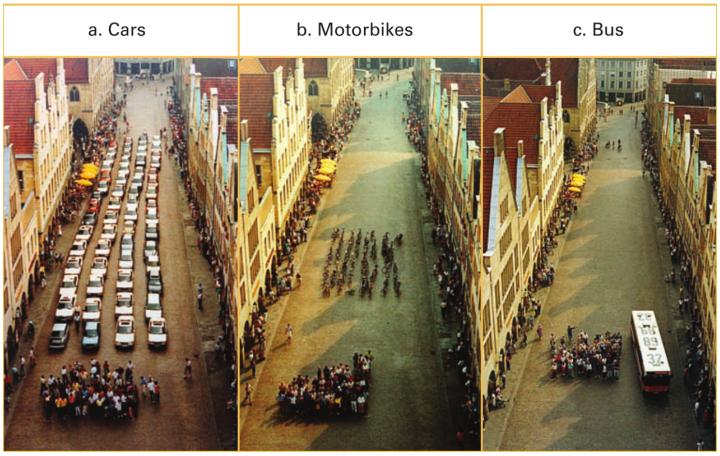


Figure 5: Urban space taken up by cars, motorbikes and buses for 80 travellers (GTZ, 2004)

The integration of transit and land use is present-day seen as one of the most important strategic initiatives for developing more sustainable urban futures. The realisation of an effective integration of these sectors requires a convincing and foreseeing strategic vision of the city of tomorrow, an enabling institutional framework and sustainable financial models.

Cities need to translate these powerful long-term visions into creations which eventually form spatial plans and specific land use initiatives. Such spatial framework serves as a guide for transit and other infrastructural investments. An important feature, to give an illustration of an integrated dynamic of transit and land use, is to channel higher urban densities along high-capacity transit corridors. Transit forms urban development by

increasing and upgrading accessibility. The travel demand which comes along is influenced by residential and job densities and the degree of mixed land use. Mixed land use is an important element of TOD. Intermixing housing, offices, retail shops and other urban amenities near public transit stations combines long-distance travel by transit and short distance, within the urban district travel by foot or bicycle. Another important aspect is to obtain an institutional framework and regulatory and planning tools which encourage regional collaboration and cross-sector cooperation. A holistic planning framework gives a voice to all segments of society. Sustainable financial models are essential to reach the long-term visions of cities. When cities focus on being compact and obtaining valuable mix of land use they become much habitable for people. Such environments attract knowledge-based industries and investments which increases a city's competitiveness.
Cities such as Copenhagen ("Finger Plan") and Singapore ("Constellation Plan") started their transit oriented development with a strong and convincing regional visions that made investing in high-capacity transit an additional quality to the urban-form of the area. The first step in moving transit and land use integration from theory to reality is formulating a vision and transforming it into a conceptual image of the future metropolis.

Copenhagen's Finger Plan is an extensive planning concept on the manner of shaping rail investments as the foundation of the urban structure. Planners designed corridors to distribute and spread the commuters from the urban centres. The rail infrastructure functioned as urban guide to steer the growth of the city along desired transit axes. The planners tried to manage in this way the commuting of the population.
Singapore got inspired by and has embraced the Scandinavian planning principles which promotes the use of radial corridors to interconnect the main centre of the city with sub-centres. Its spatial plan looks like the setup of satellite "planets" (new towns), which surround the main centre with greenbelts and high-capacity rail transit in between.

Figure 6: Singapore's "Constellation Plan" for urban development (Suzuki et al., 2015)

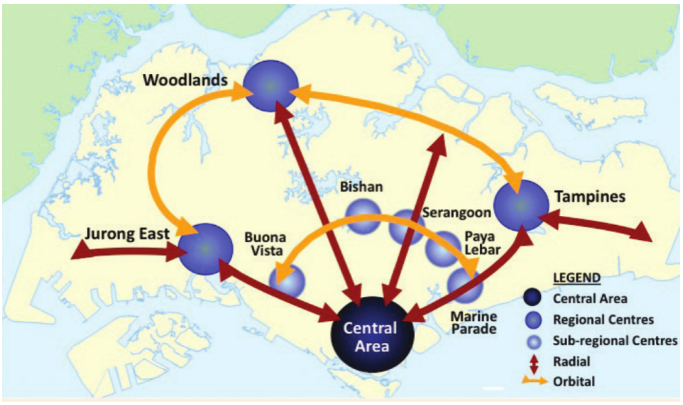
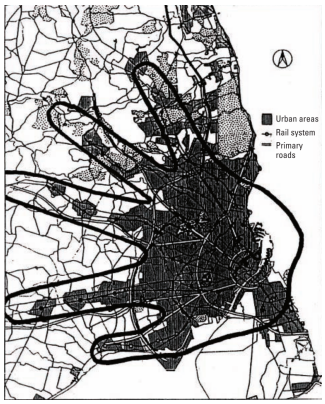


Figure 7: Copenhagen 's "Finger Plan" for urban development (Suzuki et al.,2015)



It is much generally usual to make use of a poly centric urban structures to plan cities in a sustainable manner. Interconnecting high density centres (business districts, residential areas or mixed used centres) with each other by making use of high quality transit is a very important aspect of sustainable development of cities. Developing several transit corridors to channel the population to their destination causes reduction of travel demand by spreading commuters evenly out throughout the day and city. Offering travellers multiple transport modes and connecting them with one another creates a well integrated metropolitan wide public transport system which stimulates reversing the rising usage the automobile.
Even though the Scandinavian transport principles inspired Singapore's policy makers and planners that does not mean that a one-size-fits-all approach to TOD planning and design is recommended. TOD concepts should be carefully modified to fit the local urban context, social and cultural circumstances and market realities. Cities should develop a TOD system exciting of transit stations that correspond to the local and environmental conditions.

The idealistic idea of a well integrated transit and spatial development is so mixed of use that the need to travel by private motorised vehicles reduces. Transit oriented development (TOD) is an urban form that is immense important to sustainable urban futures of cities. Urban areas with access to public transit and attractive public spaces where attention is given to areas that endorse walking and cycling are becoming more and more attractive for people to live, work, recreate and interact. These environments improve a city's economical position compared to others, decrease local pollution and greenhouse gas emissions, and stimulate comprehensive development. Such beloved neighbourhoods are being associated with a great living quality and an active and socially involved community. The Dutch pre-war neighbourhoods meet a lot of these traits. The neighbourhoods where developed based on a social ideology (e.g., Amsterdamse School, Tuinstadbeweging) whereby the quality of living of the community was centralised. This is reflected in the urban planning (small streets, closed building blocks), the programming (mix of housing and facilities) and the architecture (village impression). The districts where built for labourers during a time when car possession was very low in the Netherlands. Hereby are the neighbourhoods such planned that the all-day facilities where on a walkable distance (within a radius of 20 minutes) and attractive walking routes were created with a lot attention spent on the design of public spaces and facade architecture.
The GWL terrain in Amsterdam is one of the few neighbourhoods with a focus on "the community" that has been built post war. The green residents were the central focus point during the development of the area. The requirements of the residents were heard and translated in the form of a car-free district with active urban gardens and lots of transit stops on a walkable distance. GWL is according to ITDP a successful example of a TOD community which have certificated with a silver TOD standard awarding in 2014.

Figure 8: GWL terrain Westerpark, Amsterdam

Even though it is obvious that integration of transit and urban development will lead to sustainable improvement of cities, it is still very complex to achieve this. The complexity is caused by the involvement of multiple factors such as inherent features of a city (natural and historical conditions for instance), governance structures, institutional settings, public sector initiatives and actions (for example, transit investments, planning regulations, tax policies, and financial incentives), financing instruments and market responses.

2.4 Transit oriented development strategies

Transit oriented development strategies (TODS) are developed with the focus to integrate public transport and land use by "concentrating urban development around stations in order to support transit use, and develop transit systems to connect existing and planned concentrations of development" (Curtis et al., 2009, p.3). TODS promise to stimulate economic and social development which ensures that many cities and regions have embraced the concept even though the promises have not been evaluated or even proven definitively (Al-Dubiki & Mees, 2010; Bertolini, 2000; Curtis, 2009; Madanipour, 2001; Naess et al., 2011).
A discussion has been raised, parallel to the substantive debates about TOD, namely that on the conditions of implementing TODS successfully on a metropolitan scale (Bartholomew, 2007; Curtis et al., 2009; Filion & McSpurren, 2007). This successful implementation is realised when metropolitan areas make a transition from a car-oriented, sprawling development path towards a more transit-oriented and more compact development. But it is easier said than done; many cities and regions experience such a transition as a difficult implementation (Ayres & Pearce, 2004; Clifford et al., 2009; Curtis, 2008; Naess et al., 2011; Marsden et al., 2011). There have been multiple implementation barriers identified in literature whereby institutional barriers are considered as the most crucial to overcome (Banister, 2004; Hull, 2011; Banister, 2005; Rietveld & Stough, 2004).

TODS are on a metropolitan scale very complex planning attempts due to the dynamic institutional context they take place in (Kaufmann et al., 2008; Pflieger et al., 2009). The barriers as well as the opportunities are context specific which hampers learning from different contexts across the globe. Thus a 'copy and paste' approach to transferring lessons from other contexts is incompetent (Renne, 2008). "There is no 'one size fit all' problem or solution according to Tan et al. (2013, p. 69). The barriers have to be context-specific identified and then looked at for strategies of how to overcome them.

2.4.1 TODS attempts in the Netherlands

The dutch way of TODS is seen as property development around transit nodes, 'Knooppuntontwikkeling', and has been very attractive for local, regional and national government (Provincie Noord-Holland & Goudappel Coffeng, 2010). These developments have taken place on the scale of individual station area projects such as the station of Amersfoort or 's-Hertogenbosch and these are considered as success in themselves due to commercial occupancy rates, (Bruil & Bruil, 2004; Peek, 2006). However, these strategies face implementation challenges on a larger metropolitan scale (Programmabureau StedenbaanPlus, 2010; UACK, 2010). An observation has taken place in the Netherlands which indicates an increase in road usage, a decreased usage of public transport and insufficient emission reductions (Jorritsma et al., 2010). Many policies claim to strive for a balance in private and public transportation (CBS, 2010).

There have been two main attempts of TODS in the Netherlands since the 90s. The first one was focused on a selection of six large stations and these were seen as 'National Key Projects' (Tan et al., 2013). These projects were characterised by being high profile, costly, large scale and were complex public private partnerships that were substantially subsidised by the national government (Commissie Private Financiering van Infrastructuur, 2008; Van der Wouden et al., 2009).
The second attempt is more narrowed down to a regional level whereby various stakeholders work together to concentrate and accommodate growth around railway stations to avoid sprawl. The authorities did not choose to capture the agreements between them in the form of 'hard' contracts, they have chosen for a 'soft' approach (BPZ, 2007; Stadsregio Arnhem Nijmegen, 2011). Familiar examples of these projects are the urban regional corridor

development programs of the Stedenbaan program (SB) in the Rotterdam - The Hague metropolitan area and Stadsregiorail program (SRR) in the metropolitan area of Arnhem Nijmegen. Institutional complexities related to the integration of land use and transport planning have occurred in both cases (Tan et al., 2013).

Figure 9: Stedenbaan (left) and Stadsregiorail (right), (Tan et al., 2013)

2.5 Policy integration in Transit Oriented Development

The traditionally separated sectors of property development and transport have to be coordinated across different levels of authorities. In addition is a responsive market condition also required to implement TODS (Curtis et al., 2009). The manner of policy making is in the Netherlands strongly influenced by two aspects; the decentralised unitary state and an ingrained need for consensus. These aspects have formed the multi-levelled system of co-governance between various stakeholders from different government departments and scale levels (national, provincial, regional and local) (Van der Valk, 2002). The stakeholders from the often opposing sectors (land use and transport) with their own agenda points, authority and financial power have the role to take action despite the differences. The disintegration is exacerbated by unstable policy goals and a set of conflicting policy instruments to achieve these goals. Inconsistency of goals and conflicting strategies occur through all levels of governance. This results in compromises which do not satisfy the stakeholders ambitions (Koppenjan & Leijten, 2005; Majoor, 2008).

The complexity of the multiple stakeholders and interdependencies can be illustrated by zooming solely on the transit part of TODS. The transit part already requires complex agreements between different public authorities and in addition private parties such as transit providers (BPZ, 2007). A couple of the previous mentioned conflicts are in fact deep-rooted in the structure of planning law. The national government has mostly its say about infrastructural plans on roads and railways through the national Trajectory Act (VenW, 1993) and now with national to provincial zoning plans. The municipalities do not have a very dominant say to object these decisions and are tasked to implement them. The local transport systems (subway, trams and buses) are however in the hands of regional and local authorities (provinces and/or city regions) and are subsidised through a general national transportation budget (BDU or Brede Doeluitkering).

The objectives of the Dutch policies have changed in the past forty years multiple times regards to transport and land use. The national transport policies supported in the beginning stimulating public transport in the context of sustainable mobility by also restricting road infrastructure development (VenW, 2004; VROM, 1988; 1974; 1967). The main objective changed afterwards from restriction road infrastructure development to stimulate sustainable mobility to providing and improving accessibility in all forms including road infrastructure to advance economic growth (VROM, LNV, VenW & EZ, 2006).
The national land use policy did not differ much from the transport policy change pattern. The land use policy started first by focussing on urban nodes with adjoining compact suburbs away from the urbanised cities (Van der Cammen & de Klerk, 2003). The objectives changed later on from the suburbs to managing urban growth in the Randstad along with it came the pressure from national government on provinces and municipalities to adjust their plans to one another (VROM, 2004). Thus instead of sticking to one vision with its objectives and strategies the vision changed and focused on the Randstad metropolitan region by pursuing liveability, safety and accessibility within compact city regions, together with energy policies, attention to culture historical values and more (IenM, 2012; VROM, 2008). This unstable manner of working does not match the strong requirement of TODS implementation because it demands strong focus and continuity over a long period of time (Curtis et al., 2009). There is no room for constant fluctuation of policy goals and concepts when the aim is to implement TODS successfully.
Lack of commitment and urgency plays also a role in this struggling institutional and political context. There have been previous policies which where aimed to discourage car use, the internationally renowned ABC location policy for example. The policy did not fulfil its purpose because it caused that firms moved towards locations with more parking capacity instead of making use of the public transport nearby (Rietveld, 2004; Schwanen et al., 2004).
The combination of the elements that are describes above hamper the implementation of TODS.

2.5.1 Institutional barriers

When it comes to barriers which play a role in sustainable development in the form of integrating land use and transport, four types of barriers are categorised by Clifford et al. (2005): (L) legal, (FI) financial, (PC) political/ cultural, (IT) institutional/territorial, (PT) practical/technological barriers. These types are based on development within different EU cities and regions.

Tan et al. (2013) distinguish two types of institutional barriers; the formal and informal barriers.

They identify the formal barriers as: "*Legal, financial and practical impediments within formal institutions that manifest as regulatory guidelines, documentation and policies" (Tan et al. 2013, p:75).* These formal barriers are about finding complexity within the governance which increases by a multitude of stakeholders with their own visions and way of thinking. Lack of clear definition of each role or processes within the project and in addition the availability of financial resources cause unnecessarily a more complex system. The stakeholders also differ from each other when it comes to having a shared vision and less political will and commitment. The separation of authority responsibilities is encouraged by the financial division system which leads more to competition rather than integration.

The informal barriers are seen as: "*Obstacles stemming from political and cultural attitudes and institutional and territorial divisions" (Tan et al. 2013, p:76).* These are more difficult to identify, they are usually seen as social and behaviour trends. Informal barriers are seen as the inability to establish ideas because of lack of commitment or ambition. This absence is partly fed through the mismatch between long-term ambition and short-term gains. The preference for automobiles by policy and policymakers is also an informal barriers and also because of **practice culture, perceptions and framing**. Findings during the research of Tan et al. (2013) acknowledge a lot of enthusiasm for TODS from the involved stakeholders during the interviews. However do they also mention that the policy ideas often are too ambitious than the actions in practice.
The stakeholders with resources or other forms of power have the tendency to care less about transit. A stakeholder with a dominant position has admitted this during the interviews with Tan et al. (2013). It also turns out that the decision makers are seen as opportunists because their focus on short-term results instead of encouraging a long-term goal and vision for spatial quality. And public stakeholders show a passive attitude towards processes involving private stakeholders.

2.6 List of barriers and stimuli

Policy integration in general

Institutional barriers	Institutional stimuli
Uniformity/autonomy of departments	Promoting joint organisational arrangements and accountability
Connectivity of departments	Strengthening inter-sectoral relations and awareness
Overpowering actors in networks	Linking integrated policy development to integrated policy implementation

Table 1: Barriers and stimuli of policy integration (own ill.)

Policy integration in TOD

Institutional barriers	Institutional stimuli
Lack of clear definition of each role or processes within the project	Promoting win–win solutions between sectors
Lack of availability of financial resources	Reducing duplication in the policy-making process, both horizontally and vertically
The stakeholders differ from each other when it comes to having a shared vision and less political will and commitment	Promoting consistency between policies in different sectors (horizontal) and at different levels of decision-making (vertical)
The separation of authority responsibilities is encouraged by the financial division system which leads more to competition rather than integration	Improving the achievement of cross-cutting goals or objectives
Dealing with large amount different public authorities leads to realising less innovative market-led initiatives	Giving more focus to the achievement of a government's overall goals rather than the achievement of narrower sector-oriented goals
Lack of commitment or ambition partly fed through the mismatch between long-term ambition and short-term gains	Helping to promote innovation in policy development and implementation
Policy ideas are often too ambitious than the actions in practice	Encouraging greater understanding of the effects of policies on other sectors

Table 2: Barriers and stimuli of policy integration in TOD (own ill.)

2.7 Decision making process in actor networks

The previous subchapter presents, amongst stimuli, an overview of the barriers that occur in policy integration in general and within TOD. In order to realise policy integration in TOD do managers have to cope with these obstacles in actor networks and that leads to that policy integration occurs in a process. Realising a multidisciplinary urban intervention such as a TOD requires support of multiple other actors, which means that everyone depends on everyone else. The actors that are involved in a station development have their own power positions and there is no actor that possesses the position to impose a strategy unilaterally. Given this fact and the fact that actors are in need of the support of others means that the involved actors find themselves in an actor network. According to De Bruijn

and Heuvelhof (2008) can an actor network be defined as (1) a number of actors with (2) different goals and interests and (3) different resources, (4) who depend on each other for the realisation of their goals. Networks are intra- and inter-organisational and exist in the private as well as the public sector and in between.

Even by being one organisation do actor networks also occur within a national government with different departments (ministries) which have their own societal interests and goals. These can conflict with each other even though they operate within the same organisation. However these differences do these departments depend on one another, because they are part of one entity. This mechanism also occurs between the public and private sector especially when it comes to urban interventions. Urban developments for example are very complex interventions and the more integrated they are the more complex and larger scaled they become due to the multiple interconnections. This complexity requires highly skilled organisation members which leads to a less possibility to steer them from the top. The professionals in these type of organisations are those who carry the organisation instead of a leader or board such as in the case of a hierarchal culture. On the other hand does professionalism lead to fragmentation. The more specific the skill and knowledge of a particular department becomes the more fragmented will organisations and inter organisational alliances be.

Networks do not only exist within organisations but also outside of them. The success of a company for example depends on how its interests are in alignment with the ones of other main stakeholders. The company does not always decide which actors are qualified as stakeholders and which will interfere in the decision making processes. Globalisation plays a role in the shift towards more partnerships and other forms of cooperation which stimulates the network-like environment where organisations find themselves in. This shift has important consequences for decision-making processes. Decisions are not taken by an organisation autonomously and subsequently explained thereafter to external parties. The decision making becomes a process whereby the external organisations are part of the decision and it is made in consultation and negotiation with them. These partners could be public organisations or other companies which operate in the same field or have a position that influences the companies steps. When an actor that finds itself in a network desires to make a change, the first question that has to be asked is whether all the other stakeholders are willing to support the change in that same period. Operating within a network could be seen as something negative because all the consultations and negotiations could hamper the decision making process of a certain development.

2.7.1 Variety

Networks could be seen as the opposite of hierarchical structures based on the characteristics. If a group of actors works as a network, there is always variety. Variety can be seen in the multiple different actors that participate, the different products, the different interests or means or the different amount of power an actor has. When working with actors with a lot of variety, the problem that needs to be taken into account is that the influence of an actor is confined and that actors will react differently during interventions. It is also very likely that multiple interventions will be needed.

2.7.2 Mutual dependence

The actors do not always accept commands from other actors because there is no unilateral dependence but mutual dependence between them. Even though one particular actor could be in a more superior position that does not mean that the actor will remain in the same position during the whole process. Mutual dependence explains the interdependencies of actors. In this case, interdependence does not mean that there is no difference in the balance of power and influence between actors. However, actors have to bear in mind that positions of actors and the balance of power and influence between actors is dependent on subjects. Positions of actors can change

depending on time and subject. This is one of the reasons why dependence relations between actors can be highly complex.

2.7.3 Closedness

Actors in networks also tend to be characterised by closedness which means that they are not by definition sensitive to (external) interventions. This closedness of actors within a network is of course an obstacle for an intervening actor that wants to realise its goals and needs the support of the others. When an initiated intervention is in consistent with another actors core values it is very likely that it does not stand a chance of success. What needs to be taken into account when working with a network where closedness occurs is that these actors are not sensitive to interventions. These actors do not seem to notice these interventions, they ignore them, resist them, transform or even try to evade them. There are also opportunities for closedness; support gained from a closed party means that the strength of this party can be utilised.

2.7.4 Dynamics

Networks are always in motion. The variety in a network, the extent of closedness of actors and the mutual dependencies between parties may change, which influences each other: a change in closedness will lead to change in interdependencies between actors and influences the variety in a network. This usually gives networks a strong dynamic. The dynamic resulting from such developments can be seen as a fourth characteristic of networks. If an actor changes from an insignificant position to an important position it is an example of a dynamic network. Looking at these characteristics one can conclude that a hierarchy will not change very often. Governmental actors are relatively stable. Their relations are very likely to change during the process, because they are part of a hierarchy. On the other hand, actors that are not part of a hierarchy can be unstable which can lead to change during a process. Therefore it is very important to keep them involved and to give them the feeling that they are significant. Another important fact that needs to be kept in mind which is unstable is the economic market. The important traits of a hierarchal structure and a network of actors is described in the following table:

Hierarchy	Network
Regular	Irregular
Phases	Rounds
Actors are stable, behave loyally and are involved in formulating the problem and choosing a solution	Actors join and leave, behave strategically; there are often winners and losers when the problem is formulated
Starting point and end clear	No isolated starting point and end
Problem to solution	Solution to problem

Table 3: Decision making in a hierarchy and in a network (De Bruijn and Heuvelhof, 2008)

Hierarchy	Network
Dependence on superior	Interdependence
Uniformity	Pluriformity
Openness	Closedness
Stability, predictability	Dynamic, unpredictability

Table 4: Hierarchal and horizontal management (De Bruijn and Heuvelhof, 2008)

2.8 Rounds model

Spatial interventions are comprehensive and complex projects that go together with long lead-times and extensive investments. To achieve the development and implementation of interventions, decision makers make several investment decisions with the aim that the decided interventions will lead to a planned change. Policy integration is shaped in a process which takes dynamically place in networks. The rounds model is one of the multiple conceptual models that do exist within decision-making processes of networks (Teisman, 2000). The rounds model has its roots in decision making processes in the field of urban and infrastructural planning. According to Teisman (2000, p: 939) were these decision making processes due to several reasons capricious and complex. Complex decision making involves many policy makers who take decisions. Interventions that take place in society are not formed by an intended pattern of action and defined by a single actor, but the policy of such interactions arise as the result of a series of decisions taken by diverse actors.
The model takes place in an actor network and assumes that the various actors announce different problems and propose different solutions and create progress through interaction with one another. The main focus of the rounds model is the interaction between the actors. The public sector experiences decision making as a more complex process than before. This increase in complexity is caused by two main reasons that play a major role; the increased uncertainty about the global economy and the rise of network environments whereby actors are sharing power and nobody is in charge (Bryson and Crosby 1992; Kickert et al.1997).

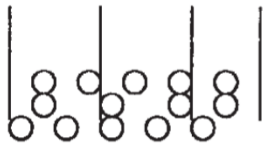


Figure 10: The rounds model; Series of interacting decisions taken by several actors (Teisman, 2000)

According to this model does the decision making take place in multiple rounds. Interaction takes place between different actors during each set of rounds and these rounds result in problem- and solution definitions. The most prominent problem or desired solution define the start of the next round. Each round is unique on its own which means that some participants could leave the round or new participants could show up, the course of the interaction could change or the rules of the game could even change. The rounds model is all about the actors and their problems and solutions. A problem or solution is a problem or solution only when an actor introduces it as a problem or solution during the process (Scharpf, Reissert & Snabel 1978; Teisman 1998). There is particular participant during the rounds that is linked to a certain type of problems or solution or could only be presented at a fixed moment. The rounds model is a very dynamic model; various actors will present their perception of relevant problems, possible solutions and political judgement. The focus should therefor be on the interaction between the important players (key-players). The decision making in the round model has two dimensions to it. There is a 'vertical classification' of decision making that take place, because of the set of decisions which were taken at that moment. On the other hand is there also a 'horizontal classification' when it comes to the decisions that are made concerning the same subject, some actors are not even aware of others decision when it comes to a certain subject at the moment and yet they still make their decisions (Teisman, 2000).

3. Governance models

The research strategy and governance models are further described in this chapter. This chapter starts with the research strategy in section 3.1, herewith will the case study strategy be explained. Thereafter, section 3.2 introduces the two governance models that are being explored and compared in order to define their effects on policy integration in TOD. Finally, section 3.3 describes the case selection and gives a short introduction to the cases that will be explored and reflected on.

3.1 Research strategy

The main question derived from the objective in chapter one is: *'What is the effect of governance on policy integration in Transit Oriented Development?'*

There is made use of a combination of a deductive and an inductive process in order to identify the effects of the governance models through the experience of important stakeholders and experts. The deductive quality research in chapter two is based on theories concerning the research subject. Whereby the researcher firstly investigated existing theories on the subject policy integration. The theories in chapter two give insight into all kinds of definitions of the key concepts of the research and help to distinguish different dimensions and aspects from each key concept. The second chapter of the research functions hereby as the theoretical foundation of this research. The deductive research is used as input for case interviews to collect data in order to go into depth during the fourth chapter of the research on one hand.

The research continues with the inductive process whereby elements from the theoretical framework are searched for in practice. The literature survey in chapter two functions as input for the interviews that are carried out during this inductive process, see Appendix D and E for further details on the questionnaire. There are two kinds of interviews conducted, namely the case interviews as input for the case study and the expert interviews for the reflection. The fourth chapter of the research is a single case study that goes into depth by observing the decision making process that took place during that specific case. The reflective analysis in chapter five has the function to put the conclusions of the case study in a wider perspective by comparing them to reference cases. The single case study in chapter four is based on the divergent governance model and the reference cases in chapter five are more leaning towards the convergent governance model.

The reason to conduct a case study and a reflective analysis on it, is because the aim of this research is to gain a profound and full insight into the TOD concept and its barriers, the integration of transit and land use and its decision making in a transit hub development. The application of the concept needs to be analysed in practice and also analysing decision-making cannot be done only by means of literature. Decision making depends, inter alia, on context and human factors in a certain period of time. Interviews with experts will therefor support the search for the governance effects. The problems in practice can be allocated and analysed from cases. Several interrelated cases will reflect on the single case study. The cases will be chosen depending on their characteristics explained in 3.3. Comparisons will be made on the way the decision making process has been executed, governance methods that have been used et cetera.

3.2 Introduction of governance models

The causes that have led to the problem of this research are based on institutional aspects (see chapter 1). Institutions are developed by society to govern the interrelations between one another. They consist according to Tang et al. (2005) of both formal and informal rules, norms and practices that influence understanding, knowledge, resources and interests of the actors. Therefor do institutions determine the structure and the patterns of the actors interactions on a daily basis. These institutional mechanisms govern the relationship between the stakeholders in a network during a decision making process and provide barriers and stimuli which influence the organisational behaviour (Tang et al., 2005).

Chapter one described that two different governance models are being studied in order to investigate the effects of governance on policy integration in TOD. The divergent model refers to an institutional governance method where the integrated station development is implemented separately by multiple entities. The convergent model on the other hand is designed to implement integrated development by a single entity. The governing effects of implementing TOD's by separate parties or one single entity is being analysed through these models.

Tang et al. (2005) distinguish and identify two alternative institutional forms in governing and coordinating an integrated transformation of transit and urban development. The governance models that are used for this report are subsequently derived from the institutional forms that are presented in Tang et al. (2005). These institutional forms are in this research partly adjusted and identified as divergent and convergent governance models. The convergent governance model is in addition inspired by the governance approach that is used in Hong Kong. The so called 'Rail + Property model' is further described in Appendix A. The two models used in this research (divergent and convergent approaches) are up to this subchapter described in a nutshell. The following main similarities and differences between the models are set up in this section.

Divergent governance model; a multi entity approach

This approach refers to the government disposal of individual land parcels separately for property development by the developers and for railway construction by a transport agency. The transport agency is one of many developers and possesses the role of constructing the railways and the stations solely. Properties are not being developed on top of the stations but in the surrounding area by public or private real estate developers. The divergent governance model represents government planning, assignment, attenuation and restrictions of private individual rights over the use of land resources in and near railway stations. This institutional form of land use governance involves public-sector decision making, statutory framework and third-party regulation and enforcement by the government. The coordination under this approach is provided by several governmental instruments to bring all the key stakeholders in developing the area. Project implementation relies mainly on the interactions between these market players and the various government departments, their interpretations of the many government policy regulations (Tang et al., 2004).

Convergent governance model; a single entity approach

The convergent governance model finds its origin in Hong Kong. The convergent governance model provides an alternative institutional approach than the divergent version. Which puts the single entity at the central stage in planning and coordinating the development of the station sites. This approach does not take away the need for statutory town plans, land lease documents, government policies and regulations, but unlike the previous model, they only frame rather than dictate all the development particulars. The site development details are expected to be worked out by the single leading in negotiation and consultation with the government departments and the

developers. The single leading entity possesses exclusive privileges for the station sites as an incentive to plan and develop the sites. The development takes place in such a way that the values of its entire development projects are maximised and include all possible external benefits generated from railway and property development. The single entity functions also as a mediator between the key actors by providing a platform to resolve conflicting interests of all the relevant parties that are involved in relation with the site development. The process of in which manner it is executed in Hong Kong is described in detail in Appendix A.

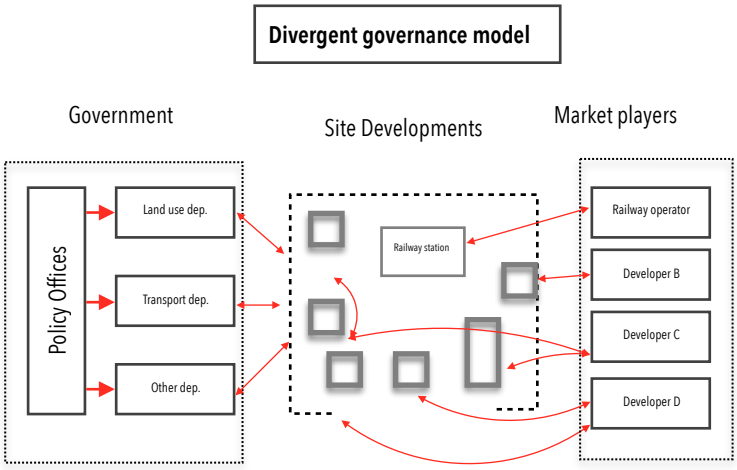


Figure 11: Divergent governance model (own ill. based on Tang et al., 2004)

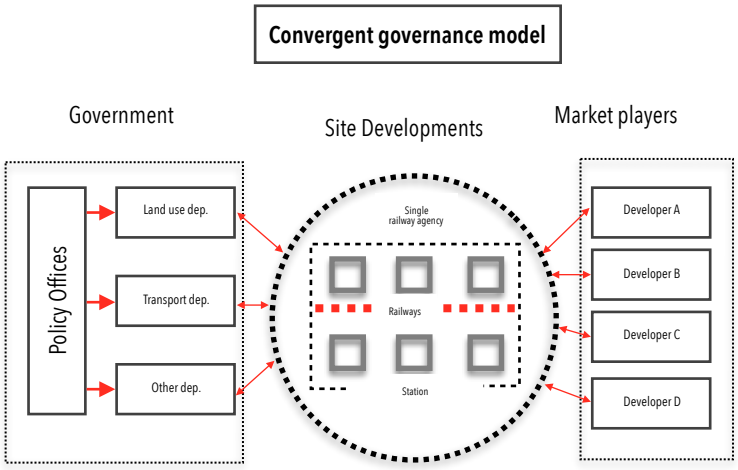


Figure 12: Convergent governance model (own ill. based on Tang et al., 2004)

3.3 Case selection

Governance approaches of TOD projects exists in many different forms around the world. The relation between public operating actors and private operating actors differs very much between these approaches. The government plays in some cities a major role in governing the rail and land use system and in other cases it is more a fusion between the private or semi-private rail companies. The ratio of the interdependence between rail and property development is also not everywhere the same. Railway operators are in most of the cities public entities that are functionally, operationally and financially connected to public authorities, mostly relying on government subsidies to fund transit development. In an increasing number of cases a part of the value add by transit to the real estate is being returned to the public authorities by using mechanisms like auctioning development rights, taxations or co-investment covenants. The developments are coordinated to some extend and managed by the respective authorities and developers.

According to Bernick & Cervero (1997) does Singapore posses one of the most efficient Mass Rapid Transit (MRT) system in the world. The government plays a very assertive role in the development of planning, community design and transport policy. The government is a large stimulator of the use of transit within the city and provides favourable policies to support TOD in the city. The railway operator is privately owned by a government investment company. The urban development in Singapore adheres to the wishes and strict guidelines of the government which provided the foundation for the integration of railway and property development. The railway developments in the city are primarily driven by the government.

Alternatively, cities such as Hong Kong or Tokyo chose to fully integrate governing transit development and land-use to produce revenue and capture highest value through the development of property and air rights. This integrated governing creates a solid basis for higher return which facilitates capturing this funding. Highest value capture is secured for financing transit infrastructure in dense, congested situations, where accessibility is crucial, and the institutional capacity is sufficiently capable of implementing the needed transit oriented developments. Hong Kong's integrated rail and property development governance made railway operations financially viable with the intensive transit oriented built form.

Even though the similarities when it comes to urban and financial integration, do Tokyo and Hong Kong differ from each other when it comes to their manner of governing. In Hong Kong is the railway operator a semiprivate agency (MTRC) which works closely together with the government and private developers to create an integration of rail and property development. It is in the form of a public/private partnership that is going on which is led by a single entity (convergent governance model). What makes Tokyo different from many other cities is that its railway development is primarily driven by the private sector, rather than the government (Bernick & Cervero, 1997; Cervero, 1998). Different private rail companies form together a consortium and work together on building and operating the railways in Tokyo. These private companies had their start in railway and then expanded their business to other related businesses including real estate, bus transport, electricity supply, construction, department stores, entertainment and education (Tang et al., 2004). The government supports these companies through various manners to relieve the debt burden on the companies and encouraged entry of more private firms into the railway industry.

This research started out by getting into the circumstances surrounding the implementation of TOD in the Netherlands. As mentioned in chapter one are in, the Netherlands, many substantive issues taken into account when it comes to stimulating the transition from a car-oriented development path towards a more TOD path.

However do formal and informal barriers still hamper the implementation of such concepts (Banister, 2004; Rietveld & Stough, 2004; Hull, 2011). One of the two attempts of stimulating TODS more in the Netherlands was the set of 'National Key Projects' (Tan et al., 2013). These projects were characterised by being high profile, costly, large scaled and were complex private partnerships that were substantial subsidised by the national government (Commissie Private Financiering van Infrastructuur, 2008; Van der Wouden et al., 2009). Rotterdam Central District (RCD) was the first and one of the six projects to be developed and realised. The single case study will investigate RCD in dept in order to receive excessive insight on the potential hampers that could have taken place.

The difference between Rotterdam and Hong Kong is mainly in how these two railway agencies operate. The railway agency in the Netherlands is divided to such an extend that even the railway agency consists of two official entities which are subordinated to two different departments within the national government. The divergent model refers to an institutional governance method where the integrated station development is implemented separately by multiple entities whereby for example land use is realised by developers and the railway construction by a transport agency. The convergent model on the other hand is designed to implement integrated development by a single entity which could be seen as the trigger factor that is missing according to Modder (2015). In both cases are the transport operators entities which work together with the government and private developers but in different manners. The governing effects of implementing TOD's by separate parties or one single entity is being analysed through these models. Despite the fact that there are different governance models as explained above, this research seeks the depth by means of the single case study to investigate the divergent governance approach that is used in Rotterdam. Subsequently will the results of the case study be compared to two reference cases which lean more to the convergent governance approach; Schiphol and Hong Kong.

The reflective analysis in chapter five has the function to put the conclusions of the case study in a wider perspective by comparing it to reference cases. Schiphol is being added as reference case due to its dutch context while operating in a convergent manner. The airport and its station find themselves in a convergent governance model due to the role of Schiphol group as owner of the entire development. Schiphol Group is officially an airport operator with a semiprivate structure. Schiphol group possesses as a single entity the control over both the aviation and the use of the land and that is unique in the Netherlands. Many airports have a train that travels solely to the city while the train station of Schiphol is part of the main railway network of the Netherlands. The train station is in such a manner integrated with the airport that various commuters are able to make use of different transit modals and amities without the need of going outside. By adding Schiphol as reference case is the bridge in scale and context more comprehensible in relation to Rotterdam.

	Public	Private	Hybrid (public/private)
Convergent governance	Singapore	-	Schiphol / Hong Kong
Divergent governance	Stockholm	Tokyo	Rotterdam

Table 5: Case selection (own ill.)

3.4 Overview of research design

The relations of the different parts in the entire research are illustrated in the following research design:

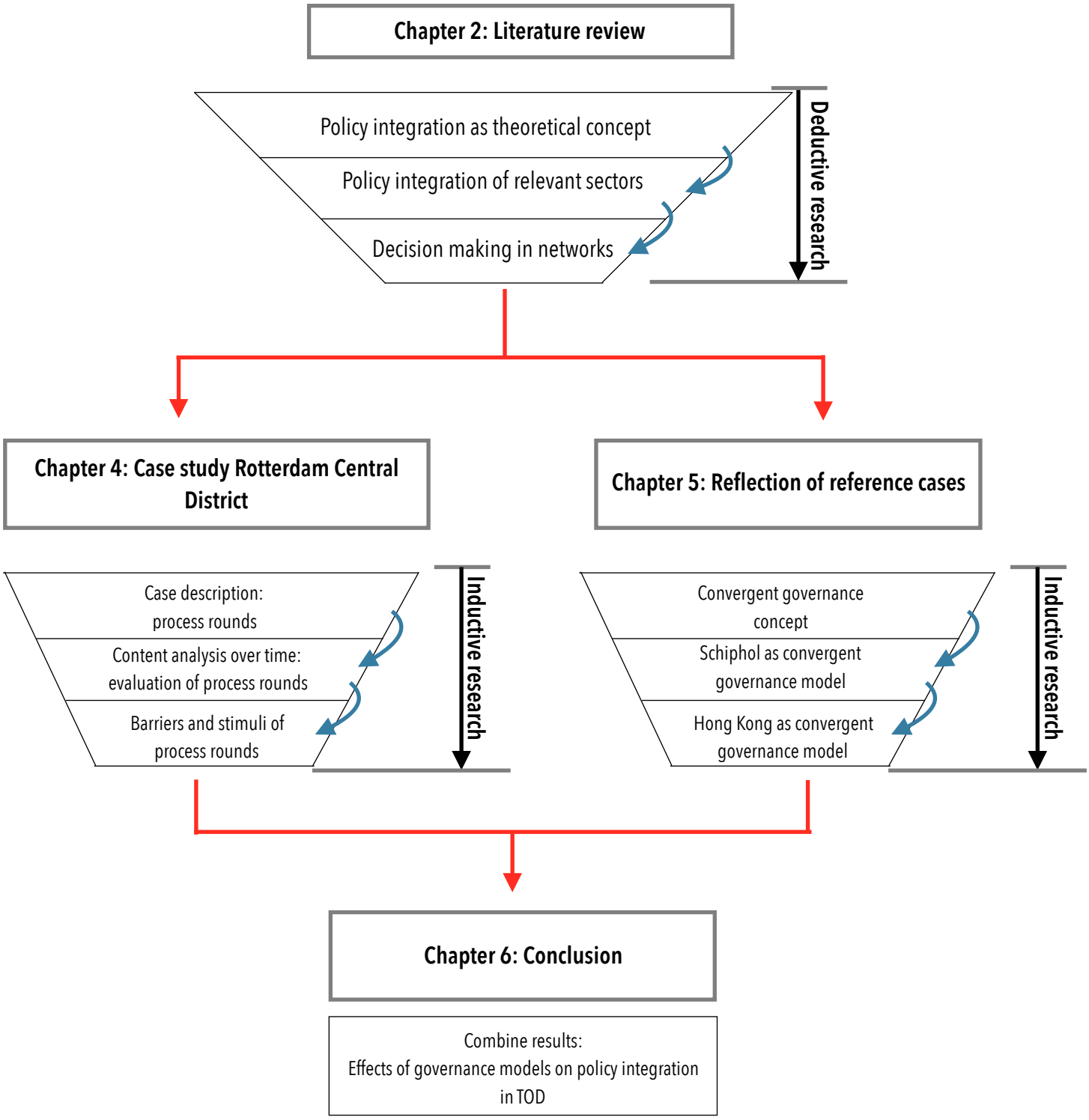


Figure 13: Research design (own ill.)

4. Case Rotterdam Central District as divergent governance model

4.1 Introduction

Many metropolitan regions worldwide are very interested to embrace the TOD concept. Yet do many of these regions and cities, who actually try to realise such a change, experience difficulties in its implementation (Ayres & Pearce, 2004; Clifford et al., 2009; Curtis, 2008; Naess et al., 2011; Marsden et al., 2011). Literature states that several institutional barriers play a key role, they are considered as the most crucial to overcome (Banister, 2005; Rietveld & Stough, 2004). Some of these barriers are formed because TOD concerns various domains, where each domain contains a lot of different active actors with their own language, methods, interests, goals and markets (Tan et al., 2013). The barriers of implementing TOD that are stated by literature, are too ambiguous due to the specific characteristics of each context (Tan et al., 2013). TODs are in a dynamic institutional context by nature very complex planning attempts on a metropolitan level (Kaufmann et al., 2008; Pfleiger et al., 2009).

Next to investing time and attention to the substantive merits of TOD, a parallel discussion on the implementation of TOD strategies (TODS) at metropolitan level has appeared (Bartholomew, 2007; Curtis et al., 2009; Filion & McSpurren, 2007). The events that occur in such a TOD implementation are being observed in depth. This chapter analyses the governance process that took place in one of the largest and considered successful transit developments in the Netherlands. The focus of this part of the research lies in identifying the dynamics of the decision making process and the barriers that appear by making use of the round model method. The decision making process is divided in four main rounds that start and begin at a particular point in time.

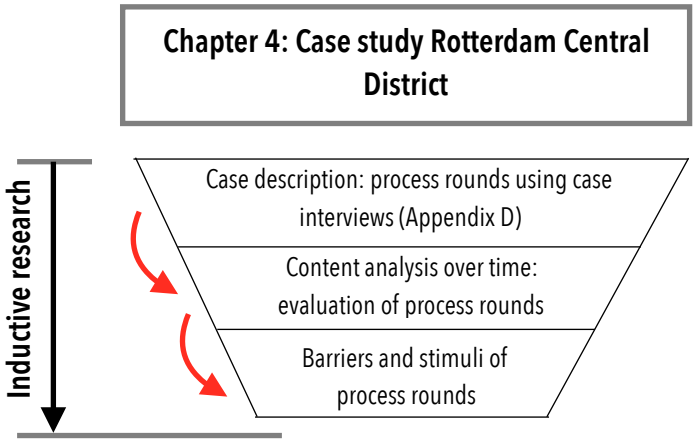
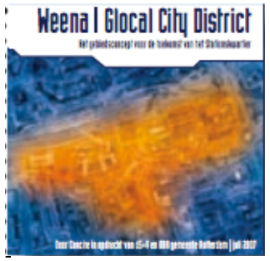


Figure 14: Research design chapter IV (own ill.)

Timeline RCD



1998 2001 2002 2003 2005 2006 2007 2008 2009 2010 2011 2012 2014 2020

2 3 5 6 7 9

Workshops: ProRail & HollandRail Consult

City council elections

Forming RCD: Designers, Developers and Municipality collaboration

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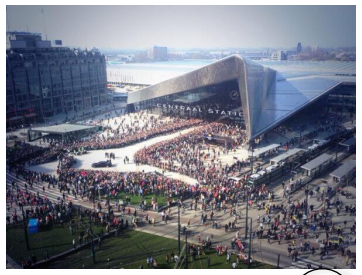


1. HSL National Key Project
2. Masterplan Alsop
3. Spatial functional design: Station Building
4. International Competition Station
5. Vision DV+S and Stakeholders RCD
6. Masterplan Maxwan and DS+V
7. Quality Plan Maxwan and DS+V
8. Schiekadeblock - Weena blvd. Design Guidelines
9. Land Use Plan Schiekadeblock
10. Opening Station

Figure 15: Entire timeline of Rotterdam Central District (own ill.)

Timeline RCD

2

1998 — 2001 — 2002

City council elections

1

1. HSL National Key Project
2. Masterplan Alsop

Figure 16: Timeline of round 1 RCD (own ill.)

4.2 Round 1: Alsop and the Champaign glasses masterplan (1998-2002)

The involved stakeholders during this round are:

- Ministry of Transport and Water management
- Ministry of Housing, Spatial Planning and the Environment
- Municipality of Rotterdam
- Rotterdam The Hague Metropolitan Area
- Alsop Architects

Developments in the use of public transport were progressing rapidly. In France and Germany were special traces being set up in the nineties for high-speed trains, which significantly improve the travel time within those countries. The Netherlands wanted to join this network in order to strengthen the connection with Schiphol and within Europe. The sustainable idea behind this was that traveling within a thousand kilometres in Europe should rather be possible by train than by plane. In order to realise this the train had to be faster, more efficient and comfortable and the existing stations had to be adapted to these requirements. The dutch ministers were impressed by the station in Lille that had been realised in response to the use of the TGV and they wanted to have the same kind of stations in the Netherlands. The national authorities decided therefor in 1998 to invest in the so-called 'New Key Projects' (Rotterdam Central, The Hague Central, Utrecht Central, Arnhem, Amsterdam and Breda) to make the arrival of the HSL possible. Rotterdam was the first planned station to be development because it was the first station where the HSL stops in the Netherlands and had to function as an entrance. The special aspect about the station in Lille was that an entire urban development had taken place and along with it were the two domains in their physical outcome holistically joined with one another. This helped to ensure that the Ministry of Housing, Spatial Planning and the Environment invested in the key projects (50 million for Rotterdam Central) in addition to the investment of the Ministry of Transport and Water Management.

The transport demand did also increase at regional level in the South wing of the Randstad; residents in the surrounding residential areas that were still under construction, had to be able to move rapidly to their destinations. Residential areas between Rotterdam and The Hague are nowadays connected to each other by means of a high-quality transit connection called the RandstadRail (The Hague, Rotterdam and Zoetermeer).

The old Central Station and the passenger tunnel were less able to cope with the growing capacity of commuters. The threat of an unsafe situation and the urgency to redevelop the station area increased. The area surrounding the station had to be included into the scope of the redevelopment due to its incomplete and unsafe impression. The British architect William Alsop was commissioned by the municipality in 2000 to make a master plan for the station area, from the Statentunnel on the West side to the Pompenburg on the East side of the area. Alsop was assigned to deliver a plan in which solutions were devised for different domains (tram and bus lines, pedestrian flows, new real estate developments and a terminal for train and metro). Alsop presented after a year of work the master plan in 2001. The station consisted of different levels and each transport flow was taken into account. The tram would pass underneath the station and the real estate consisted of large office buildings which were designed in the form of champagne glasses. The plan had to be realised within two years, provided that everything went well. The municipality was initially very enthusiastic about the iconic outcomes of the British architect, but the government disapproved the master plan because it was financial and technical infeasible. A process took place before this project was finally shut down. In 2002 did the electoral debate take place for the new municipal elections and shortly after were iconic plans such as the Champagne glasses of Alsop no longer included in future visions of the

new college. The station plans had to be more austere and functional, but at the same time also attractive and dynamic with an entrance to the city centre. There was no direct connection between the station and the city centre and realising that connection was important. In compensation, Alsop was allowed to build a new complex on another location in Rotterdam.

This event caused a delay during the process of 2.5 years in total and large additional costs before the project even got off the ground. As a result was the municipality limited in its power position. The national government felt compelled to not only be financially involved in the station, but also with the developments. Subsequently, did all concerned parties get involved in the planning of the Central Station: the two ministries, NS, ProRail, Rotterdam The Hague Metropolitan Area and the municipality itself.

4.2.1 Evaluation round 1: Alsop and the Champaign glasses masterplan (1998-2002)

The round starts with an incentive to change the current transit modes with regard to the arrival of the HSL; the increase of the transport demand along with the demand for a qualitative expansion. The ministries and the municipality have made monies available in order to fund integrated interventions for six transit nodes.

Highlighted factors of round 1:

- The ministries did not have any direct involvement in controlling the developments of the master plan during this round. The ministries gave the municipality the assignment to deliver a master plan with solutions for different domains. Despite their lack of experience in station developments did the municipality take the lead in this development. The governance approach of the station development tended during this stage more towards a convergent approach due to the leading role that the municipal arena had taken upon themselves. In addition did the Alsop masterplan include property development on top of the station to generate added value for the entire station development. In the masterplan of Alsop was the entire area taken into account as a holistic and integrated intervention.

- The leading role which the municipality had taken upon as a single entity is an informal one because they remained institutionally dependent on the approval of the government. The development of a public transport terminal fell outside the formal role of the municipality. The inexperience of the municipality in these type of developments was translated in a disapproval of the master plan. This disapproval was not solely based on the inability of meeting the financial feasibility but also on technical shortcomings. The station did not meet all the technical requirements that a station should comply with.

- External factors such as political influences can play a role in the decision of a suitable approach. The outcomes of the election debate in 2002 has led to a change of course in future policies. The station plans had to be more austere and functional.

The round ends with a change of the negotiation dynamic; the disapproval of the masterplan of Alsop functioned as an impasse during the process because the parties had to start from scratch. Alsop is no longer part of the station development and receives a compensation project for it. Subsequently, did all concerned parties get involved in the planning of the Central Station: the two ministries, NS, ProRail, Rotterdam The Hague Metropolitan Area and the municipality itself.

4.2.2 Round 1: Barriers and stimuli

FORMAL BARRIERS:

Vertical authority levels and financial interdependencies

The traditionally separated sectors of property development and transport are coordinated across different levels of authorities. The manner of policy making is in the Netherlands strongly influenced by two aspects; the decentralised unitary state and an ingrained need for consensus. These aspects have formed the multi-levelled system of co-governance between various stakeholders from different government departments and scale levels (national, provincial, regional and local). The separation of authority responsibilities is encouraged by the financial division system which leads more to competition rather than integration. This is clearly reflected in the manner in which the government retains its financial position and thus also maintains the dependent relation with the municipality. In terms of urban content, the municipality has more affinity with the developments of the city rather than the government departments do. However is the municipality forced to be dependent on the approvals of the government before they can proceed a decision making process. Thus even though did the municipality desired a leading role as a single entity in a project, they are not able to because of their inexperience in station developments.

Political influences

External factors such as political influences can play a role in the decision of a suitable approach and that could hamper the integration of transit and land use. The outcomes of the election debate in 2002 has led to a change of course in the future policies. The station plans had to be more austere and functional and that could lead to not adding property on top of the station.

Timeline RCD

3. Spatial functional design: Station Building
4. International Competition Station

Figure 17: Timeline of round 2, RCD (own ill.)

4.3 Round 2: Separation of the integrated plan (2002 - 2004)

The involved stakeholders during this round are:

- Ministry of Transport and Water management (V&W)
- Ministry of Housing, Spatial Planning and the Environment (VROM)
- Municipality of Rotterdam
- Government Rail Agency (ProRail)
- Dutch Railways (NS)

All involved parties decided to participate in the planning of the Central Station project after the disapproval of the Alsop plan. This round during the process was experienced as rather chaotic according to an interviewed respondent who was representing the national rail agency (ProRail) at that time. The Dutch Railways were just shortly before divided into two entities with their own focus namely NS (commercial section) and ProRail (execution section). It was initially not intended that ProRail would play a role in the New Key Projects because of the separation. The separation had the consequence that ProRail would no longer be a player in the field of stations. The specific role of ProRail still had to be filled in and was therefore very unclear. The municipality was mainly specialised in the development of spatial planning and urbanism. The station in particular was seen as part of the urban development, whereby the municipality preferred to realise it without governmental involvement from the rail entities. Prior to the official disapproval of the Alsop plan, the national rail agencies (ProRail & NS) were put forward by and on behalf of the government to assess the activities of the municipality for the station. A program of requirements where the expectations of the government is captured was lacking, despite the fact that both ministries (V & W and VROM) made monies available to invest in the station. At the time, the rail entities did not impose any requirements for the station for fear of a budget increase in case the development would be more expensive. The government took the other five municipalities that would follow Rotterdam into account. As a result, the municipality was able to take control in their own hands during the Alsop process. This caused tension between the municipality and the transport entities because the municipality was obliged to collaborate with these actors on this development. The municipality was not pleased about this collaboration after experiencing a large amount of control over the project. It was unclear for ProRail which role they had to fulfil since they were the only party without explicit requirements from the ministries. ProRail took therefor the step to compile a program of requirements in cooperation with a consulting company. The compiled program formulated the specifications that the station had to meet in order to fulfil the desired view. Ultimately, this resulted in a program of requirements that had created some order in the process. A lot of work had to be done in order to turn an undefined idea into a specified plan. The budgets were set as result of this definitive design. The budgets were for the transit terminal Rotterdam Central 352 million for the urban part, 300 million for rail and NS contributed 60 million. A new tender followed but this time around was it scaled down to the station.

In order to create a holistic and integrated area development was the approach of the NSPs initially to join the spatial development of the station area with the development of the station itself. During the meetings between the clients, it was decided to mainly focus on the public transport terminal (train station with metro, bicycle, buses and trams) and to leave the spatial domain to the municipality. Addressing the entire area (2 km long) was seen as "too much to handle at once" as opposed to the Alsop plan which covered the area holistically. There was a rush to develop the station which was partly caused by the delay of the Alsop plan. The involved actors did not entirely connect with each other and they did not understand each other's specialisms. The ministries were therefor in favour of each party to focus on its own discipline.

The planning of the RandstadRail continued rapidly, while the review of the station still took place. It was no longer realistic to keep the renewal of the station and the metro station connected to each other. The subsequent detachment took place namely 'the horizontal cut'. The metro station was already in the beginning of the realisation phase when the train station was still being designed. The metro station was part of an underground urban intervention which consisted of various facilities (bicycle parking, parking garage and the Weena tunnel) and these were also part of the project Rotterdam Central. There was pressure on developing the public transport terminal partly because the realisation of the RandstadRail had taken place earlier than the Rotterdam Central project. The two developments had to be physically connected for the reason that the metro station was placed underneath the station hall.

The tender was won by Team CS in the summer of 2004. The winning team consisted of an association of various architectural firms (Benthem Crouwel Architekten, Meyer and Van Schooten Architects and West 8 urban design & landscape architecture). When the design of the station was finished, it turned out that the roof of the station extended above municipal territory. The municipality wanted to prevent any development of the station hall by ProRail thus was a vertical cut made in the station building a result of this prevention. ProRail took care of everything above and below the tracks and the municipality developed the station hall. The national government had financial control over the 'rail' domain, the 'urban' domain was financed by the municipality and partly by the national government. NS functioned during the project also as a project developer because of their interest to add quality to the station by developing commercial real estate.

4.3.1 Evaluation round 2: Separation of the integrated plan (2002 - 2004)

The second round made its start after Alsop excluded itself from the Rotterdam Central project. Subsequently, all concerned parties were involved in the planning of the Central Station: the two ministries, NS, ProRail, Rotterdam The Hague Metropolitan Area and the municipality itself.

Highlighted factors of round 2:

- The early separation of the Dutch Railways into NS and ProRail caused confusion within the municipal departments. ProRail experienced a moment of confusion which was caused by the fact that the rail agency would initially no longer be involved in station developments. It was not intended that they would play a role in the six key projects. This was on one hand disadvantageous because the interpretation of their role was unclear. On the other hand was the unclarity about their role an opportunity to get involved with these large projects.

- The transport parties were given the task to assess the work of the municipality on behalf of the government. The dilemma of this assessment was that no requirements were drawn up by the government. A concrete vision with a corresponding program of requirements were missing which resulted for transport entities into carrying a role without any content and that caused ambiguity about their purpose in the development.

- The government lost control over the project at the moment that no requirements were passed on to the municipality and the architect. The dilemma faced by the government was that drafting of requirements entailed the risk of costs increase of the first key project. Increasing the budget of the first project means that the other five key projects expect and demand the same increase.

- The governmental parties were given a role to assess the developments taking place in the city that is owned by the municipality. This created tension between the parties as they also have a different view on the developments and the municipality was not entirely satisfied with the arrival of NS and ProRail during this round. The two worlds collide with each other; the municipality thinks mainly from the perception of the resident, NS of the commercial user and ProRail from functionality and within budget.

- The Ministry of VROM initially participated in the key projects and made a financial contribution to Rotterdam Central because of the spatial integration of the transit terminal. During this round, a decision was made to focus on the transit terminal and its immediate vicinity. The wider integration of the entire area was abandoned due to the delay of the Alsop masterplan that had been incurred. It was a conflict of interest that the Ministry of VROM invests in a station development, because stations are not part of its financial portfolio. The Ministry of Transport and Water management is institutionally seen financial responsible for stations and Ministry of VROM for land use.

Three disconnections take place during this round; Focus on the station which is disconnected from the area development, the horizontal cut concerning the metro station and the vertical cut of the station hall and the tracks. As a result, the architects had to deal with three different clients for the project, whereby they also had to connect the station to the work of the metro which also had a different client (RET). The three different clients had each a different vision and tendered the project later on to ten different main contractors. The architect team itself was a consortium that consisted of three different design offices. In a nutshell; the parties did not agree with each other, with the result that the divergent approach took over the control and each party focused on its own discipline.

4.3.2 Round 2: Barriers and stimuli

FORMAL BARRIERS:

Fragmented ownership

The municipality was not the only party that has an influential position when it came to land ownership. This ensured that the municipality was dependent on the other landowners. These could be other public entities such as NS and ProRail or private entities. This increases the threshold of switching to integrated area development and requires more conviction from the other parties.

Making the joint added value of an integration clear, through references, is a stimulus to promote the cooperation between different parties with different interests. Ownership plays a very important role in how choices are made, it can provide integration or reinforce fragmentation. For example when a station is already separated from its environment is able to be split up again in the railway section and the station hall. As a result, there may be different delegated clients (municipality for the urban and ProRail for the railway domain) with different architects and contractors. In this way the fragmentation can be translated into both the development phase and the realisation phase of the development.

INFORMAL BARRIERS:

Lack of long-term vision

The objectives of the dutch policies have changed in the past forty years multiple times regards to transport and land use. This unstable manner of working does not match the strong requirement of TOD implementation because it demands strong focus and continuity over a long period of time. There is no room for constant fluctuation of policy goals and concepts when the aim is to implement TOD successfully. An example of this is that the underlying idea of the key projects at first was that the station and spatial development would take place hand in hand, but that entire idea was released after the disapproval of the Alsop plan. The integral approach as fundamental aim of Alsop's masterplan was not taken from the previous plan into the redesign of the station.

Limited insight

Addressing an entire area is seen as "too much of a good thing", national parties tend quickly to focus solely on a public transport terminal itself. This is because the public transport hub is seen as the engine of a station area, but that does not always have to be the case. A station without useful spatial development can function in time as an abandoned transfer point. Stakeholders reason from their own interests and lack of insight concerning the empowerment of common qualities. Not being able to have this insight may be related to a cognitive impairment of an individual, but also because of institutional restrictions such as short political terms of governments. It is up to the problem owner to involve parties to see the bigger picture and where everyone can benefit from the common added value.

Delay in initiative phase

Municipalities taking control of the station causes delays in the process and unnecessary costs because they lack the knowledge and experience to develop the entirety of the project themselves. The moment that a delay takes place, one chooses the easy way and operate separately. The development of the station is given priority over the environment. Collaboration requires a lot of time investment from all stakeholders and from the beginning of the process in order to put an integral area concept together in which each actor can work within the scope.

Affinity with the city

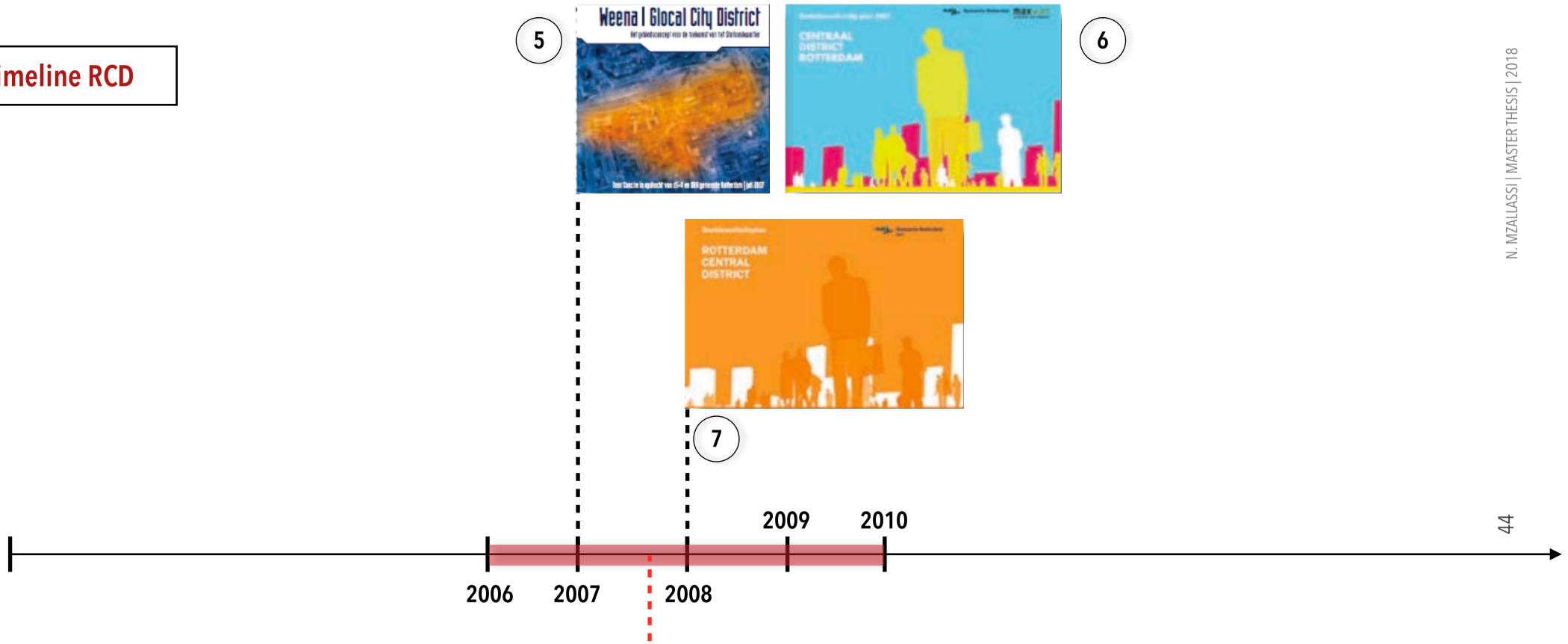
A multitude of stakeholders have their own visions, way of thinking and a lack of clear definition of each role or processes within the project. Accountability for policies and their effects are departmental in nature, which means that policy measures are usually primarily designed to fulfil departmental goals and targets rather than to address wider objectives outside the department. For example, a number of departments are responsible for one aspect of the problem or another but none is responsible for the integral development in its entirety. Integrated policies cross different sectors and require organisational support that transcends institutionally defined policy fields, while respecting departmental portfolios.

FORMAL STIMULI:

Generate value

The values of an integral solution could be made visible in so many places. The use of reference projects is very attractive because it makes the profits for each discipline in the network visible. Using reference cases visualises especially the already existing value of that initiative, but also the added value to the area. The fact that you can illustrate and realise this added value is the incentive for especially market players because of their commercial mindset. The essence of area development is that physical, economic and social processes are coordinated into one development. Whereby multiple actors from divers disciplines with opposite interests are joined together to bring a development to the next level by generating value.

Timeline RCD



5. Vision DS+V and Stakeholders RCD
6. Masterplan Maxwan and DS+V
7. Quality Plan Maxwan and DS+V

Figure 18: Timeline of round 3, RCD (own ill.)

4.4 Round 3: Land use program Rotterdam Central District (2006 - 2010)

The involved stakeholders during this round are:

- Ministry of Transport and Water management
- Ministry of Housing, Spatial Planning and the Environment
- Municipality of Rotterdam (Urban Planning and Housing Department)
- Municipality of Rotterdam (Gemeentewerken)
- Municipality of Rotterdam (Grondbedrijf)
- Real estate developers
- Investors
- Real estate owners

The implementation agreement for the station was closed in 2006 by the municipality and the government. In this, clear agreements were made and agreed upon between the municipality / ProRail and NS / ProRail. The municipality and NS were not willing to record agreements in writing with each other at local level. The agreements between the municipality and NS have gone through ProRail, and it has been laid down at national level that NS has a participation obligation in co-financing the key projects. A national framework agreement has been concluded between the municipalities / the state / NS and a letter of intent between NS / ProRail / the municipality about the management of the station and the three owners (early 2007 - April 2008). The final design of the station was approved in 2007 and the execution phase started.

Until then, the Rotterdam Central project was led by the technical department within the municipality. A disadvantage of this approach is their quite technical view on spatial interventions. In the Rotterdam Central project existed also of construction underground, and because their main focus on this part of the project, the above-ground consequences were not simultaneously looked at, such as insufficient coverage for trees. The municipal department of Urban Development and Public Housing strived to deliver both underground and above-ground quality. In order to achieve this most strategically, a quality team has been set up. The team consisted of the Chief Government Architect, the Railway Construction Master and the Head of Urban Planning and Housing Department. This quality team has had a stimulating effect in pursuing spatial quality in the decision making of the municipal steering group.

The station quarter was characterised by the fact that many developers in the area owned property positions. Rotterdam Central was an independent development which these property owners and developers had no connection with. They were also not aware of the state of affairs surrounding the station, it was all separate from each other. In addition, it also became apparent that the real estate developments around the station were mainly private and the station developments were public. The arrival of the Rotterdam Central project has given impetus to stakeholders in the area to develop a program for the entire area. The urban development of the city characterised itself as a 'project city' without a common vision for the area in which a building is part of. Putting together a vision for an integrated area development was something unknown for the city and Rotterdam Central District was the first area that has been tackled integrally.

Around 2005, various parties (including property owners, project developers, investors and users) came together, on the initiative of the municipality, to formulate an area concept and related goals together with stakeholders who were already connected to the station. The coordination of these meetings was led by a program manager from the Municipality of Rotterdam, which at the same time was assigned different areas with a similar development (VIP areas). The alderman did initially not fully support the idea of developing a vision for the entire area because of the expected time frame that a vision would take (4-5 years). On the contrary, the department of Urban Planning and Housing had ensured that the RCD vision would be completed within six months. In this vision, the municipality

had drawn up preconditions in which the parties had to stay. ProRail and NS mainly had an informative role in these meetings and were thus able to inform the others about the station developments. In addition, it was also useful for them to get to know the parties that will mainly make use of their station. The focus of these meetings was mainly on creating real estate value for the area by working on the quality of the liveability of the district. The private parties had a commercial attitude. An important aspect of this was activating the building plinths of the station square. Liveability was a very important element for the municipality; many companies threatened to move to Amsterdam Zuidas because it was more booming and its attraction of young employees.

The station project was separate from the Central District program because the program got off the ground later in time. Two aldermen were also appointed who were each separately responsible for their own portfolio, namely an alderman (Karakus) for the RCD program and a (Baljeu) for the Rotterdam Central project. The intersection between the Rotterdam Central project and the RCD program took place mainly within the municipality. There was a steering group with NS, ProRail, the alderman and the Minister of VROM above the municipal council. There was no financial interconnection between the station and real estate in the area.

4.4.1 Evaluation round 3: Land use program Rotterdam Central District (2006 - 2010)

The start of this round ran parallel with the formal recording of the agreements concluded in the previous round concerning Rotterdam Central. The final design has been approved and the implementation phase begins.

Highlighted factors of round 3:

- Initially were the Rotterdam Central project and the RandstadRail led by the technical department within the municipality. Their technical approach of Rotterdam Central had an impact on the spatial quality. There was a lack of coordination with regard to the consequences of the underground choices on the aboveground development possibilities. The requirement was to deliver both above- and underground quality and this was not taken into account. The technical costs for the underground developments considered more important than above-ground spatial investments. This assumption was made, while the resident / user experiences the holistic view that mainly takes place above ground. The engineers saw less urgency in spatial quality because of their inexperience in spatial development. They are used to more technical assignments such as underground parking garages or tunnels , etc.

- The presence of a quality team was missing initially which had an impeding effect on the decision making between the various municipal parties. The set up of a quality team was essential for the integration of the station area because the spatial domain as well as the transit domain were represented in the composition of the team.

- The stakeholders in the city were not used to integral area development that is subject to a vision. Integral area development is based on spatial, economic and social grounds. An area does not generate value without the attraction users which is caused by holistic quality. The explanation that the integral quality would cause a value increase of real estate was needed in order to trigger developers and investors to collaborate on the RCD program. The real estate of the station quarter was mainly owned by private stakeholders. The municipality was therefore dependent on the property owners of the station area. In order to increase the quality of liveability in the area, the municipality was obliged to collaborate with the property owners and project developers who were active in the area. There was beforehand no connection between the property owners and the station, they were not aware of the developments around the station. This does not correspond with the initial aim for integration of transit and land use in the key projects.

- The alderman was initially not pleased with the suggestion of developing a vision because of the duration that a vision takes in order to get it off the ground. Lots of conviction was needed in order to complete the vision in six months instead of 4 or 5 years.

- A conflict of interest occurred; NS wants to organise the station commercially with respect to the municipality that wants to keep the station hall empty and transparent. This conflict of interest formed one of the main reasons for the municipality requiring to take the development of the station hall in themselves instead of ProRail. The municipality required that everyone was able to make use of the station due its public funding.

It is clear to see during this round that the municipal arena has realised that a station is not just a station but a transformer of an urban area which is part of the city. It is within the responsibility of the municipality to show this. The turning point takes place; the manner a city can be developed from sectoral to integral and that is a breakthrough in the context of policy integration. The project managers from the municipality take the lead of the composition of the RCD program and ProRail ensures that the station will be realised. An advantage for the municipality is that the private parties are familiar with each other and they themselves also benefit from an improvement of the context.

4.4.2 Round 3: Barriers and stimuli

FORMAL BARRIERS:

Public vs. private financing

It is very difficult to persuade railway entities to have an innovative design because it causes too much uncertainty for them. The risk of not meeting the objectives of cost control and high management is rather avoid. As long as infrastructural and public spatial interventions are publicly financed, a direct incentive for rail parties to get private parties involved in TOD areas is missing. Room for innovative solutions derived from the market is given when market parties involve themselves in such developments by investing in them. In addition, this involvement obliges the rail parties to expand their horizon with respect to their list of budgets which are received from the government. The rail actors have to contribute to an added value for the development as a whole.

INFORMAL BARRIERS:

Different levels of authorities

Entities which operate within the city tend to seek each other earlier and come sooner into an agreement than with governmental departments. The ministries have according to the municipal actors no affinity with the city. These parties possess a much more commercial view on station developments. The quality of such a development depends very much on the empathy the parties have for these developments they have invested in. This so called empathy for spatial developments is lacking by the engineers of ProRail, NS and municipal works. They are earlier inclined to invest extra in technical shortcomings rather than spatial ones. These technical solutions are not visible to the user as is the case with investments made in spatial development. Station developments are by such engineers seen as technical developments instead of combining them with spatial qualities. The quality of a holistic experience of the user is an unknown territory for these engineers and thus less appreciated.

Timing of transit and spatial development

Integral urban development that does not take place at the same time ensures that the station is seen as a project and the spatial area surrounding it as a loose piece. The two developments have taken place at different moments in time and executed by different parties. These are two separate clusters in which the transport parties are mainly concerned with the functioning of their own domain (less or not being busy with the city around it). The municipality coordinates the connection of the station to the city and the surrounding area with itself. The actors do not completely agree with each other because they do not understand each others specialism and because of that they cannot place themselves in one another.

Thinking in projects

The project developers were developing their own advanced plans separate from the surrounding area. Redevelopment of these plans is viewed as a decline in their process. The development of a joint area concept can become ambiguous and an obstacle at this stage for the developers. However, the value of the already made plans by the developers is lost at the moment it no longer corresponds with the urban context. The initiator should involve the developers to develop a joint concept for the area from the beginning.

Social place-making

Social place making is one of the most important characteristics of a TOD and is an aspect that concerns all stakeholders. The plinths of the surrounding buildings play an essential role in creating social place making and that makes the collaboration with private parties necessary. The private parties are only willing to take steps if the ideas are commercially feasible. This condition forces the problem owner to put pressure on the private parties to carry out the feasibility study.

Segregation of duties

The government decided in 1995 to separate the Dutch Railways shortly before the major investments in the key projects. Actors find that the difference between the two parties cause confusion. A number of municipal actors also believe that ProRail and NS should merge as quickly as possible because the confusion cannot be dealt with.

Unnecessary conflicts

The intention is to start from a shared vision and a shared feeling about what you want to realise. It goes without saying that it is occasionally a struggle between the various parties to realise their interests. A barrier to cooperation is formed when parties are constantly in conflict about the execution of parts of a building. Different interests cross each other such as the commercial view of a party such as NS and the municipality with its societal interests.

Lack of commitment and urgency

Lack of commitment and urgency plays also a role in this struggling institutional and political context. The stakeholders differ from each other when it comes to having a shared vision, less political will and commitment. The inability to establish ideas is caused by a lack of commitment or ambition. This absence is partly fed through the mismatch between long-term ambitions and short-term gains. The policy ideas are often too ambitious than the actions in practice. It also turns out that the decision makers are seen as opportunists because their focus on short-term results instead of encouraging a long-term goal and vision for spatial quality. And public stakeholders show a passive attitude towards processes involving private stakeholders. It is for stakeholders very difficult to have a vision on the longterm profits, because people tend to rather see the barriers first than the potential stimuli. The profits of integrated area developments appear at the end of the ride.

INFORMAL STIMULI:

Shared problem ownership

A problem should not be formulated as the problem of a problem owner. All parties involved share that problem ownership. 'It is our problem and therefore also our solution', then everyone is prepared to look creatively for solutions. In order to get this far, the goal must be well formulated and substantiated.

Innovative solutions

Sometimes both the academics as well as the government will not be as innovative as the market players. Sometimes when you leave it to the private sector, they will come with these innovative ideas that handle the complexity well. There are so many stakeholders involved and there is no fixed role of any one of them. Somehow the private sector has really been more innovative so to speak in order to realise all these benefits. The government has to make sure that all the regulations or the social benefits. At the end of the day it is about all these stakeholders seeing each other eye to eye and seeing the benefits of developments and the communities benefit that it works. You should definitely involve the private stakeholders to stimulate innovative ideas in order to give the area an impulse.

Creating a horizontal quality team

Putting together a quality team promotes the pursuit of an overall improvement in the quality of the area that everyone benefits from. By drawing this horizontal line (Chief Government Architect, Chief of Government Architect and Municipal Head of Town Planning), all sectors are taken along and each party should listen to the decisions made by this team. It is important that this team often meets and the different parties involved in an integration concerns quality. A building alone does nothing, you have to have a building in the area.

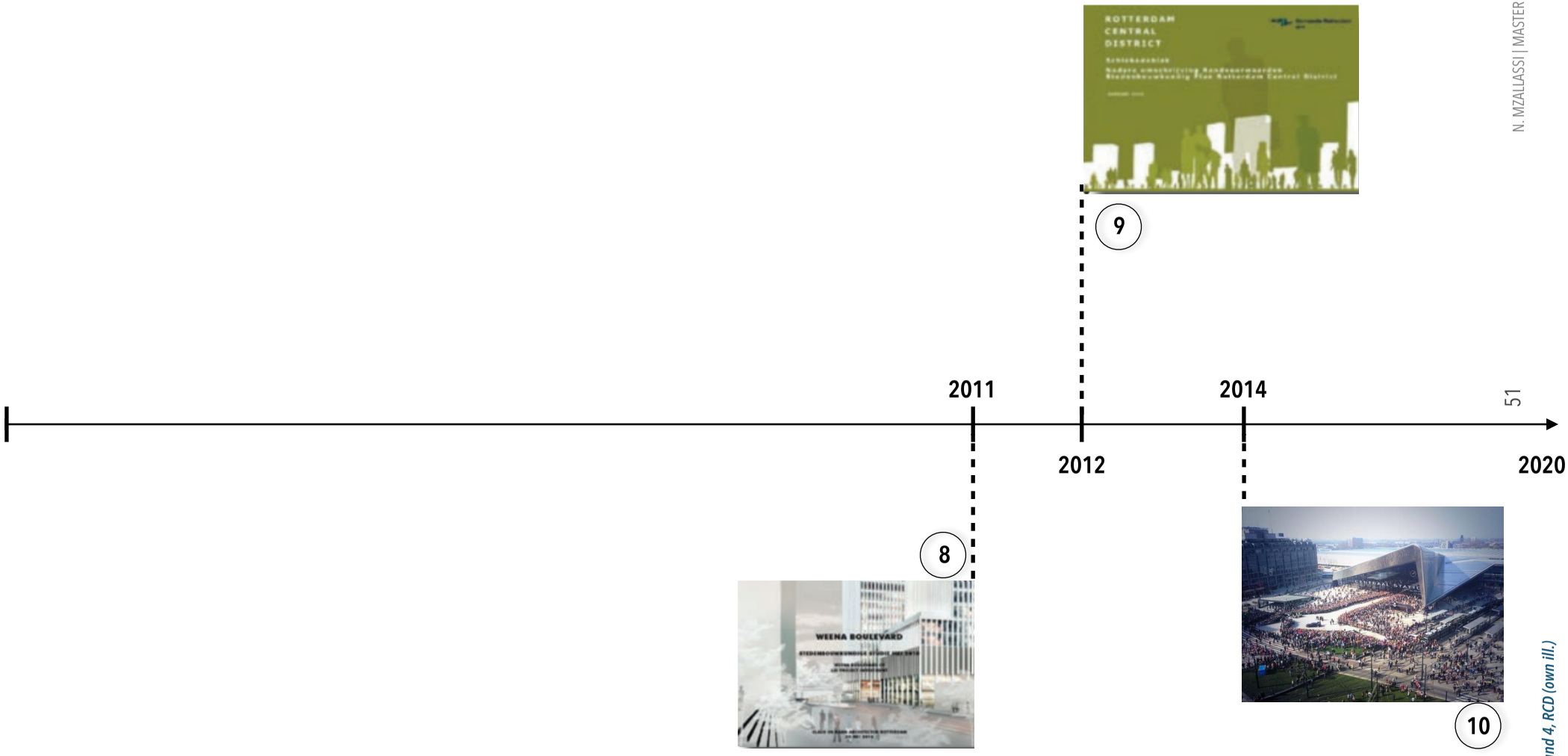
Insight

As soon as each party realises that they have an interest in looking for someone else, it works very much as an incentive. The largest stakeholders will also draw the most attention and attract new interested parties in the process. Ultimately, it is the individual interests of the parties to participate. It helps to have a tractor that can talk well, has passion and is a connector within different parties but also within the municipality. This requires sincere interest, interest in people and knowing where to find them. Connecting in these areas, finding each other and being enthusiastic is incredibly important. It is also important to show that you are part of the total, the city, the country and the world.

Personal relationships

Good personal relationships between key players, moving each other's interests and problems together are strong stimuli. Remaining in your own interests constantly does not add value, can move someone else's interests and the way of dealing with it is very essential. The more often parties work together, the more the familiar terrain becomes and his tasks become clearer.

Timeline RCD



8. Schiekadeblock - Weena blvd. Design Guidelines
9. Land Use Plan Schiekadeblock
10. Opening Station

Figure 19: Timeline of round 4, RCD (own ill.)

4.5 Round 4: Aftermath of the financial crisis (2008 - 2014)

The involved stakeholders during this round are:

- Municipality of Rotterdam
- Real estate developer
- Real estate owners

Part of the property in Rotterdam Central District ran into financial problems during the financial crisis that broke out in 2008. In contrast to real estate, the investments of Rotterdam Central had already been paid 10 years earlier, and this ensured that the project was not delayed during the realisation phase as a result of the crisis. One of the project developers threatened to go bankrupt and had three major construction projects for offices and dwelling. Office building 'Groot Handelsgebouw' was intrigued by the new office buildings (First) due to prevailing vacancy as result of the crisis. The owner of Groot Handelsgebouw objected to the implementation of the zoning plan. This objection led to a lawsuit. The incumbent parties and the newcomers carried different interests.

Schiekadeblock was a building of cultural-historical value and was also owned by the bankrupted project developer. The building would initially be demolished to make room for housing. They planned to demolish the building in order to remain the idea that something would still happen despite the fact that the developer threatened to go bankrupt. The municipality has strongly opposed this because of the fear that the project developer was not financially strong enough to get the housing off the ground. The municipality feared for a function replacement such as a parking lot. Instead has the old building been transformed into a creative breeding ground and decided to opt for temporary amenities. Users were able to temporarily rent at low rental rates.

The project developer went into further financial problems and the municipality had to take back the land that it had supplied, including the buildings, and that cost the municipality an amount of 52 million euros. The municipality took a long-term lease with the project developer in order to return the investments in the future when the economy would increase. The municipality suddenly became the owner of a large part of the RCD area. The municipality had to think carefully about what they were going to do with those buildings, so they revised the vision for the area. The revised vision focused on ensuring to create an innovative piece of city where an environment is created where starting companies have a chance. Large companies were able to look closely for new start-up initiatives to manage innovation in their own company and younger companies often did not have the experience and the money to get off the ground, so they found that connection interesting.

4.5.1 Evaluation round 4: Aftermath of the financial crisis (2008 - 2014)

The fourth round began with the financial consequences of the financial crisis that broke out in 2008. The start of this round runs parallel to the previous round; as in round three the parties meet for the realisation of the RCD program and this round a number of changes take place in connection with the consequences of the crisis.

Highlighted factors of round 4:

- The Rotterdam Central project did not suffer heavily from the crisis, as was the case with the real estate in the area. There was no financial interrelation between the two domains a result of which the Rotterdam Central project was able to continue. The real estate market collapsed on the other hand.

- RCD would initially become a business district that made way for residential and office functions, of which two-thirds would be new built. The financial crisis caused a great deal of vacancy in the existing office buildings on which the owners of office building Groot Handelsgebouw responded with a legal objection to the implementation of the zoning plan. This has put the municipality in a dilemma because, in addition to new developments, it was also very essential to maintain the existing stakeholders in the area, as there was a threat that they would move to Amsterdam.

- LSI developed a large part of the area within RCD and the threat of bankruptcy thereby had major effects on the area. The municipality was compelled to make a leasehold arrangement and this has caused tension within the municipality itself. At the height of the crisis, many building projects in Rotterdam seemed to come to a standstill. The municipality bought back the building land in order to give the project developers the financial space to continue building. However did they owe the municipality a large sum of ground lease. The risk here was that if a project developer was able to ensure that the completed properties could be rented out or sold, they could pay off the long-term lease. But in the case of LSI, one of the building projects did not get off the ground and that creates a major problem for the municipality, because it has acquired a piece of land that has become considerably less valuable since the crisis. LSI had a delay of 5 million euros in the payment of the lease in 2014. The Central District was with 52 million the most expensive of the 10 projects the alderman took leasehold arrangement with. The college called it a real continuity risk.

- The "mixed zone" concept with various functions in the area was disrupted by the credit crisis, as a result of which the planned housing no longer got off the ground. LSI was still planning to demolish the existing buildings on the plots hoping for some kind of developments. The municipality was afraid that the construction site would end up in parking places. The leasehold measure ensured the arrival of a mix of amenities in those buildings which is able to create social quality.

RCD is a development where no development is made dependent on the other and that is clearly visible in this round. The finances for the station and spatial development have been separated from each other by different clients at different moments in time. In spite of the desire for integration, this had turned out to be advantageous in this case. At the moment that things went less well with the real estate, the developments around the station could continue with the project in time of the credit crisis, due to the financial independence. In the Alsop plan was the transport node related to the real estate development and that could lead to a cancellation of the transport hub due to the real estate failures. This huge risk was not included and avoid in RCD. The risk of such a financial interconnection is that the proceeds of the real estate tend to be overrated and not managed enough. This

overestimation can cause a considerable shortage on transport investments due to the disappointing real estate revenues. The real estate owners of RCD had a free ride; their real estate has increased enormously in value, because of the station, without contributing a penny for it. Public parties are not able to enforce the property owners to contribute financially to the station development. The difficulties of LSI and the real estate measure have been experienced as complex phases. The municipality has assumed a development value instead of the value of the real estate at that time.

4.5.2 Round 4: Barriers and stimuli

INFORMAL STIMULI:

Innovative opportunities for social place making

The financial crisis has offered new opportunities for the Schiekadeblock. The municipality owns therefore a large part of the RCD area. As a result, an ecosystem has arisen unscheduled in the area, which is favourable for starters with low rents and the entire area has a bottom-up development. They were partially encouraged and tolerated due to their temporality. The municipality had to think carefully about their plans for the buildings. The revised area vision had the function to focus on ensuring that the Schiekadeblock would become an innovative part of the city where an environment is created that offers starting companies a chance.

Financial innovation

The financial situation of a city determines the extend to which the parties are forced to switch to cooperation. Financial feasibility plays in this aspect an essential and stimulating role. When there is nil to no monies available in the form of a subsidy for the development of TOD areas, they are forced to work together in order to make it feasible. Public parties can provide a favourable institutional framework and conditions in which the developers and transport parties can operate.

4.6 Interim conclusion: Case Rotterdam Central District as divergent governance model

The negotiation rounds during the case Rotterdam Central District have illustrated that policy integration appears in a process which takes dynamically place in networks (see Appendix C). The course of the project Rotterdam Central District has changed three times over a period of time.
The first aim for the area was an integrated development (see Appendix B) managed by the municipality and architectural firm of Alsop. On account of this policy integration ambition did the Ministry of Housing, Spatial Planning and the Environment also invest in the development of the station quarter. After the fall of the first attempt did the involved actors decide to mainly focus on the station and its direct surroundings (Rotterdam Central) in order to avoid large risks by keeping the project manageable. This decision was made despite the investment of the Ministry of Housing, Spatial Planning and the Environment. The municipality adjusted, halfway through the process, their perspectives on the station area by bringing an integrated urban program for the land use of the development site (Rotterdam Central District) together with the private actors.

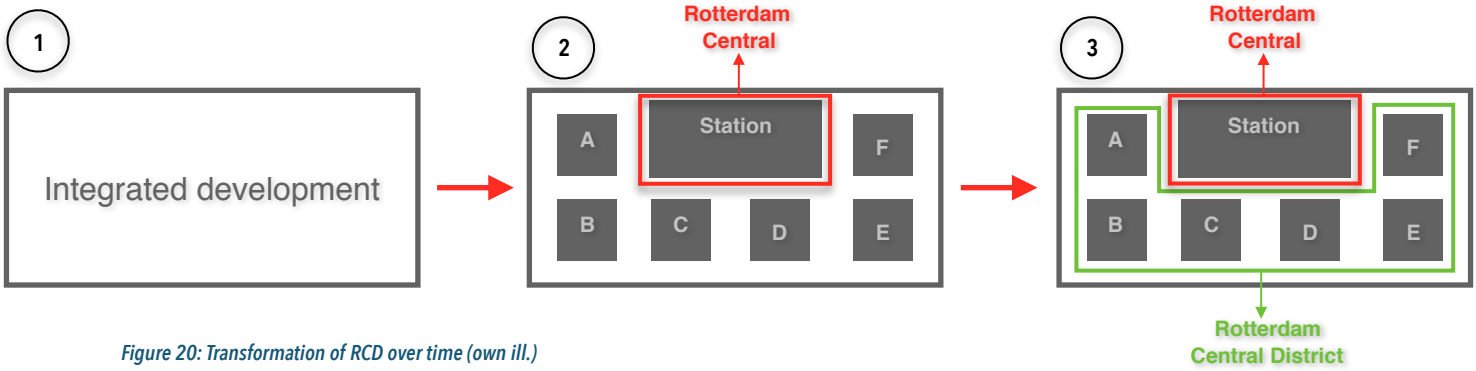


Figure 20: Transformation of RCD over time (own ill.)

Four main aspects are encountered after analysing the case Rotterdam Central District. These aspects played a massive role when it comes attempting to achieve integration using the divergent governance approach.

Land ownership trumps institutional control in policy integration

The case study confirms the theory about the objectives shifts of the Dutch policies regarding transport and land use. During the first round was the aim to develop the whole area in a single integrated masterplan whereby transport and land use is seen as one holistic intervention. The Ministry of Housing, Spatial Planning and the Environment had invested in these key projects for this purpose. Even though the masterplan of Alsop did not match the financial thresholds of the government, that does not mean that integration should not be part of the development. After the first round, the decision was made to narrow the scope down to the station itself and the direct surroundings leaving the initial real estate developments out of the picture. The effect of this decision during the decision making process meant that the real estate owners could remain their positions. The municipality was not forced to figure out a strategy in order to increase their power position within the area which was initially not an issue.
This mindset changed during the third round when the municipality realised that a station is not just a station but a transformation of a part of the city. It is within the responsibility of the municipality to keep that in mind and to interact on it responsibly. The municipality has found itself on a pivot point on shifting their view on the area and to interact on it by developing from sectoral (solely Rotterdam Central) to integral (Rotterdam Central District). This was also the moment during the process that the initial divergent approach hampered the reformed mindset of the city. The municipality was not able to force their changed mindset on the real estate owners and developers due to

their limited control on the parcels of land in the area. The interdependencies of the municipality towards the private real estate owners and developers were substantial. The main municipal form of influence was by using the zoning plan, but even with the zoning plan do the interdependencies still exist. In this case does land ownership offer more options and power than institutional control. This mechanism is also reflected within the station itself in the context of which party would develop the station hall. The municipality had its advantage in this case to develop the hall with consideration of its connection to the city. Their ownership of that piece of land allowed them to operate in such a manner.

Aftermath of cooperation legacy

The case study illustrates the clear divergence between the transport agencies and the municipality and between the municipality and the private developers. With the municipality being the middle point. The objectives of the municipality are mainly based on the publics interest, the transport agencies on the other hand where focussed on their budget and users. The private developers and real estate owners were not interested in complicated decision making processes and viewed the station as an impetus to generate value to their property. The scale within these parties operate is an important aspect in stimulating this divergence. The transport agencies have less affinity with the urban development of cities compared to the real estate owners, developers and the municipality. For the transport agencies is project Rotterdam Central one of many others and for the other parties is the city their entire scope within they operate. The collaboration between the actors which operate in the city was more natural compared to the governmental actors because their interconnection is familiar. This difference in scope and mindset hampers the willingness of cooperation to achieve policy integration in TOD. There is a clear connection between policy integration and the cooperation legacy between the involved stakeholders.

Lack of financial interdependence

The monies for the station was mainly made available by the government at the moment the project was approved by the ministries. This public financial flow was not interdependent with the real estate developments, which means that the realisation of the station did not depend on the value capture through real estate. This is an effect that is brought along with the divergent governance approach; the government finances the station and the municipality the adjacent spatial developments. The financial crisis changed the relation between the developments surrounding the station and real estate. It was in the advantage of the transport actors that the station was financially separated from the property around it.

Free ridership of private actors

Integral spatial development consists of spatial, economic and social values. The municipality had to convince the developers and investors to participate in the developments of RCD by making it clear to them that the value increase is created through the integrated quality that attracts users. Free ridership of the private actors was the reason for the passive attitude towards this participation. These actors were not forced to share their profit gain from their property because of institutional reasons. The Dutch institutional framework is designed for the divergent governance model which enables the private actors to benefit from the public investment of the station area. The monies that is invested in the station is not earned back by the public parties but by the private actors which means that the profit disappears outside the financial system of Rotterdam Central. The private actors are able to leave the area any time without reinvesting their profits that are derived from the public investments.

The aim for Rotterdam Central District was initially to develop the entire area by means of an integrated masterplan whereby transport and land use is seen as one holistic intervention. The municipality made use of a convergent governance approach by leading the development as a single entity. The disapproval of the masterplan caused a division of the masterplan in several sub-projects with the Central Station as main project. However, the ownership of the area was divided over multiple entities. The separation of station and land use development has led to a transition of the governance approach; from a convergent to a divergent approach. The divergent approach suited the development in first instance well because the multiple entities were mainly focused on their own projects. However, the confrontation with the divergent approach occurred the moment the view on the area shifted from a sectoral to an integral interaction. The divergent approach did not provide an incentive for the municipality to take the influence of land ownership into account.

The divergent governance model is in general a low gain/low risk mechanism because each actor can operate within their own domain. It is a known process whereby everyone is familiar with the rules of the game and wants to avoid complexity despite the fact that more complexity of policy integration results in a chance on higher gain.

5. Reflection of reference cases on Rotterdam Central District

5.1 Introduction

In the previous chapter, the depth of the research is reviewed by means of a case study on Rotterdam Central District. The decision making rounds have illustrated the effects of the divergent governance approach on the decision making rounds. This chapter will approach the case study from another angle in order to place the divergent governance model in perspective. The reflection on Rotterdam in this chapter has the function to put the governance conclusions of the case study in a wider perspective by comparing them to two convergent reference cases: Schiphol and Hong Kong. This reflection is based on data that is derived from expert interviews, details of the questionnaire are given in Appendix E.

In the first subchapter will Rotterdam be compared with a dutch reference case that operates in the direction of a convergent governance approach. Schiphol tends more towards the convergent model in relation to Rotterdam in terms of governance and institutional framework according to the interviewed experts. This subchapter proceeds a step further and focuses more on the components which are essential, when considering a type of governance model in a certain context.
The second subchapter refers to Hong Kong as a convergent governance case in international context. The convergent model is extensively practiced in Hong Kong. The final subchapter is an interim conclusion of the governance effects that are found in the fourth and fifth chapter of this report.

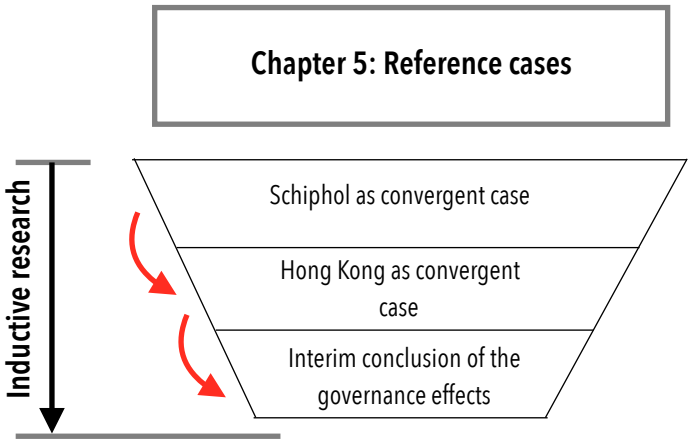


Figure 21: Research design: Chapter 5 (own ill.)

5.2 Schiphol as a convergent governance case

According to the interviewed experts does Schiphol tend more towards the convergent model in relation to Rotterdam in terms of governance and institutional framework in the context of policy integration. This association is mainly related to the position that Schiphol Group, as owner of the station, occupies within the integrated stakeholder network. Schiphol has been able to take up this position with the support of institutional privileges. These privileges have had their effects on the way Schiphol Group operates within the network when it comes to integrating transport and land use.

Exceptionally roles in the institutional framework

In the Netherlands it is usual that the land parcels where the stations are built on are controlled by ProRail, the station and trains by the Dutch Railways (NS) and the urban site surrounding the station by the municipality. However, this is not the case for Schiphol because the station is controlled by Schiphol Group, the tracks by ProRail and the trains operated by NS. This authority distribution is unique in the Netherlands and originated in the nineties.

The already existing railway tunnel that runs underneath the airport underwent a reconstruction by doubling the tunnel. The decision making of this reconstruction led to the conclusion that the station had to be developed earlier than planned. The government granted 450 million euros to finance this change and Schiphol Group developed the train station as a compensation. In every other station is the superstructure of the station financed by the ministry, built by ProRail and the commerce run by NS. This institutional role division is translated through multiple levels. Even to the level that selling coffee to commuters on the platforms is not allowed for NS. NS does not profit from the commerce on Schiphol Station despite the fact that they are responsible for the safety of the rail commuters and that costs them a lot.

Land ownership trumps institutional control in policy integration

After the rejection of the Alsop plan, the then Minister of Finance was interested in promoting Private Public Cooperation (PPP) in order to get the private stakeholders financially involved in the station. The minister recommended the Municipality of Rotterdam to analyse and consider the situation of Schiphol in context of PPP.

First of all, the site of Schiphol consists of dozens of hectares of land owned by the airport agency itself. There is also an aviation law that determines the role of Schiphol Group in relation to the other parties that have their businesses there. Schiphol Group is an airport authority with control over the entire site. There is an essential difference here in comparison with Rotterdam where the municipality does not own the land of the station and the station itself, solely the station hall. In the context of ownership, the positions of Schiphol Group and the Municipality of Rotterdam are different. In the case of Schiphol is the station and its land both owned by Schiphol Group and that is unique in the Netherlands. In the case of RCD, the ownership of the land is divided between several parties and at Schiphol is this unequivocal. The municipality has in Rotterdam competent authority in matters of licensing and developing the zoning plan. In the case of Schiphol does the Municipality of Haarlemmermeer grant the permits, but Schiphol Group has the authority to determine which parties are allowed to settle on the terrain. The Municipality of Haarlemmermeer, on the other hand, posses blocking power in the sense that it can shut down the entire area when the safety is threatened.

Financial interdependence

Schiphol and Rotterdam also differ in financial dependence when it comes to value returns. Schiphol Group invests in its infrastructure and receives the returns of the offices that they build and rent out. There is value to generate in

the form of office or dwelling around the Central Station of Rotterdam. This value, unlike at Schiphol, is not generated by the municipality but by real estate owners. These real estate owners are not involved at the front of transit developments process when the investment decisions are made. Several investors who had holdings around the station in Rotterdam were not prepared to handle the transit development jointly with the municipality. This unwillingness of the investors is caused by lack of knowledge on station developments and the risks that comes with this inexperience. The private parties were offered a proposal to invest in the residential area at the back, but these parties had a wait-and-see attitude to choose their moment. This chosen moment takes place after the first signs of actual appreciation of such a residential area. The investors already possessed property in the area and were, as long as they were able to wait and acquire more without having to do anything for it, not interested in being involved with complicated processes.

The involvement of private parties to invest in real estate proceeded differently on Schiphol compared to Rotterdam Central District. Schiphol Group for example managed to conclude a deal with Stichting Pensioenfonds ABP (General Civil Pension Fund) about the construction of the World Trade Center (WTC) at the airport. That was a special deal for Schiphol because it concerned a large investment of that pension fund in real estate. The PPP was in this case possible and the question which could be asked is; why this was not possible at Rotterdam Central District. The contract that the two parties concluded in 1994 was only possible because Schiphol's expansion plans had been in progress since 1989 and Schiphol Group had already invested more than around 800 million euros in its infrastructure. Market parties only invest when they get to know the feasibility of the government plans and how certain the result is. Pension funds are not allowed to run a high risk. ABP got involved even though the infrastructure was not complete but the foundation had already been laid. Schiphol Group and ABP are both hybrid parties, with ABP's experience developing the offices and Schiphol Group the parking garage.
The real estate owners surrounding Rotterdam Central did not want to move because there was no urgency for it. They were already there and were able to generate more financial value through the public investments in the station. In the case of Schiphol was the only way for ABP to do business on the terrain through Schiphol Group. This way could Schiphol Group generate value from the real estate deal with ABP to partially fund the infrastructure. Through the institutional privileges of Schiphol Group, as single leading entity, was it possible to make the infrastructure and real estate financial interdependent.

Prevention of free ridership by private actors

Schiphol has as part of the transport chain in the country a public role and has generated financial profits from this function. The special aspect about this is that the financial flows remained inclusive. The profits that are earned by rail or property value increase remains in a convergent model in the financial system of the development itself and that is also the case for Schiphol. In addition, we also see that in the beginning Schiphol Group had the privilege of not being obliged to pay company tax over their earnings. And what they were allowed to keep was not paid out to shareholders, but remained in the system which made possible to increase quality by reinvesting. As a result of increasing the quality and providing capacity in a timely manner, they were able to grow. Schiphol's public role became more than just transporting passengers from the Netherlands to abroad and vice versa. Thus the entire earning mechanism is based on the fact that there is a closed financial system, if the potential of value development generates, then the actual value is cashed and kept within the system.

The Municipality of Rotterdam did not have the same opportunities and circumstances in RCD as Schiphol Group has on Schiphol. The municipality did invest in its public function but was not able to invest directly in the value potential of the surrounding area because the property was in hands of private owners. As a result, these private owners are the lucky ones who mainly benefit from the value leap due to public investments.

Governance compactness as a result of convergence

The convergent governance model tends, if new, to stimulate physical integration of different functions to such a compact extent that it influences governance flexibility of the stakeholders by intensifying the interdependencies of actors. Even though it is not a new integration on Schiphol, the functions still grew organically in a compact manner. The functions around the station on Schiphol have been physically solved in such a compact manner that it is also translated in terms of governance between the actors. The tracks do not run past the station but underneath the station building and these two components are linked to three stakeholders (ProRail, NS and Schiphol Group). Because the mobility components are literally built on top of each other, the stakeholders are also close to each other in a governance wise way. In case one of the parties prefers to change something, it could be necessary to involve the other parties. If the realisation of this adjustment depends strongly on the other stakeholders, then the flexibility of such an initiator is limited in response to the physical compactness of the integration.

In case necessary facilities for an international train have to be realised in the context of accessibility of the airport, its development for example, is both physically and governance wise complex. The complexity is caused by the integrated construction of the station. The station has been built on top of the tracks and solely NS and ProRail control the underground tracks. Rotterdam Central is reasonably adaptable by implementing all sorts of logistical measures to make a certain platform available for an international train. The roof can be moved and the station is entirely owned by ProRail. So for future changes it is much more flexible because there is no property realised above. Schiphol has to invest billions of euros in accessibility, the demand for expansion is enormous. But there is a conflict between the rail entities and the airport authority concerning the responsibility of commuter flows and this conflict hampers any chances of expansion.

5.3 Hong Kong as convergent governance model

The Hong Kong Institute of Planners now named as the Master Transit Railway Corporation (MTRC) was established in the year of 1979. The planners have had an increasing role in shaping the city's expansion by planning developments along new railway lines. The planners got inspired by other cities in the late 1970s and made it their task to plan the future urban growth of Hong Kong by making use of a land use and transit integration approach which became later on an official development strategy. The MTR rail service has not only become a simply transit mode but an integral part of the urban fabric.

It is very important to understand the history of the development of this convergent model. In 1975 the government of Hong Kong wanted to solve the traffic congestion problem in the city by building a metro system. A debate took place in the public arena about the possibility of Hong Kong being able to built its first line. The financial strength of the city was incapable to fund such a metro project. The government would go bankrupt at the attempt to make the railway project(s) viable from public finances at that time. The government set up a public railway company which was fully owned by the government in the beginning and now for 76%. It was made very clear upfront that the government would built and operate the railway for the metro based on commercial principals. Operating on commercial principles by MTRC has also entered the law. The financial reasoning was very clear from day one, even with the MTRC being a governmental body it is given the mission to built and operate a metro system based on financial principals. They could not give any financial burden to the governments public finances because the government was not able to function as a financial safety net. This was quite different mindset compared to other cities.

Real estate used as financial driver for transit hubs

A lot of cities find it hard to make a railway project financially viable because of the high density that is required to finance the capital expenditure, operating expenditure, asset replacement for the first lifecycle and so on. It is for a city such as London and other large cities very difficult to built above stations and that is a reason for one not to bother to do so. A station functions solely as a station and in case a party senses the need to built above it, an incentive is requisite. The shopping malls and the sale of property play for MTRC an important role for the long term run when it comes to providing income. After being able to finance the first three lines, MTRC kept operating in the same manner and developing their own approach; Rail + Property model. The key stimulus for MTRC to integrate is the need for financial viability of the stations which is also the main foundation of the model.

Hong Kong is a very market driven city and that causes the main stimulator for integrated development which is bridging the investment funding gap to finance the transit system. The city is forced to reclaim land from the sea because of shortage of land and little capacity and that is why they develop vertically instead of horizontally (urban sprawl such as in Los Angeles for example). Thus that reclaimed land is find very precious and increases the land value. Starting from MTRC's first railway line in de 1970s, they used the land to build the railway depot and construct a deck on it to built some uncomplicated housing blocks and a shopping mall with a MTR headquarters above it. Value is captured by making use of the railway land and by building airspace development. The first project gave the railway company insight on how to capture financial value to fill the investment funding gap. This was an essential core value for the company because they could not rely on the government for subsidies.

The MTRC has not only played a major role in supporting the city's urban transit oriented growth but also its economic growth. Several railway corridors have been used as urban corridors with a development hub above many stations consisting of housing, amenities and high class office building such as the International Commerce Centre and the International Finance Centre. These office buildings are very crucial for supporting Hong Kong to be an international financial centre. The urban landscape of Hong Kong has been effected by the Rail + Property model, the density above station requires to be high for it to be a self-financing system. MTRC had built over the past 35 years close to 100,000 housing units therefor do many people live and work above or near the stations sites. Part of the public find the density quite high and that is a price that the city has to pay.

Conflicting roles in institutional framework

The employees (engineers, town planners and so on) were in the beginning all civil servants when the government just founded the public company. They worked together with the common purpose of making the metro system financially viable, but even with having this as the common goal, they still had their own discipline's objectives likewise as in the Netherlands.

The key objective of the railway engineers is to complete the metro system within the planned timeframe and keeping the cost within budget. Their measurement of performance is based on these principles. They prefer the avoidance of uncertainties, thus the interface issues that occur with the station deck and property above it which have to be solved is seen as a problem because it may delay the project and increase the costs. These consequences are against their institutional mentality.

The property planners on the other hand strive for the most convenient connection between the real estate above the station and the station itself to achieve an increase in value. Their goal is to get as much value and profit as possible to at least fill the project funding gap. MTRC is convinced that the purpose of the whole value capturing will be missed when the construction of the real estate is simple and completely segregated from the station. And users have to go through different ways that are further away to get to the station.

Planning, design and the construction have to be one piece according to the company to accomplish their TOD policy. In Hong Kong is the convergent governance model used proactively and translated in different layers of operating (see Appendix A for a description of the implementation method of Hong Kong). The government has used policy documents to encourage the implementation of TOD consistently from the first railway line until nowadays. These government policy documents include the transport policies, the railway development policies and the company policies. The government policies support besides TOD also the commercial viability of the MTR network.

Governance compactness as a result of convergence

The MTRC applies the convergent governance model by putting rail and property together. This means that the integration takes place during the masterplanning; they plan the station and the buildings on top, the roads, the access and the access share, location of the foundation and so on all at the same time. In addition, the railway engineers are coordinated to construct offices or towers on top of the accumulation and all this have to be done together which is not obvious to realise. The departments are governance wise on top of each other and forced to collaborate in an integrated manner due to this compactness. It is an on going process working on understanding each other more and try to seek more communication channels to make sure that they both work and support each other to meet the objectives.

Democratic legitimacy of the single leading entity

Next to internal effects does MTRC also cope with external effects when it comes to the citizens of Hong Kong while using the convergent governance model. The reasoning behind building on top of the railway station is very hard to understand for the public. It is much more appreciated when like in Rotterdam a railway station is built without property above but adjacent to it. The public does not experience the stations as part of public architecture by having a station square for example. The flow of people is significant that actually the whole area can be classified as public community, infrastructure or space other than a commercial space above the station. Thus the government has the task to convince the public to explain them that owning and operating a metro network without being a financial burden to the public finance at the same time; this is the way to go.

The public is an important stakeholder during the MTR developments. For each development is MTRC required to receive an approval from a specific consultative board. This board is an independent organisation with members from different sectors of the community who review the proposals. In case members are not satisfied with the proposed schemes they have the ability to comment on it and MTRC is obliged to take up on these comments and demands.

It is very important for the railway corporation to consider the publics view during the decision making process. On the other hand has MTRC the task to find the balance between the public interest and the interest of its shareholders to be able to make the network financially viable. Even though the private shareholders is the company government controlled. The governments top officials are included in the board as board members.

Another issue that has been raised the last decade, is the dissatisfaction among the citizens about the MTRC. This discontentment is based on the annual rise of the transit fare and a misconception about the profit that the company generates as a rail operator. Since 1996 has MTRC received their investments of the first lines that have been realised in the early 80's and have been making profit since then from the real estate they own and from operating their lines. The public does not understand the annual raise of the transit while MTRC is making profit. It is very important for MTRC by being a hybrid corporation to clarify their reasoning behind these kind of decisions to

the public. The corporation is obliged to upgrade the system after a certain amount of time and makes use of these profits to finance the asset replacements and maintenance and that is very expensive without any form of public subsidy. Over the past 15 years has the average fare increase been lower than inflation and the wage increase. MTRC owes the public still each year an explanation about the increase due to the commercial principals of the corporations. This is a political price that MTRC has to pay by using the convergent governance model.

5.4 Interim conclusion: Reflection of reference cases on Rotterdam Central District

Altogether does the comparison of the cases illustrate the similarities and differences between the circumstances surrounding Rotterdam Central District on one hand and Schiphol and Hong Kong on the other. This interim conclusion starts with a reflection of the four effects, that are concluded in chapter four, on the reference cases. Thereafter are the findings of chapter five being reflected on the case study of Rotterdam Central District.

Effects derived from the case study:

1. Land ownership trumps institutional control in policy integration
2. Aftermath of cooperation legacy
3. Financial interdependence
4. Free ridership of private actors

Additional effects derived from the reflection:

5. Roles in the institutional framework
6. Real estate used as financial driver for transit hubs
7. Democratic legitimacy of the single leading entity
8. Governance compactness as a result of convergence

1. Land ownership trumps institutional control in policy integration

It is concluded from the previous chapter that the Municipality of Rotterdam did not posses the land of the station . They were not even the owners of a significant amount of land in the station area. The ownership of the area was divided over multiple entities. This aspect hampered the integration at the time that the municipality has found itself on a pivot point on shifting their vision on the area and to interact on it by developing from sectoral (solely Rotterdam Central) to integral (Rotterdam Central District). The municipality was not able to force their adjusted mindset on the real estate owners and the developers because of their limited control in land in the area. The interdependencies from the municipality towards the private real estate owners and developers was substantial. The main institutional form of influence was by using the zoning plan, but even with the zoning plan do the interdependencies still exist. In this case does land ownership offer more options and power than institutional authority. This mechanism is also reflected within the station itself about which party would develop the station hall, this was in favour of the municipality because of their land ownership. ProRail and NS are transport entities which operate stations and own the land underneath them on behalf of the national government. However was the land ownership of the municipality under the station hall enough to be able to control it even though it is institutionally not usual.

In case of Schiphol is the entire airport terrain with the superstructure of the station owned by the single entity namely Schiphol group. The Municipality of Haarlemmermeer grants the permits, but Schiphol Group has the authority to determine which parties are allowed to settle on the terrain. Schiphol Group has as an airport authority control over the activities on the entire site due to their ownership and institutional privileges in relation to the transport entities or developers.

In Hong Kong is the land owned by the national government and does MTRC receive exclusive development rights in order to carry out the developments. Through these rights are the role and control of MTRC institutionally clear in

relation to the other stakeholders. Thus as Schiphol owns the land and possesses institutional privileges does MTRC solely posses the institutional privileges over the development. MTRC does negotiate in most cases an agreement with the private developers whereby they get a share of the development profit as well as equity ownership and in some circumstances even asset ownership, as described in Appendix A. But this ownership is not formulated beforehand and differs each project, it is not institutionally incorporated. MTRC operates during the developments from their institutional role.

2. Aftermath of cooperation legacy

The mindset differences that have been observed in the Rotterdam case can also be seen in Hong Kong. There is also a gap between transport departments and planning. An important difference between the two situations is that cooperation in Hong Kong is a must and the two sectors are subordinate to the same party, namely MTRC. There is in Rotterdam not solely a difference in mindsets but the disciplines are also separated into different entities and on top of that is difference in public / private mindset present. At MTRC, a quarter of the company is owned by private owners, which means that the commercial philosophy is more embraced than if it was completely public.

3. Financial interdependence

The financial investment of Rotterdam Central is not directly interrelated to real estate developments, the ability of realising the station is not dependent on the value capture through real estate. The government finances mainly the station, the municipality the public spatial developments and the developers the private real estate. This separation had a positive effect on the station project because of vulnerability for external events. The financial crisis changed the relation between the developments of the station and its surrounding real estate. The funding for the station did not suffer from the financial crisis because it was reserved before this event occurred. It was in the advantage of the transport actors that the station was financially separated from the property around it, otherwise the station developments would suffer from the vulnerability that comes with financial interdependencies in time of a financial crisis.

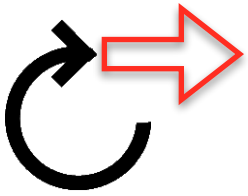
Schiphol and Rotterdam differ in that the value of the development at the airport is being returned to Schiphol Group itself. Schiphol Group itself invests in its infrastructure and receives the returns of the offices that they build and rent out. The deal between Schiphol Group and ABP was only made possible because of the assumed low risk from the pension funds, they are not allowed to run a high risk. The only way for ABP to do business on the terrain was through Schiphol Group. This way could Schiphol Group generate value from the real estate deal with ABP to partially fund the infrastructure subsequently. Through the institutional privileges that Schiphol Group possesses, as single leading entity, was it possible to make the infrastructure and real estate financial interdependent. The essence of the Schiphol case is that this interdependency was made by the entity itself and subsequent to the initial large investments in infrastructure. The investments in infrastructure did not entirely depend from the start on the revenue that could be derived from real estate.

According to the convergent governance model is the financial interdependence key to generate high value from integrating transit and land use with each other. The station is in that scenario financed by the profit which is made by the real estate above or near the station and the more physical integrated the higher the gain. Hong Kong's governance approach is based on this fundamental principle. The case study has demonstrated a paradox about this principle. The high vulnerability risk that comes along with this mind set could be caused by overvaluing the revenue of real estate. Down side of a financial separation on the other hand is free ridership of private actors.

4. Free ridership of private actors

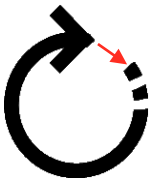
In the previous chapter it was found that the private parties enjoyed a value increase in their real estate without investing in the station developments themselves. Schiphol and Rotterdam differ in that the value of the development at the airport returns to Schiphol. Schiphol itself invests in its infrastructure and earns back through the offices that they build and rent out. There is value to generate in the form of office or housing around the Central Station of Rotterdam. This value, unlike Schiphol, is not generated by the municipality but by the real estate owners and they are not involved at the front to invest in the station developments.
In Hong Kong is the solely manner for private developers to invest in integrated station projects through MTRC. The station properties are owned and controlled by the government but MTRC possesses the exclusive development rights. Just like in Schiphol, do both MTRC and real estate developers profit from the value that is generated. MTRC then reinvests these earnings in its infrastructure. The generated value is more shared by the involved stakeholders despite the fact that the development is led by a single entity.

The municipality did not have the same opportunities as Schiphol Group and MTRC because the municipality has invested in its public function but does not immediately earn the value potential of the area because property was in the hands of others. Thus others benefit from the value leap. Profits are at most earned indirectly through taxes, but it does not contribute as reinvestment to the station development.



Rotterdam Central:
Value gain of real estate shifts from the public sector to the private sector

Figure 22: Value mechanism of case study (own ill.)



Schiphol/Hong Kong:
Value gain of real estate remains in the area for future reinvestments

Figure 23: Value mechanism of reference cases (own ill.)

5. Roles in institutional framework

Institutional responsibilities and freedom of movement are more clearly defined in the convergent governance model. Stakeholders operate in their own domain within the holistic development. Schiphol separates itself because of its institutional framework. Usually is the station financed by the ministry, built by ProRail and NS runs the commerce except for Schiphol. ProRail and NS are in charge of the underground rails network but the station itself is within the institutional responsibilities of Schiphol which gives the airport agency a prominent role. It is very clear which actor is in charge of which parts of the development.

Planning, design and the construction have to be one piece according to MTRC to accomplish their TOD policy. In Hong Kong is the convergent governance model proactively used and translated in different layers of operating. These government policy documents include the transport policies, the railway development policies and the company policies. Even though does MTRC have a clear role within the institutional framework of Hong Kong it still dealt with internal conflicting roles. It is for a public corporation very difficult to persuade the railway division to construct an innovative design because of the trouble it causes due to the large amount of uncertainty to them. The risk of not meeting the objectives when it comes to cost control and management becomes a barrier. Not until the company was listed in the year 2000, MTRC became a public listed company but the government still holds 76% of the shareholding. The corporation became at that time more commercial, so even the engineers, town planners they all understood more that the companies future would be with the combination of both objectives; the railway employers objective and the property employers objective.

The involved actors in Rotterdam filled in their own role initially because the institutional framework did not strictly prescribe the roles of the actors when policy integration of transport and land use takes place. The institutional framework offered the actors flexibility and with that thought in mind did the municipality initiate such a station development with Alsop (in round 1) even though it was out of their domain. The risk of operating in such a manner is the inexperience of being aware of the effects that all parties and functions have on each other. Filling in other institutional roles could cause disregarding essential aspects.
The conflicting roles between the rail domain and land use is an aspect that took place in all three the cases. In Rotterdam, it had to do with the difference in interest between ProRail, NS and the municipality. On Schiphol, the control and influence of Schiphol Group play an enormous role. And in MTRC are these internal conflicts even within the company itself. When the traditional boundaries between transport and land use fade away by using an integrated approach it is essential to take into account that the boundaries of the institutional roles of the stakeholders are clear within the policy integration. The threshold of taking on another role without having the required experience is then higher for a party.

6. Real estate used as financial driver for transit hubs

The convergent governance model embodies, on a functional level, the integration of transit and land use by combining the station with property on top of it. It is likewise in Hong Kong the norm to make use of property above stations in order to increase and capture value. Hong Kong is a market driven city and that causes the main stimulator for integrated development which is bridging the investment funding gap to finance the transit system. Operating on commercial principles by MTRC has even entered the law. The financial reasoning was very clear from day one, even with MTRC being a governmental body it is given the mission to built and operate a metro system based on financial principals. They could not give any financial burden to the governments public finances because the government was not able to function as a financial safety net.
This was a quite different mindset compared to Rotterdam and Schiphol. The financial circumstances of Hong Kong provided the creativity to enable different options, there was simply no other choice, so they had to make it work. The funding for transit was in both Rotterdam and Schiphol already made available. The financial availability of public investments by the government provides flexibility in the dutch cases in order to make the decision to which extent the integration will be. In Rotterdam is the development realised separately from each other and financial independent. On Schiphol is real estate used to fund the infrastructure but it is not the initial and solely manner of financing. The extent to which real estate has a financing function determines the degree of policy integration and therefore also the urban landscape of a city. The more value is extracted from real estate to finance the station, the more densified and compact property is developed. As much as possible real estate is being built on as little land as possible and that leads to combining the station with property physically. The willingness to promote policy integration increases when the value gain is shared over different stakeholders.

7. Democratic legitimacy of the single leading entity

This effect occurred only in Hong Kong and is caused by MTRC's hybrid function. MTRC is continuously trying to find the balance between the public interest and the interest of its shareholders to be able to make the rail network financially viable. The public holds MTRC accountable for their commercial actions and their consideration regards to the publics requests.

Lowering the high density would make the public more content but in order to be able to decrease the density, more land needs to be given for a MTR station. The government of Hong Kong has fully control over the land. Policy integration of transport and land use has led to a combination of commercial shareholders and public shareholders by integrating the traditional market players from the real estate world with the public transport sector. The

dilemma for the government is the fact that MTRC is a listed company (since 2000) as mentioned before. That forms therefor a barrier for the government to offer excessive land to MTR. Which means that the government has to reassure the public that the decision is still made based on publics interest and not via private negotiations. The government has to explain their approach through a transparent and fair process to the public. In some cases the government brings in a team of consultants to conduct an evaluation of the property rights. This evaluation requires to make sure that under normal market conditions the generated profit will be just enough to fill the projects funding gap. Using this evaluation the government is able to legitimise to the public that MTR does not receive any excess profit.

MTRC is seen more as a private than a public entity by the government and the public. The private developers are being involved in the process after the development of the masterplan (see Appendix A for more information on the approach) and they have an interest that could be in contrary to the public interest. MTRC protects the core values and is viewed by the developers as a more public corporation. While developing a masterplan it is made sure that the design and planning of that individual site will be profitable for the private developer. Once the project is profitable, developers will participate. During the design process and tender process of the masterplan are the public's views incorporated and it is up to the developers to built according to the overall requirements. A team is constructed by MTRC to keep an eye on them so they cannot go beyond the requirements. The property above the stations is very valuable which makes the gain very large and that can be carved out so the developers and the publics interest can be balanced. It is harder when the gain is small. The task of MTRC is to create that gain to be shared by different sectors from the community including the developers and the general public.

8. Governance compactness as a result of convergence

The functions around the station on Schiphol have been physically solved in such a compact manner that it is translated in terms of governance between the actors. The quality of Schiphol is the integrated connection of the station with the airport, users do not have to leave the building in order to get to the other functions such as retail. This integration makes the station accessible and that differentiates the airport from others in the world. A disadvantage of this compactness is the lack of flexibility to change the station. There is limited room for adjustments due to physical and governance reasons. The complexity is caused by the integrated construction of the station. Schiphol has a governance conflict between the rail entities and the airport authority concerning the responsibility of commuter flows and this conflict hampers any chances of expansion or adjustment. Rotterdam Central is reasonably adaptable; the roof can be moved and the station is entirely owned by ProRail. So for future changes it is much more flexible because there is no property realised above and the ownership is not integrated with actors from the real estate arena.

MTRC applies the convergent governance model by combining rail and property. The departments within the entity are governance wise on top of each other and forced to collaborate in an integrated manner. It is an on going process working on understanding each other more and try to seek communication channels to make sure that they both work and support each other to meet the objectives of the company. The compactness of that Schiphol as in building on top of a station occurs also in Hong Kong. The main difference between these two cases is that the transit domain and property domain collaborate in Hong Kong within the same entity and in Schiphol are the two transport agencies and Schiphol Group multiple entities.

Thus even though do the internal conflicts of MTRC hamper the collaboration, it is still within one company, but on Schiphol are the domains spread over multiple entities with different interests. This separation adds tensions to the already existing differences between transit and land use due to the different power relations for example (see effect 1). In Rotterdam, the parties are physically as well as governance wise separated, that decreases the

interdependencies and increases flexibility of the stakeholders. The main difference between operating within one organisation and between organisations is that the interdependence factor is subject to a larger amount of control.
The main difference in governance between Schiphol and Hong Kong is that Schiphol Group is in spite of its ownership of the station not a railway entity. MTRC on the other hand consists of planning and transit departments within the organisation. They work together with real estate developers but the integration is also translated to the composition of the entity and the coordination of the development is led by these experienced departments. Thus even though do internal conflicts appear between the two disciplines is the difference made in wether the conflict consists between departments or between organisations. In the context of policy integration is the gap is larger between two organisations.

6. Conclusion and recommendations

6.1 Conclusion

The relevance of this research is derived from the current ambition of multiple cities around the world to change towards a much more sustainable future. Transit Oriented Development (TOD) responds to this ambition by focusing on efficient transportation modes other than the automobile by integrating transit and urban development. The Netherlands has compared to other countries a high quality of public transport and rail network. Many substantive issues are taken into account when it comes to stimulating the transition from a car-oriented development path towards a more TOD path.
However do formal and informal barriers still hamper the implementation of such concepts due to multiple policy differences between transit and urban development. Multidisciplinary urban interventions such as a TOD require the support of multiple other actors and these actors find themselves in an actor network. Experts acknowledge that the complexity in the decision making process by combining two different sectors is mainly due to the lack of a trigger factor, a "psychological ownership," which fulfils the directing role for the station development (Modder, et al., 2015). A trigger factor in the form of a neutral directing role which formulates the 'win-win' and brings parties such as rail operators, housing corporations and market players together to support the development of an integrated vision for a TOD area. That signifies that the dutch manner of effectuating broad concepts such as TOD is in need of innovative governance methods. These methods are required during the decision making processes in actor networks of TODS in order to improve the integration of the policies. Policy integration occurs in processes of multiple actors. In order to be able to improve integration it is important to get an insight on the effects of governance. In order to achieve the objective is the following research question established in chapter one:

What is the effect of governance on policy integration in Transit Oriented Development?

This research applies insights on the effect of governance on policy integration in TOD by analysing and comparing Rotterdam Central District, Schiphol and Hong Kong. Chapter four and five of the research have led to the following eight governance effects on the cases:

Effects from the case study:

1. Land ownership and institutional control in policy integration
2. Aftermath of cooperation legacy
3. Financial interdependence
4. Free ridership of private actors

Effects from the reflection:

5. Roles in institutional framework
6. Real estate used as financial driver for transit hubs
7. Democratic legitimacy of the single leading entity
8. Governance compactness as a result of convergence

Tang et al. (2005) distinguishes in chapter three the divergent and convergent governance model as a multi-entity approach and a single entity approach. In addition, the characteristics of the models are defined and these indicate the difference between the two approaches. The manner of influence of the characteristics is summed up in the following paragraphs.

Effects of the divergent governance model

The divergent model could have a hampering effect on integration in TOD projects due to the interdependencies between the multiple entities. These multiple entities are not solely from the public sector but also from the private sector. The entities of the public sector initiate such TOD developments and coordinate its decision making. There is no formal incentive to involve the market players into the decision making because of the separated manner of operating. The coordinating mechanism between the multiple entities is regulated by means of institutional instruments such as policies and zoning plans. The choice of collaborating in an integrated manner by building on top of the station for example is free of obligation. The market players are able to develop real estate nearby a transit hub without being involved with the complex decision making process. The divergent governance model is in general a low gain/low risk mechanism because each actor can operate within their own domain with lower risks and is not obliged to increase value. It is a known process whereby everyone is familiar with the rules of the game and is willing to avoid complexity even though it could lead to a chance on higher gain. It is easier and even possible to not opt for an integrated approach in governance.

According to Modder et al. (2015) it is essential for the success of a TOD project that investments in transit and land use are joined together whilst initiating an area development. The case study has demonstrated a paradox regarding this principle. A great risk could play a role when financial flows of transit and real estate are joined together from the beginning. At the moment that one of the two domains does not generate the expected profits, the other also suffers financially. A financial crisis is an example of such a scenario where the housing market can collapse and as a result the station is also on hold. The high vulnerability risk that comes along with this mind set is caused by the urge to overvalue the revenue of real estate. The down side of a financial separation on the other hand is free ridership of private actors. The outcomes of TOD projects is low risk / low gain for the public sector and low risk / high gain for the real estate owners. Both the investments as the revenues are not shared by the multiple entities; the public sector finances the station development and the real estate owners benefit the most from the profits. There is no assurance that the profits generated from the station are being reinvested in development.
The divergent governance model provides physically flexibility as in governance. Due to the physical fragmentation of the superstructures are physical adjustments easily made and that is a long term advantage. The stakeholders are because of the space between them not dependent on each other to the extent that they need to involve one another in each decision that has to be made.

Effects of the convergent governance model

The convergent governance development is led by a single entity. The single entity is pivotal when it comes to the planning and coordination of the development of the station sites. The effects that are discussed in chapter five of the research are essential in order to be able to execute such a role. The single entity is in need of some form of control in order to receive such a position compared to the other involved entities. Institutional control over the land by a promotor of policy integration is essential in order to accomplish integrated area development. When it comes to financial interdependence, value is being maximised and generated by the integration of transit and land use. The generated value is kept in the financial system of the development because the single entity invests in the station and receives the value that is derived from it through real estate. These generated values are used to reinvest in the development. The convergent governance model does join the investments of transit and land use together while initiating an area development. However, this is not simple to realise. The institutional framework of a country or city would have to be structured in such a way that there is room for the convergent model. The policy integration that plays a role in these type of projects should be supported by actors derived from both domains,

which are both public and private. As long as a less complex manner of governance is possible, the parties tend to opt for it sooner. On the other hand, a less complex way of governance has an effect on the quality of the integration of transit and land use. The considered high gain of this model is due to the high integration rate between transit and property. In order to get parties such as real estate developers involved by these complex integrated station developments it is important that the single leading entity posses certain institutional privileges such as exclusive development rights and the right to tender them.

Pro's and con's of the two governance models

	Benefits (+)	Circumstance
Divergent governance model	- Less risk full and complex approach to manage - The urban landscape is diverse and offers character - Financial flows between transport and land use are independent	- Stakeholders are familiar with the rules of their own game, there is no incentive to involve with other actors - The different visions of various entities are expressed in the urban landscape of a city - When one of the two domains are financially not feasible as in time of a financial crisis
	Disadvantage (–)	
	- Policy integration of transport and land use is spread over several entities - Financial flows between transport and land use are independent - Lack of formal incentives to include market players	- In times of tension or disagreements it is more complicated to reach an agreement - Free riders appear when there is no strong incentive for policy integration on terms of financial flows - When financial flows between transport and land use are independent
	Benefits (+)	Circumstance
Convergent governance model	- Policy integration of transport and land use falls within a single entity - Financial flows between transport and land use are interdependent - Independent influence in order to promote policy integration - The single leading entity has a pivotal role in planning and coordination	- In times of tension or disagreements they still share the same goals - When value increase through property is used as an incentive to finance the station - Land ownership is not spread over several stakeholders - To improve the communication between the stakeholders
	Disadvantage (–)	
	- Democratic legitimacy is at risk - Highly dense and compact station areas	- When the public suspects a centralisation of control - When property is used to finance the transit development entirely

Table 6: Pro's and con's of the divergent and convergent governance models in a nutshell (own ill.)

All in all, the effects of both models could function as advantages or disadvantages in the context of policy integration in transit oriented development. The context of a case and its social, economical and spatial circumstances determine whether an effect could be beneficial or disadvantageous. The main outcome of this research is the awareness of the effects that are associated with different governance approaches. When a single entity takes the lead in such an integrated station development, it is essential that the disciplines are incorporated in that entity. The risk of a leading entity with no experience in stations for example developing a multi functional station is the ignorance about the effects that all stakeholders and functions have on each other. No matter which model is chosen, it is essential that within the integral whole, each party operates within its own domain at a functional level. Decision making should take place jointly to be able to be aware of the effects of each other's choices in order to make the best decision. Leadership requires broad knowledge of complex interactions.

6.2 Discussion

In this study, the effects of governance on policy integration within TOD projects are investigated. It has been stated during the entire research that policy integration is a promotion for TOD. In this context, two governance models have been set out and compared with each other. However, it is not indicated in literature to what extent this integration is still an improvement for TOD. Even though the ambition arises to achieve policy integration, there are also limits to the degree of integration in practice. In high dense cities such as Hong Kong, Singapore and Tokyo, transport and land use are integrated in such a manner that multifunctional properties are realised on top of stations. The initial plans for Rotterdam Central District were also based on building property on top of the station to improve the area in a more dense manner. However, this integrated and compact approach did not fit the financial and technical expectations of the government. The choice of whether or not to develop a function combination in a joint building unit is associated with various considerations. The combination of various functions in one building unit has its advantages in the context of policy integration, nonetheless several other aspects need to be considered as well.

The question that could rather be asked when considering building property on top op stations is; To what extent could be assumed that policy integration will lead to an improvement of realising TODs? Is there a threshold when it comes to density? Therefore in this section the policy integration will be discussed by illustrating the flip side of it using two important aspects. Integrating transport and land use to the extent of building multi functions on top of the station is seen in this subchapter as the physical translation of the convergent governance model. The physical division of transport and land use on the other hand is seen as the physical outcome of the divergent governance model. This assumption does not preclude that using a divergent governance approach could lead to combining transport and property in one building unit or the other way around. That part is kept outside the scope of the discussion.

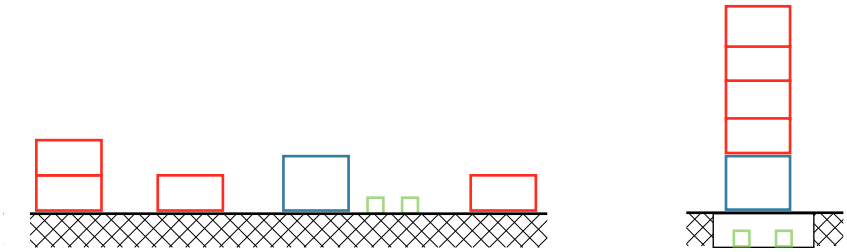


Figure 24: Spread development on the left and compact development on the right as two 'extremes' within TOD (own ill.)

Freedom of movement in the future

Sustainable concepts such as TOD argue for a compact city and mixing different functions near each other. Nonetheless, compactness has a scale because when an area is too compact, it will not function in the long term. A city can densify in such a manner that the integrated functions are locked without a simple return and that is a serious risk of integrating these policies to a large extent. This consequence has an effect on future freedom of movement, once a development above the station has been chosen, this leads to a limitation in further extensions or modifications. In addition, there is no guarantee that concepts such as TOD are still optimal solutions to strive for sustainable mobility in the future.

Financial feasibility

As mentioned before, the convergent governance model is associated with integration of transport and land use in such a manner that the two domains are merged together in a single building. The property that is built on top of a station generates value for the station and since the convergent governance model is led by a single entity with institutional privileges there are no free riders involved compared to the divergent governance model. However, it is important to know that the degree of compactness around a station is not solely determined by policy integration ambitions, but also by financial feasibility. One would assume that building on top of a station would result in less construction costs as the idea is that the investments could be earned back by the real estate that is placed above the station. The exploitation costs of the land parcel where the real estate would otherwise be on is saved by such a development. However, the assumption of a decrease in costs, is not always the case but it is related to the land value of the specific developing area.

The complexity of such a development increases by adding other functions such as offices and dwellings to the building. Engineers and planners tend to have the mindset that a function combination is possible to realise when it fits constructively. The additional effects are difficult to take into account on both the functioning of the station as the functioning of the houses or offices that are connected with each other in relation to logistics, installation technology, safety, risks, etc. The price tag that goes with it to perform on an adequate manner is very high. Building these different functions on top of each other requires an expensive construction. Instead of the idea that the real estate will contribute to the affordability of the station, the real estate development becomes too expensive for the final potential user.

Building on top of a station is more financially feasible in an urban area where the land value is very high. Because in this case, the construction costs of building different functions on top of each other are less than the need of purchasing more land to build on. This factor plays a bigger role when real estate is used to bridge the funding gap of the stations. Density will increase more in order to generate more value and that affects the urban landscape of cities. The government could control the density of a city by partly subsidising the station development, then it will no longer be necessary to build high in order to finance the transit.

Nevertheless, the two aspects above have an effect on the type of governance approach that can be chosen when promoting policy integration. Physical freedom of movement could be determined in the future by means of a masterplan. The financial feasibility of building whether next to or on top of a station is related to a business case of such a development. The choice and effects of a particular governance approach is related to the masterplan and the business case of a TOD station project.

6.3 Recommendations

1. **Sets of alternatives**

Parties that operate in large transport-related projects could be more aware of the decision-making process by placing several 'sets of alternatives' next to each other. Engineers, planners and investors usually focus mainly on their own domain, with the result that the designed alternatives are mainly subject to their own domain. The master plan alternatives are compared in themselves, the governance alternatives in themselves and the business cases in themselves as shown in figure 25. As well as the domains are the alternative plans initially separated from each other and afterwards somehow connected to one another.

Integrated transportation projects are influenced by governance in different ways. Market players (project developers, housing corporations and institutional investors), transport (rail agencies and operators) and municipal actors join together from an early stage on to develop the direction of Transit Oriented Developments. The policy makers and executers are then combined together from an early stage. In order to create awareness of these effects during the decision making process, it is essential for involved public and private stakeholders to investigate diverse governance arrangement plans. It concerns the relationship between the alternatives of the governance models and their effect on both the masterplan and the associated business case. In order to be able to make the effects of these governance decisions visible and to steer on them, it is essential to work in sets of alternatives whereby each set exists of a governance plan with a corresponding masterplan and business case as shown in figure 26. In order to create awareness of the key elements in a certain context, the effects that are derived from this research could function in the form of parameters during the decision making process.

Thus instead of policy makers developing the governance plans through visions, planning departments developing masterplans and market players or ministries business cases separately, these should be combined and connected through alternative sets. One single governance plan is developed with a connected masterplan and its business plan and this set is developed by multidisciplinary key stakeholders. It is in my opinion a missed opportunity not to include these relations between effects because this connection does exist in reality, regardless of the urban qualities that the master plans provide in themselves.

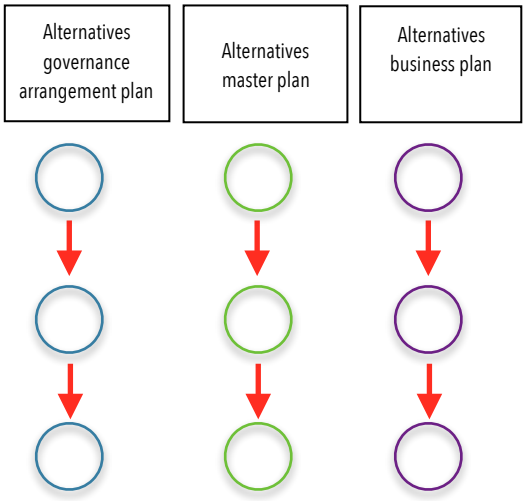


Figure 25: Separated alternative plans (own ill.)

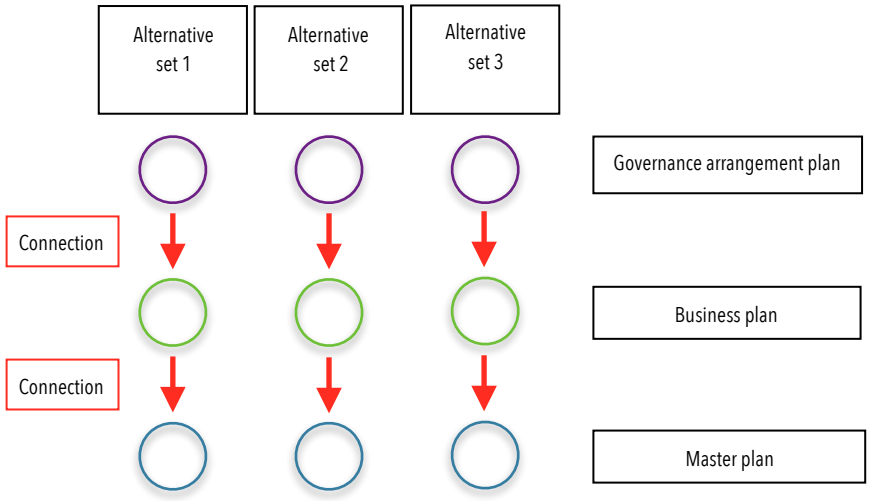


Figure 26: Alternative sets (own ill.)

2. **Combining the two governance models**

The difficulty with area development is the possibility of drowning in complexity. Scaling up to area level entails an explosion of actors and interests. A system of transport actors, a system of real estate actors and the municipality for public space are already complicated in themselves. These mutual relations increase the complexity of such an integral area development. The list of barriers in chapter four of the research gives an impression of this. Opportunities are missed if the subnetworks of the actors are not brought together. It is quickly assumed that everything has to be integral to the last point, but that is not realistic within such a complex task. The essence of area development is that physical, economic and social processes are coordinated into one development. Whereby multiple actors from divers disciplines with opposite interests are joined together in order to elevate a development to the next level by generating value through quality.
In order to develop an integrated area development efficiently, it is suggested to make use of a combination of the divergent governance model and the convergent governance model. There is not one particular right way in which these models can be combined with each other. In order for these models to complement one another, the next example is suggested in which manner this combination could be formed efficiently.

One of the main characteristics of the convergent governance model is its set up, it brings rail and land use stakeholders together from the very beginning in order to shape an integrated area development. This quality can be used to (1) start big by making complete visions and strategies. All involved parties (rail agencies and operators, the municipality and other policy makers, real estate developers and housing corporations) follow and develop the same guidelines through the complete visions and strategies for the entire area. However, it is essential to consider the scale of these guidelines. It is not recommended to intend, for example, that a municipality has the opportunity to go into detail about how a station should fit together. The development of these visions and strategies could be led by a neutral quality team whereby the different domains are represented by involving for example the Railway Master, the Chief Government Architect etc.
After defining the guidelines, a characteristic of the divergent governance model could be used in order to lower down the complexity through separation. The area can then be (2) zoomed in on and divided into sub-areas by delimiting them into projects. To keep the complexity manageable, the area is divided into smaller pieces as if the area is seen as a puzzle. Each actor focusses then in these smaller parts of the puzzle, their own specialism while being aware that their unique project is part of a larger entirety.
Finally in order to put the projects into perspective it is highly recommended (3) to place the projects repeatedly back in and out the total development. The subdivision is necessary to bring about the smaller scaled decision making, but it is important to be aware that each sub-area is part of a strategy.

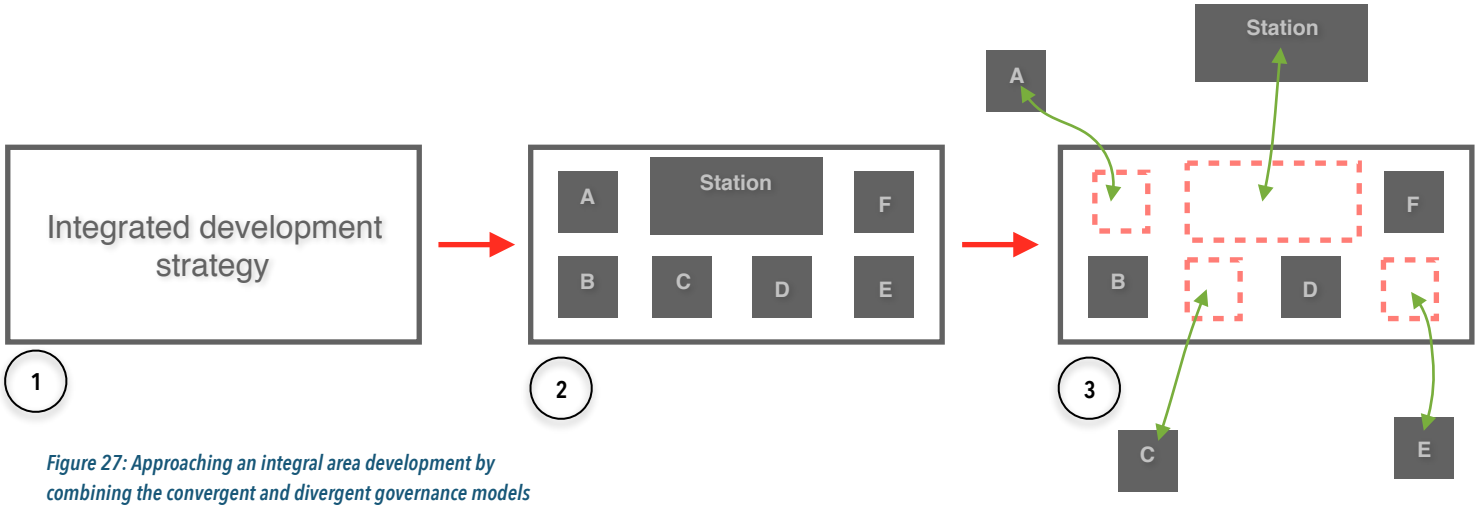


Figure 27: Approaching an integral area development by combining the convergent and divergent governance models (own ill.)

The city is formed in an integrated way and by using such an example an area development is developed in a manageable way. If on one hand a common goal is used too late, opportunities are missed. But if, on the other hand, the common goal is used too early, there will be endless discussions before something happens. Finding a suitable mode is considered and timing is essential.

6.4 Further Research

Modder, et al. (2015) acknowledge that the complexity in the decision making process by combining two different sectors is mainly due to the lack of a trigger factor, a "psychological ownership," which fulfils the directing role for the station development. A trigger factor in the form of a neutral directing role which formulates the 'win-win' and brings parties such as rail operators, housing corporations and market players together to support the development of an integrated vision for a TOD area. The idea of an intermediary entity whose main goal is the realisation of an integrated TOD vision is interesting. An entity without having direct interests, but rather a party which is among the other parties and is responsible for aspects such as communication for example.

MTRC seems like this missing entity although is MTRC a railway agency and that can give the impression towards other stakeholders that it is not neutral anymore. A good example is the quality team that was used during the process of Rotterdam Central District. The members of the team came from different parts of the publics sector. For further research it is interesting to investigate in which manner market parties could be part of such a team and what the institutional framework should look like to realise this. This could have an effect on finding a balance between the divergent governance approach and the convergent governance approach.

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Glossary

Actor network:
A number of actors with different goals and interests and different resources, who depend on each other for the realisation of their goals.

Formal barriers:
Legal, financial and practical impediments within formal institutions that manifest as regulatory guidelines, documentation and policies.

Governance:
Establishment of policies, and continuous monitoring of their proper implementation, by the members of the governing body of an organisation. It includes the mechanisms required to balance the powers of the members (with the associated accountability), and their primary duty of enhancing the prosperity and viability of the organisation.

Informal barriers:
Obstacles that are stemming from political and cultural attitudes and institutional and territorial divisions.

Ishikawa diagram:
An Ishikawa diagram is, also known as a cause-and-effect diagram, used to illustrate a clear image of a problem related to its causes.

Mixed use:
A pattern of development characterised by a mixture of diverse land uses, typically including housing, retail activities, and private businesses, either within the same building space (for example, vertical mixing) or in close proximity (for example, horizontal mixing).

Policy integration:
Policy integration concerns the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields, which often do not correspond to the institutional responsibilities of individual departments.

Randstad:

The Randstad is a megalopolis in the central-western Netherlands consisting primarily of the four largest Dutch cities (Amsterdam, Rotterdam, The Hague and Utrecht) and their surrounding areas.

Rotterdam The Hague Metropolitan Area:
Is a metropolitan area encompassing the cities of Rotterdam and The Hague as well as 21 other municipalities. It finds its legal basis in law.

Sprawl:
A pattern of development characterised by uniform low density, lack of a distinctive core, poor accessibility, dependence on automobiles, and uncontrolled and noncontiguous land expansion.

Transit-oriented development (TOD):
Compact, mixed-use, pedestrian-friendly development organised around a transit station. TOD embraces the idea that locating amenities, employment, retail shops, and housing around transit hubs promotes transit usage and non-motorised travel.

Value capture:
An opportunity to generate revenues by capitalising on the value created by infrastructure investments (often transit and other government-backed projects) by developing or selling property or collect-ing fees or taxes. Value

capture can be facilitated through direct measures, such as the sale of properties or the granting of a development franchise, or through indirect methods, such as extracting surplus from other property owners (through a betterment tax, for example) or reaping higher proceeds from regular property taxes.

Appendix A: Rail + Property Development in Hong Kong

In Hong Kong is property development used to subsidise the development and construction of railway infrastructure. The Hong Kong government does not spend cash subsidies on building railway infrastructure in the city. Instead, they contribute MTRC in the form of a land grant that gives the company exclusive development rights for land above and adjacent to the developing stations. This manner spares MTRC the process of purchasing land through the open market. MTRC purchases these developing rights from the government at a "before rail development" price and sells these rights to a selected private developer at an "after rail development" price. The Hong Kong Special Administrative Region owns all land in Hong Kong. Private parties can only purchase 50 year leases that grants exclusive property development rights. The profit which MTRC gains from the difference between "before- and after rail development" price is used to finance the cost of railway investments. In order to capture this value MTRC is required to perform well in planning and development of the property projects, especially integrated with the railway. The more integrated the area is the more valuable it will be.
MTRC makes use of the value capturing via selling the developing rights to finance railway but it is not the companies only financial income from a R+P project. The company also negotiates with the private developer(s) about earning part of future property-development profits and/or a co-ownership of the properties. MTRC has a very diverse portfolio of projects to protect the company from insecurities and variables in the Hong Kong's market. Next to R+P does MTRC got itself involved in property management, consultancy, advertising and ownership of other assets (e.g., telecommunication leases, convenience retail shops). These different markets function as buffer for MTRC in case the Hong Kong's real-estate market weakens. The company stays secured with support of the other segments.

MTRC Property Development Process
The MTRC staff works closely together with the governmental planners and transportation professionals to define the railway line and assess construction costs of comparable station site options (MTRC, 2000). Along with it comes discussing opportunities of property developments that are valuable enough to make the returns of the overall railway investment and which also promote long-term planning objectives. Factors such as the value of land, density potential and project size/scale are essential in deciding whether to initiate a specific R+P proposal. Other practical factors such as the presence of a large depot to provide storage areas for trains also determine possibilities of realising a R+P project. The composition of land use amenities to realise near the station is largely defined by the market and restricted by zoning regulations. Commercial amenities are mostly placed near the central stations while residential projects are more built in the outer areas and at terminal-stations. Once the government and MTRC agree with each other and the decision is made to initiate a R+P project, they negotiate terms of the land grants and MTRC receives the exclusive developing rights for the specific sites, defining building locations, permissible uses and plot-ratio densities. MTRC designers and planners then prepare a master layout of the project, including the siting of buildings, block designs, standards for building quality and locations of vehicle access points.

The project will be offered by MTRC to potential developers through public tenders. The award process consists of four main stages:

(a) *Shortlisting stage*: Interested parties get an invitation to show their interest along with the details of their corporate structure, development experience, marketing and management abilities. MTRC will evaluate their receiving and make a short-list of potential developers.
(b) *Consultation stage*: The selected developers get informed about the master layout-plan, design details and any interface between the railway and property works.
(c) *Tender invitation*: Short-listed developers can submit tender proposals to the development packages. The selected tenders are then invited to submit offers.
(d) *Award*: The most favourable developer(s) will be selected, the terms and conditions of the development agreement will be finalised and MTRC and the developer (s) sign a property development contract.

After being selected, the developers have the opportunity to look into the R+P proposal(s) and give their insights and recommendations and even change them. Once a public-private partnership is formed, the developer has to pay "with rail" land premium to take the exclusive development rights over. MTRC negotiates in most cases also an agreement whereby they get a share of the development profit as well as equity ownership and in some circumstances even asset ownership. MTRC is not responsible for any losses that has to do with property development, those risks are bared by the developers. The chosen private developers are responsible for the detailed design of an awarded assignment. The detailed design has to be aligned with the specifications that MTRC has laid out in their development agreement with each other. MTRC will execute the civil works and manage the technical control standards and requirements for interfacing between the railway buildings and the property development. The property developer is responsible for all development costs, including the land premiums, construction costs, professional fees, marketing costs, and expenses related to the selling and leasing of the completed properties.

MTRC stays actively involved during the project once the tender is awarded to the designated developer. The company oversees project design, engineering/construction and stays involved as property manager. MTRC has the responsibility to realise the original visions of the government, to keep the project development continuous and to have a reliable, transparent and well-managed development process by being seamless involved from the conceptual phase of the project, through implementation to property management. R+P projects attract business tenants by its high-quality image which is due to the active involvement of the master planner (MTRC) throughout the development process. A responsible company official is on a daily basis available on the construction site to keep an eye on the activities, to respond to concerns and to have the views of all stakeholders in mind while making day-to-day decisions.

The MTRC, being the grantee of the land, remains primarily responsible for the fulfilment of all the conditions and obligations under the land grant for the development. Such conditions and obligations include the type and quality of the development that must be built, the government facilities to be provided, the completion date of the project and the payment of the land premium (for which developers are responsible under the terms of a typical development agreement).

Key elements of MTRC Property Development process

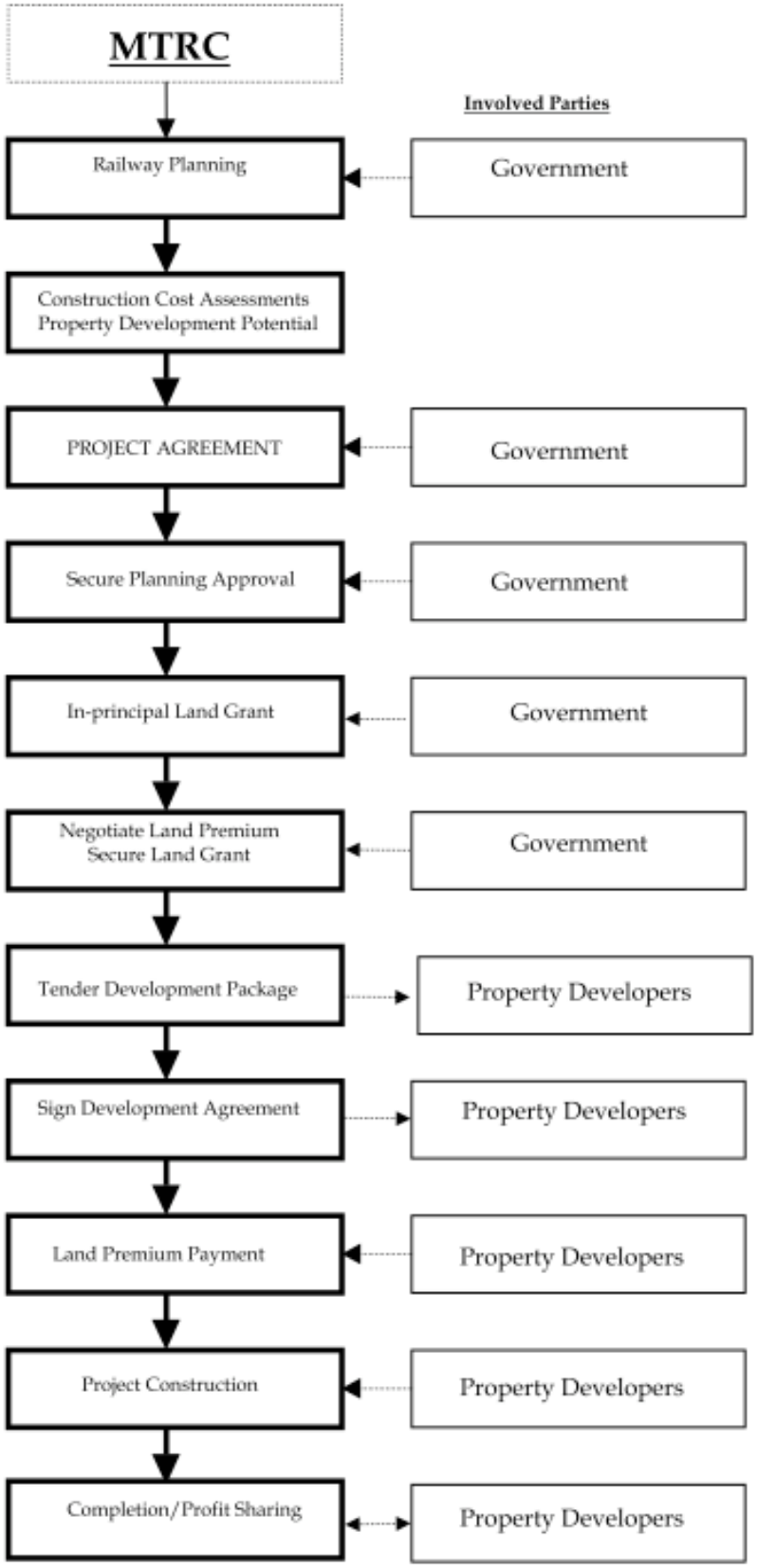

Figure 28: MTRC Property Development process (Tang et al., 2004)

According to Tang et al. (2004) , there are four key elements behind MTRC's approach of implementing integrated rail-property development in the context of Hong Kong:

(a) *Policy:* Policy support of transit and land use integration from the government in terms of land grants and financial assistance to MTRC;
(b) *Process:* Forward-looking planning, management, control procedures and effective development processes that attempt to maximise the synergy between railway and property from the start to completion.
(c) *Project:* High-quality real estate projects that attract tenants, shoppers, and transit users; and
(d) *Organisation:* An experienced entity that balances the financial interests of investors with larger societal goals.

According to Tang et al. (2004) is a single entity as MTRC sufficient for managing the complexity of land development and to make use of the value capturing by railway investments. This is caused by the professional focus of MTRC on the complexity of land development (*asset specificity*), expansion of knowledge among MTRC managers, making use of a disciplined approach towards property development and the accountability to shareholders (*reduced uncertainty*) and protecting the assets by being involved in construction and property management.
All stakeholders have to communicate their interests with MTRC since they do the planning, designing and the architecture. The company sets and enforces all development norms so that when the developers get involved the requirements and expectations are clear from the beginning. A strong quality of having one entity which oversees the whole project from beginning to end ensures that there are strong connections between transit and land use. MTRC also acts as an intermediary between government and private developers by specifying site requirements, negotiating agreements, and balancing between competing public and private interests.

Tang et al. (2004) argue that an integrated rail-property development model is not solely combining railway and property, it is more than that. The outcomes of the model is the integrated railway and property development above stations but the model itself is not equal to that. Their study argues that the model represents a unique approach in handling the relationship between railway and land development.

Appendix B: Case study Rotterdam

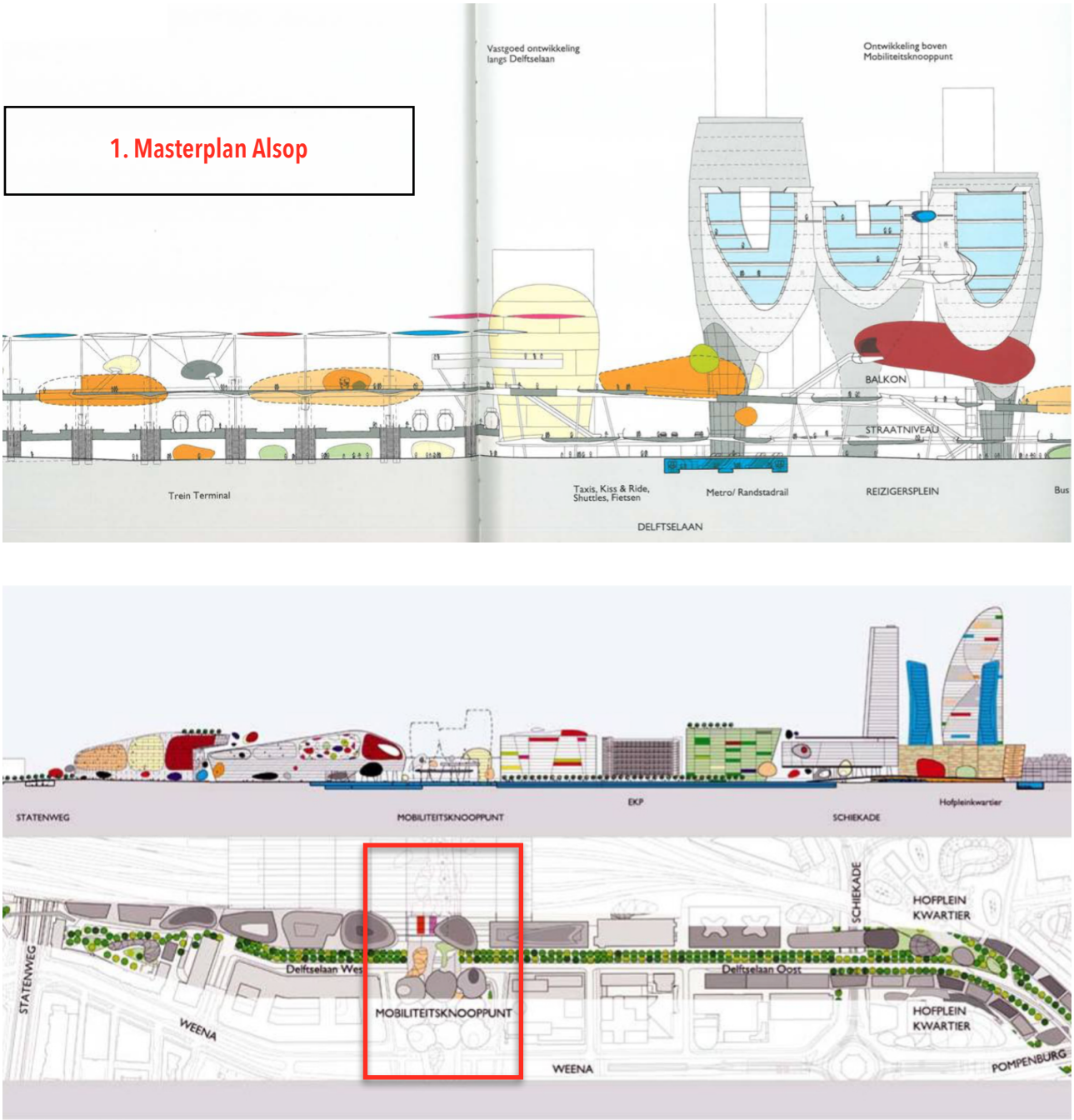

Figure 29: Masterplan Alsop (Triggianese, 2014)

3. Rotterdam Central District Program

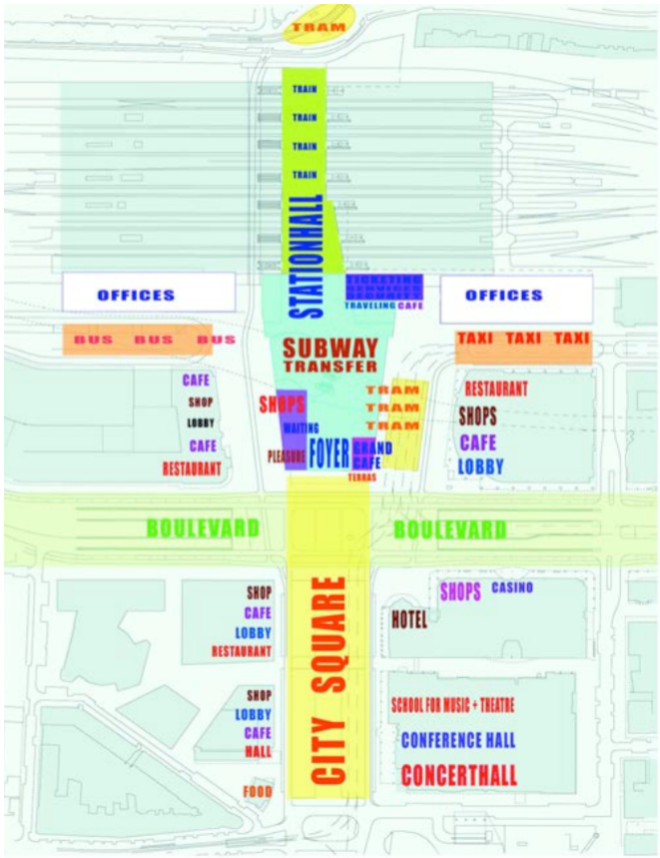

Figure 31: Rotterdam Central District (Triggianese, 2014)

2. Rotterdam Central

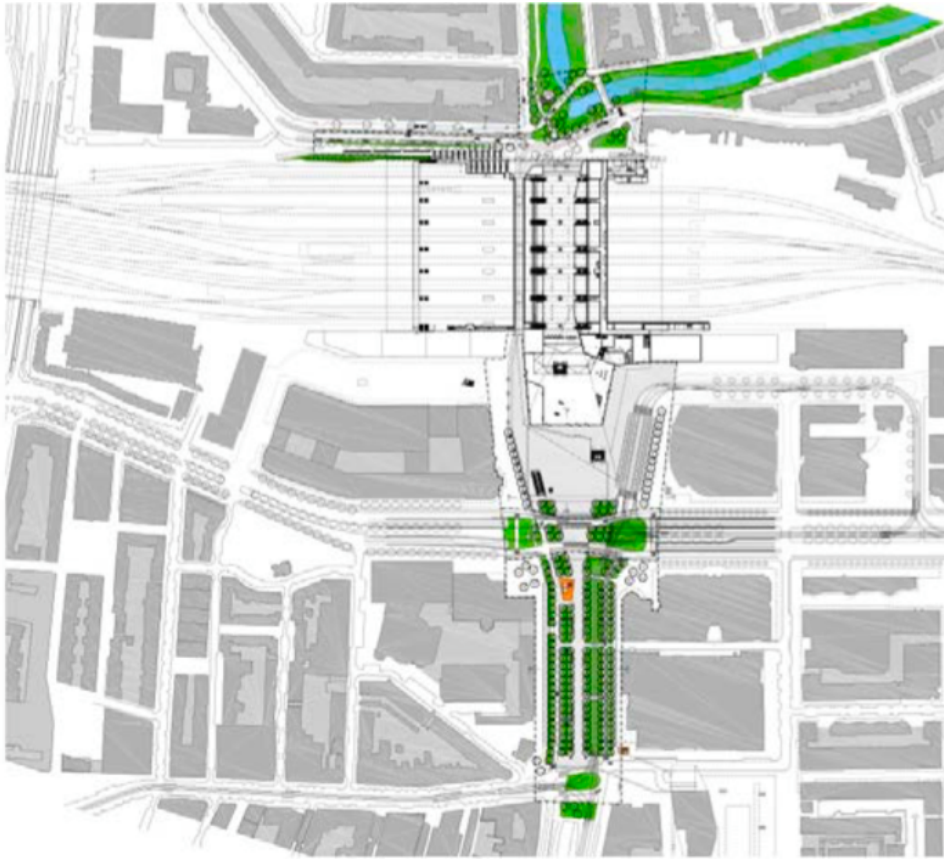

Figure 30: Project Rotterdam Central (Triggianese, 2014)

Appendix C: Transformation of the power interest grid

The rounds were very dynamic during the decision making process; the involved stakeholders changed after each round, different issues played a role during each round and the positions of the remained stakeholders changed during the process. This subchapter observes the transformed positions of the stakeholders that were actively involved during the decision making rounds. The observation is made using the power/interest grid which is normally used beforehand as indicator on how to interact with other actors during the rounds. But I made the choice to use this technique in a reversed manner in order to monitor the changes and similarities.

Round 1: 1998-2002

The involved stakeholders during this round are:

- (1) Ministry of Transport and Water management
- (2) Ministry of Housing, Spatial Planning and the Environment
- (3) Municipality of Rotterdam
- (4) Rotterdam The Hague Metropolitan Area
- (5) Alsop Architects

During the first round did the municipality take a dominant role on themselves by deciding to develop the masterplan for the Rotterdam station area together with design office Alsop. Their interest for the project was the highest because of their daily responsibility when it comes developing the city. Next to their high interest position do they also posses a strong financial position within this round because of the financial support from the ministries. The government allowed the municipality the ability to develop the masterplan with Alsop and with the exclusion of actors from the transport sector. Despite their institutional power/influence did the ministries have less interest in Rotterdam Central because of the other several municipalities that they were also dealing with. The architectural firm provided its services and therefore did not have much power. It is a replaceable party with high interest which lies in the possibility of receiving assignments in the future.

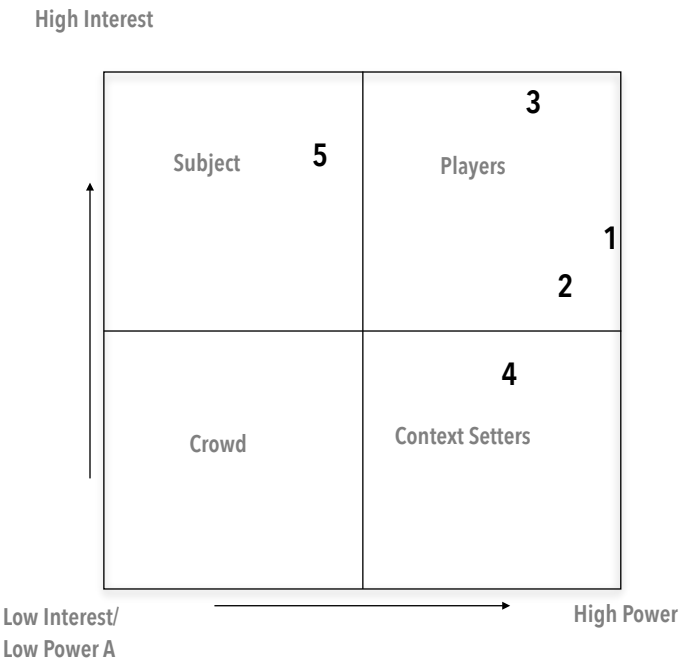

Figure 32: Power/interest grid round 1 (own ill.)

Round 2: 2002-2004

The involved stakeholders during this round are:

- (1) Ministry of Transport and Water management
- (2) Ministry of Housing, Spatial Planning and the Environment
- (3) Municipality of Rotterdam
- (4) Rotterdam The Hague Metropolitan Area
- (6) Government Rail Agency (ProRail)
- (7) Dutch Railways (NS)

The appearance of the dynamic feature of the rounds model is noticeable during this round. Some actors from the previous round have remained (1,2,3), some have stayed on the background (4) or have even left the second round (5) and new key-players have joined the next round. After the disapproval of the Alsop masterplan was the municipality obliged to take a couple of steps back from her leading role during round 1 to make way for the ministries and their rail operators. The amount of interest for the station and its surroundings remained high even though the decrease of the power position of the municipality. Rotterdam The Hague Metropolitan Area had invested like the other actors in the station project but their role during the negotiations was not active such as the fellow players. They were more involved with the RandstadRail project which was spread over the whole metropolitan area (Den-Haag, Zoetermeer, Schiedam and Rotterdam). The ministry of Water management made use of their powerful positions within the institutional framework with the Ministry of Transport and Water management taking the lead. Their interest amount is not as high as the municipality because of the fact that Rotterdam Central is one of many National Key Projects, but they had to get more involved because of the risk that the costs of this particular station would become too high with the consequence that they have to multiply these costs by six for the other stations. The Dutch Railways had a lower power position than ProRail even though they were becoming the stations owners which does mean that their interest is higher but ProRail is responsible for the construction of the station and owns the land of the station. The Dutch Railways functions next to being the owner also as real estate developer of the retail within the station building. ProRail had a lower interest rate in the station because their role was in the beginning not that clear.

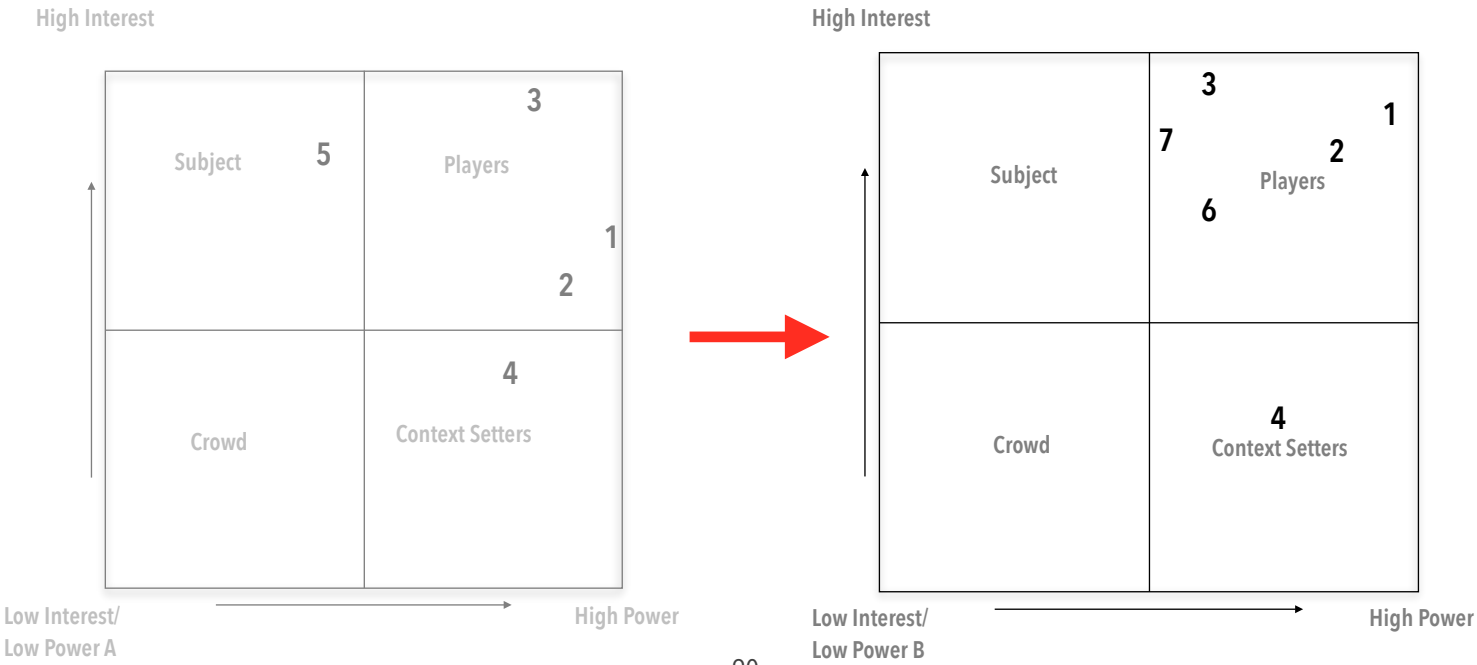

Figure 33: Transformation power/interest grid round 1 - 2 (own ill.)

Round 3: 2006-2010

The involved stakeholders during this round are:

- (1) Ministry of Transport and Water management
- (2) Ministry of Housing, Spatial Planning and the Environment
- (3) Municipality of Rotterdam
- (6) Government Rail Agency (ProRail)
- (7) Dutch Railways (NS)
- (8) Quality team
- (9) Real estate developers
- (10) Real estate owners
- (11) Investors

Frictions about the quality of the urban surroundings of the station was the trigger for the municipality to set up a quality team. The quality team had a higher position than the municipality and the rail agencies and took part in the decision making with the focus on the urban quality of the development. An important objective of the municipality was to provide quality to this part of the city and with the support of the quality team did the power position of the municipality increase a bit compared to the preceding round when it comes to the transport agencies.

The municipalities high interest during this round was based on improving the place making of the station area at which the interaction of the buildings through their ground floor played a large role. During this round with these subjects on the table are the real estate developers, real estate owners and investors more the key players. The municipality depends on their will to collaborate and to adjust their real estate to improve the place making. The real estate owners are also interested in increasing the value of the neighbourhood but solely when the added functions are based on feasible business cases. Another reason for the municipality to work on the place making and image of the area was also because of the threat of large companies (real estate owners) leaving Rotterdam for Amsterdam. This puts the real estate owners in a more higher power position, because they had an alternative location to replace Rotterdam Central District with.

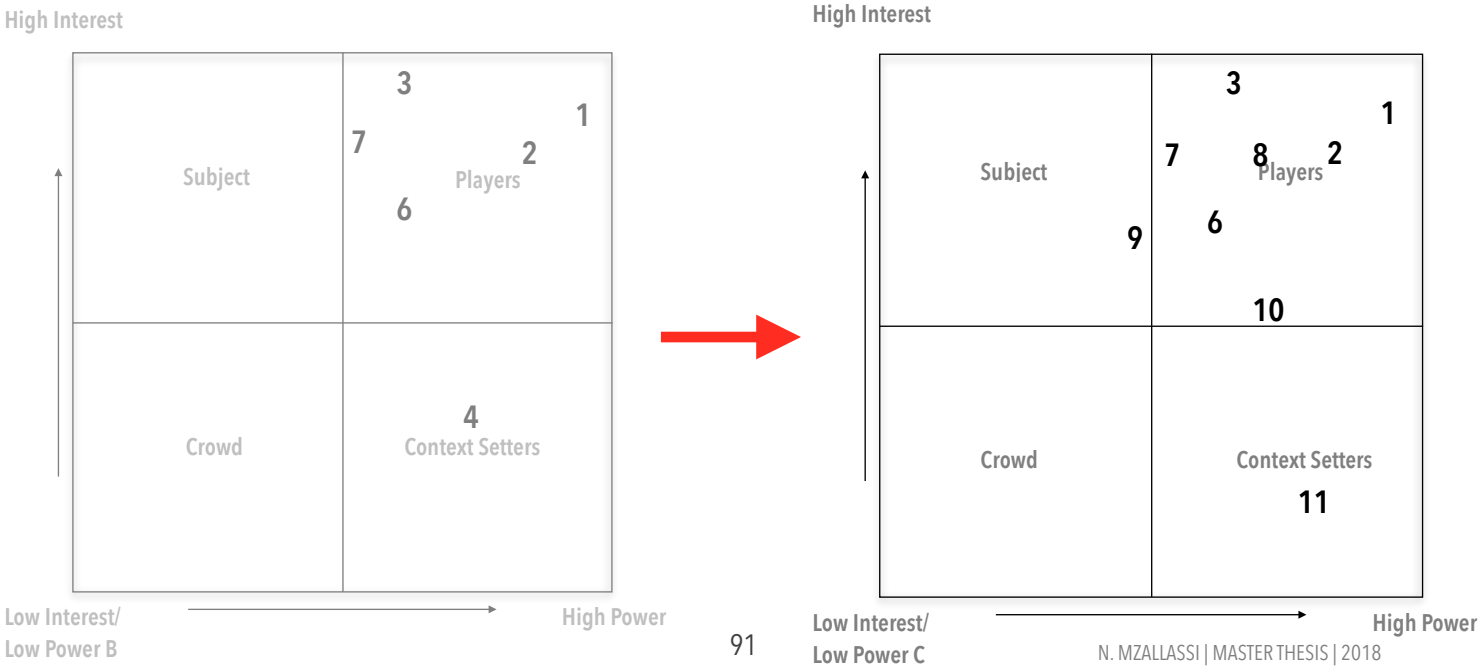

Figure 34: Transformation power/interest grid round 2 - 3 (own ill.)

Round 4: 2008 - 2014

The involved stakeholders during this round are:

- Municipality of Rotterdam (3)
- Real estate developer (8)
- Real estate owners (9)

This round took place in the context of the financial crisis which occurred in 2008 and its consequences concerning Rotterdam Central District. The stakeholders that were involved with the station itself did not face directly with these consequences because the largest part of the financial investment of the station was already made before the crisis. Their position remained the same and were not part of this round because the consequences of real estate did not effect their positions. The real estate market however got hit the hardest during this period of time. Which also meant that the position of the private developers decreased in power compared to the previous round because of their financial circumstances. The real estate owners were less interested in making major new investments and the worth of the real estate decrease during this period. A move to another location was however a less likely option, which also influences their power position towards the municipality for example. The real estate developer who was involved in a large part of the area was next to developer also property owner which means that the threat of bankruptcy is very serious and that decreases the financial power and increases the interest in the area of such a stakeholder. The municipality increases in power position as well in its interest rate because of the consequences of such a developers financial hardship. This interest is the cause for the alderman of Rotterdam to make the leasehold arrangement possible to prevent cessation of the construction projects.

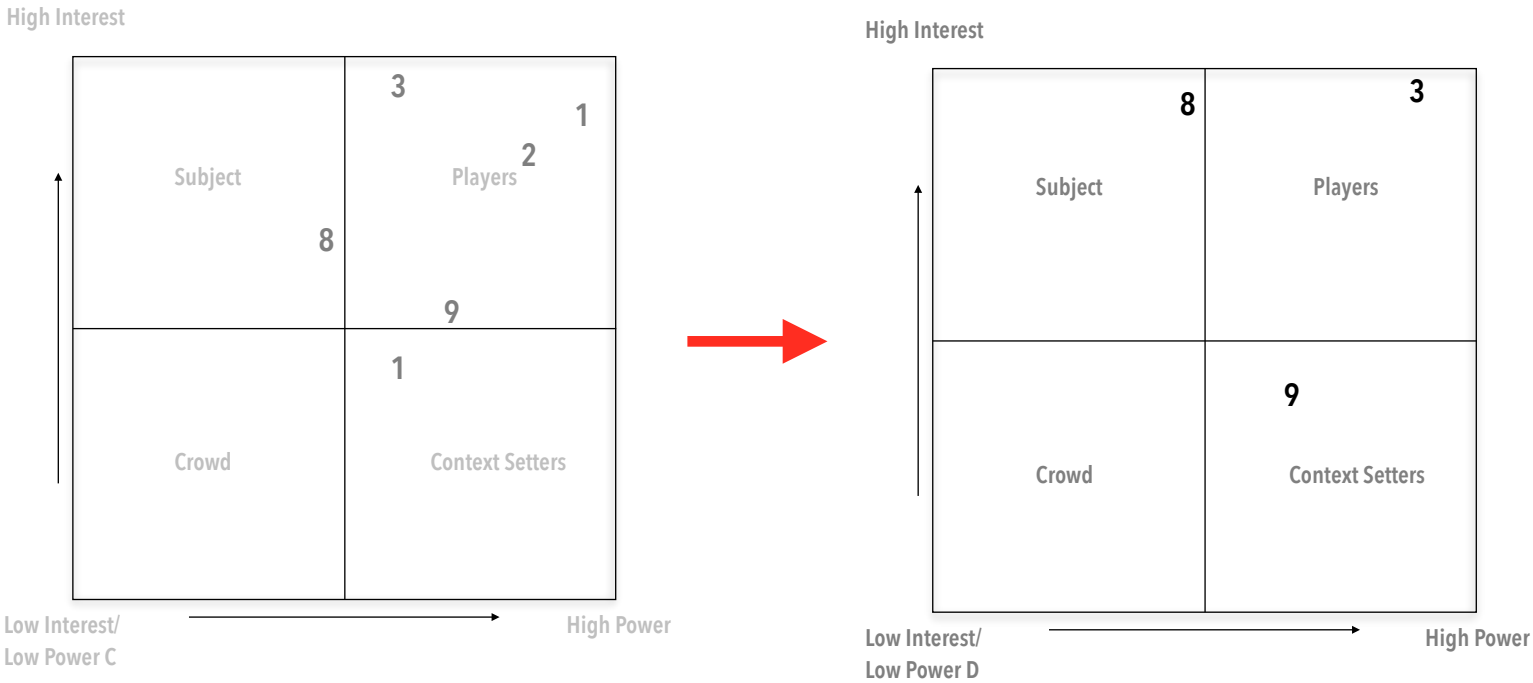

Figure 35: Transformation power/interest grid round 3 - 4 (own ill.)

The shifts in the power/interest grids illustrate the dynamical mechanisms that took place during the rounds. These shifts can be caused by internal influences such as the disapproval of the first masterplan and external influences such as the financial crisis or politics. Some influences have a more intensive effect than others. The power and interest position of the actors was also guided by the issues that matter during a round. Besides can the behaviour of the stakeholders be analysed by observing the changes between the grids.

Even though their financial power did the ministries not have an active attitude in the beginning of the case and the municipality took the institutional control over the project. They had a wait-and-see attitude until it went wrong with the first masterplan. The dissatisfaction of the original approach functioned as an incentive for the ministries to make use of their institutional power and include the rail agencies actively in the project. Thus institutional and financial control does not necessarily mean that an actor is using both. The responsibility of taking the lead is not fixed.
ProRail was initially meant to be involved to the station project which caused a confusion about the institutional position relative to the other players. This position confusion leads to expectant behaviour. The municipality did the total opposite at the moment of hampering during the negotiation with the rail agencies when it came to integrated quality. The municipality has ensured to put a team together which exists of institutional powerful members that are on the same page as the municipality concerning urban quality. The city had a much stronger negotiation position with the quality team behind them. They handled their barrier at that moment proactively. And other key players are in need of a clear incentive to move their interest rate regarding the developments. The private parties are an example of that, they were willing to invent solely based on the feasibility of the business case.

Appendix D: Case interview

Interview protocols

Case:	Case, location
Interviewee:	Function, organisation
Date:	Time, date
Location:	Place
Encoding:	Interview xxx

1. *Introduction*
   This interview protocol is intended for the interviews which are used for the graduation research of Noufissa Mzallassi, master student Construction Management and Engineering at Technical University of Delft (TU Delft). The research is executed with the help of case studies of Arcadis. During this research I will be supervised by my graduation commission from TU Delft as well as Arcadis. The interviews will be taken by graduate, Noufissa Mzallassi. The interviewees are selected based on the following criteria: experience, current function and their assumed knowledge within project Rotterdam Central District regarding the questions.

2. *Subject explanation to interviewees*
   The graduation research focuses on integration between transport and land use in context of Transit Oriented Development projects. The researcher observes in what manner policymaking of the decision makers is translated into the procurement process. Two different governance models, the so called 'divergent' and 'convergent' model, are being analysed and compared. The divergent model refers to an institutional governance method where the integrated development is implemented separately whereby land use is realised by developers and the railway construction by a transport agency. The convergent model on the other hand is designed to implement integrated development by a single entity.

3. *Interview objective*
   The objective of the interview is to collect empirical data which will contribute to answering the following research questions:

   (a) What are the stimuli and barriers associated with the integration of transport and land use?
   (b) To what extent does policy integration of transport and land use contribute to the improvement of Transit Oriented Developments?
   (c) What is the effect of the convergent and divergent governance models on the integration of transport and land use?

4. *Interview result*
   The interview is semi-structured, it is partly based on open questions and partly based on closed questions. The interview provides information on the opinion and experience with regard to the stated aspects and elements which are formulated in the topic list.

5. *Processing the interview*
   The interviews are in request of the interviewer and agreement with the interviewee recorded and processed in

the context of the graduation research. A discussion will take place in case it is not possible to receive an answer on a particular question.

6. Privacy
   The interviews will be included in the thesis with the agreement of the respondents for academic purposes. All the interviews will be processed anonymously.

Interview questions

General questions

- What is your role within the organisation?
- Which role have you undertaken during the project?
- How long have you already been involved in this project?

Transport and land use

- Who were responsible for the transport developments? And which parties were responsible for the land use developments?
- What were the most important values and objectives within transport and which ones within land use?
- When and how did these two sectors meet each other during the tender process?
- What are your thoughts about synergy of land use and transport? How do you (or not) embrace an integration on a daily basis?
- Do you think that integration can function as a benefit or may it harm other issues/values in achieving sustainable mobility?
- What are the most essential stimuli and barriers in achieving policy integration? Are these created by internal or external factors?
- To what extent do you think that policy integration will (or won't) lead to an improvement of realising TOD? Is there a limit?
- Who were responsible for implementing the projects site-specific requirements and the trade offs agreed on in connection with the joint development?

Project outcome

- Were the clients values and policy objectives that were set from the transport point of view entirely protected and achieved?
- Were the clients values and policy objectives that were set from the land use point of view entirely protected and achieved?
- Did the client set major policy objectives that took the public interest in combination with the joint development of transport and land use into account? Were these realised?
- What is your overall opinion about the outcome of the integration between transport and land use during the project?

Closure

Finally, are there any questions you have expected during this interview that haven't been included? Thank you for the interview. I can send you the final report in case you are interested in the end result.

Appendix E: Expert interview

Interview questions

General questions

- Can you give a brief introduction about yourself (background)?
- Which role have you undertaken within the organisation?
- How long have you been involved with TOD projects?

Policy integration of public transport and property development

- What is your definition of successful implemented TOD strategies (TODS) from a policy point of view?
- What are your thoughts about synergy of public transport and property development in TOD projects? How do you (or not) think that policy makers and other stakeholders could embrace an integration on a daily basis?
- What are the most essential institutional stimuli and barriers in achieving policy integration between public transport and property development?
- To what extent do you think that policy integration will (or won't) lead to an improvement of realising TODS? Is there a limit?

Institutional management models

- Are you familiar with the convergent and divergent management approaches? What are your first thoughts?
- What are alternative approaches in implementing integrated TODS?
- What are the most essential stimuli and barriers on implementing integrated TODS of each of the (multiple) institutional models?
- To what extent do you think that a convergent or divergent governance approach will (or won't) lead to an improvement of realising TODs? What are the effects and is there a limit?

Closure

Finally, are there any questions you have expected during this interview that haven't been included? Thank you for the interview. I can send you the final report in case you are interested in the end result.

Appendix

Examples (in the case of Hong Kong) of the convergent and divergent governance models are illustrated in the following figures:

Figure I: Model A illustrates the divergent governance model

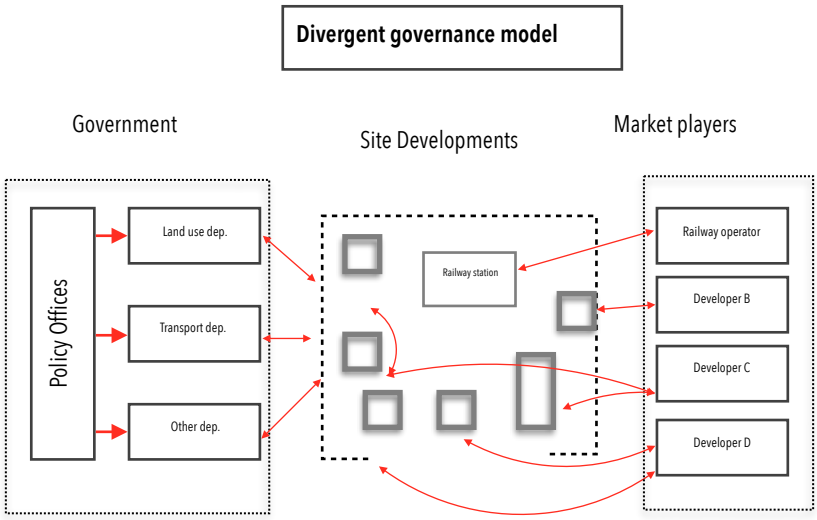

Figure II: Model B illustrates the convergent governance model