

Master thesis for the Land, Planning and Real Estate Development Programme



Realizing Affordable Private Rental Housing: A study of Public-Private Partnerships in Dutch Real Estate Development

A study of Critical Success Factors and monitoring mechanisms for affordable rental housing in the Dutch private rental sector



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Preface

I am proud to present my master's thesis entitled "Realizing Affordable Private Rental Housing: A Study of Public-Private Partnerships in Dutch Real Estate Development. This is the result of countless hours of research and dedication over the past few months. The research marks the culmination of my academic journey at Radboud University in Nijmegen for my master's degree in Spatial Planning. I have worked with great passion and dedication to understand and research one of the most pressing contemporary issues in the Dutch housing market.

With this research I hope to fill a gap in the literature and provide a basis for future PPP projects for the realization of affordable private rental housing. In addition, I hope that this thesis will make a valuable contribution to the discussion and policymaking around affordable private rental housing in the Netherlands, and that the findings of this research will be useful to all stakeholders in such projects.

I would like to thank my supervisor, Mark Wiering. His guidance and constructive feedback have been essential to the success of my research. I would also like to thank all the professionals interviewed for their willingness to share their time and insights with me. Without their contribution, it would not have been possible to provide the in-depth and practical perspective in my research.

I would also like to thank my family and friends for their support and understanding throughout this challenging process. Their encouragement and confidence in my abilities have motivated me to persevere and bring the research to a successful conclusion.

Joeri Lahaye

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Abstract

This thesis explores how public-private partnerships (PPPs) can contribute to the development of affordable private rental housing in the Netherlands. The current real estate market has a huge shortage of affordable rental housing, which creates enormous pressure for various social groups. The research focuses on identifying Critical Success Factors (CSFs) for PPP and mechanisms to ensure the affordability of the development. Based on 2 cases; Strijp-S in Eindhoven and Waalfront in Nijmegen, the findings from the literature are reflected in practice. Through a combination of literature review and qualitative research methods, including interviews, a broad insight into the operation and effectiveness of PPP projects in practice was created.

The results show that the CSFs that emerged from the literature review, including 'Political support and stability', 'Trust and openness', 'Favorable and efficient legal framework' and 'Appropriate risk allocation' are considered essential for the success of a PPP. In addition, 'Knowledge, skills and experience' and 'Clear agreements in advance' were found to be critical success factors for such projects in practice. The results also show that affordability mechanisms including contractual arrangements, risk sharing and monitoring and evaluation are important to ensure affordability in PPP constructions. Additional mechanisms such as reinvestment, revision of plans and cooperation with housing corporations have also emerged from practice as mechanisms for affordability. Finally, it was found that the government can also provide incentives for PPP projects with affordable private rental housing using government incentives and support, diversity in housing supply, and clear planning and policy formation.

Key words: *Public-Private Partnerships (PPPs), Affordable private rental housing, Real Estate Development and Critical Success Factors (CSFs)*

Table of contents

- List of illustrations 8**
 - List of Figures..... 8
 - List of Tables 8
- Chapter 1 – Introduction 9**
 - 1.1 Problem Statement..... 9
 - 1.2 Research aim and questions..... 10
 - 1.3 Societal and scientific relevance..... 11
 - 1.3.1 Societal relevance 11
 - 1.3.2 Scientific relevance 12
- Chapter 2 – Theoretical Framework & Conceptual Model 14**
 - 2.1 Theoretical Framework..... 14
 - 2.1.1 Public-Private Partnerships (PPPs) 14
 - 2.1.2 Safeguard mechanisms..... 18
 - 2.1.3 Affordable housing private rental sector..... 19
 - 2.1.4 Critical Success Factors (CSF) within PPPs in relation to affordable housing 20
 - 2.2 Conceptual model 24
 - 2.3 Operationalization 24
- Chapter 3 – Methodology 27**
 - 3.1 Research philosophy 27
 - 3.2 Research strategy 27
 - 3.3 Research methods 29
 - 3.3.1 Semi-structured interviews 30
 - 3.3.2 Structured interviews 30
 - 3.3.3 Document analysis 30
 - 3.3.4 Media research 31
 - 3.4 Data analysis..... 31

3.4.1	Semi-structured interview analysis	31
3.4.2	Structured interview analysis	32
3.4.3	Media research analysis	32
3.5	Validity and reliability	32
Chapter 4 - Cases	34
4.1	Strijp-S Eindhoven	34
4.2	Waalfront Nijmegen	34
4.3	The history of the collaborations	35
4.4	Actors.....	35
4.5	Type of cooperation.....	36
4.6	Current status and achievements	37
4.7	Obstacles in development.....	37
4.8	Residents' experiences	38
Chapter 5 – Findings	40
5.1	Critical Succes Factors of PPPs.....	40
5.1.1	Political support and stability	41
5.1.2	Trust and openness.....	42
5.1.3	Favorable and efficient legal framework	43
5.1.4	Appropriate risk allocation and risk sharing	44
5.1.5	Additional Critical Succes Factors of PPP.....	45
5.2	Connections between all CSFs	46
5.3	Safeguard mechanisms for development.....	47
5.3.1	Contractual arrangements	48
5.3.2	Risk sharing	48
5.3.3	Monitoring and evaluation.....	49
5.3.4	Additional mechanisms.....	50
5.4	Safeguard mechanisms government’s perspective	50

Chapter 6 – Conclusion, discussion and recommendations	52
6.1 Conclusion.....	52
6.2 Discussion and recommendations	53
Chapter 7 - Bibliography.....	56
Appendix A – Codebook 1.....	66
Appendix B – Codebook 2	69
Appendix C – Codebook 3.....	72

List of illustrations

List of Figures

Figure 1. The spectrum of “Public-Private Partnerships”	14
Figure 2. Identification of the forms of PPPs	15
Figure 3. Affordable housing in the Dutch housing market	20
Figure 4. Themes and examples of indicators for measuring effects of a PPP	21
Figure 5. Conceptual model	24
Figure 6. Connections between CSFs	46

List of Tables

Table 1. Advantages PPPs	17
Table 2. Disadvantages PPPs	17
Table 3. Operationalization	26
Table 4. Sub-questions with their research method(s)	29
Table 5. The importance of CSFs in practice compared	41

Chapter 1 – Introduction

1.1 Problem Statement

The Dutch housing market is facing substantial housing shortages. In fact, the current housing shortage today is much higher than first imagined. Currently there is a shortage of 390,000 dwellings nationwide. This is over 110,000 more dwellings than the ‘static housing shortage’ the government first stated (Berg, 2022). All these housing ambitions are necessary to meet today's market demand. Because of these housing shortages, the government has decided to build a significant number of new houses in the Netherlands. The government's goal for the future is to build 900,000 additional dwellings by 2030 (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022b). Because the contemporary demand far exceeds the current supply, this results in high rental and housing prices (Custers, 2022). Hence, from government's perspective it is essential not only to address the need for constructing that number of dwellings to meet the demand but also to ensure that a minimum of one-third of these dwellings is made affordable. According to the established vision of the future, by affordability for rental housing the government refers to housing that falls under the social housing, rental housing from the social rent limit up to a maximum of €1000 per month and dwellings for sale up to the NHG limit of €355,000 (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022b). To ensure this, the government has created the "Programma Betaalbaar Wonen". This program states that it should become possible for more middle-income people to find affordable housing. In addition, high housing costs should be addressed, and tenants and buyers should be better protected in the future (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022a).

For this research, the focus is on the rental households, as they are the households most likely to be in financial difficulty (Haffner & Boumeester, 2010). Focusing specifically on the private rental sector, it becomes visible that dwellings within this domain are lacking in affordability within the market. For example, in the first months of 2023, people paid a monthly rent of as much as €1,248 (NVM & VGM NL, 2023). This is almost 25% more than what the Dutch government considers affordable rent. In addition, this even shows a slight increase from the last quarter in 2022. In fact, at that time the average rent was €1,240, making a difference of +0.6%. This demonstrates that the actual housing shortage is not the biggest problem, but rather the affordability component within the housing sector is the major obstacle block (van Mourik, 2022). According to De Rijke (2023), research by the

Hypothekeer shows that more than 80 percent of new housing developments in the Netherlands today are unaffordable for middle-income households. This exposes that even in housing crisis like these, when affordable housing is so desperately needed, new development housing still does not appear affordable on the market.

According to research among consultants involved in housing acceleration in the Netherlands, according to Vastgoedjournaal (2021), it is necessary to use PPPs to bring the realization of these developments to a satisfactory result. The study by Alteneiji et al (2020) also indicated that PPPs can improve both the quality and availability of housing for lower-income households. According to these studies, these partnerships can often be implemented not only faster, but also at a lower cost. Because costs are so high within these collaborations today, this gives a negative result for development in terms of affordability. Madden's (2011) study of PPPs in affordable housing also concludes that financing is a major obstacle within these realizations. This obviously has a negative effect on the affordability of the housing that comes to the market because of these PPPs. Nevertheless, this study has chosen to focus on these PPPs as they can offer many opportunities for the realization of affordable housing on the market. Previous academic research has shown that PPPs are a unique way of sharing risk across sectors, making it possible to achieve affordable rental housing (Zhang, 2023; Smith, 2023). Additionally, the study by Alteneiji et al. (2020) illustrates that PPPs not only promote affordability but also improve the quality and availability of affordable rental housing.

Residential “Residentie Gerlachus” in Maastricht illustrates in practice a situation where rental housing in the private sector has been marketed at higher rates than initially promised. Sekhuis (2018) stated in De Limburger, even prior to the development, that the investor indicated that rental prices would remain stable, ranging between €600 and €800 per month. Nevertheless, findings by Hendrikx (2020), two years later, show that the developed properties are being offered at rates ranging from €900 to well above €1500 per month, which is not in line with the pre-communicated affordability of the properties. This example clearly shows that in times like these, homes are not always offered affordably on the market. This is despite this being communicated at the front. It can be concluded from this that there is insufficient to no monitoring and enforcement on these projects.

1.2 Research aim and questions

The aim of this research is to identify ways to ensure the affordability of housing in the private rental sector in the Netherlands through PPPs. Additionally, it will examine how to

establish this guarantee for the development of affordable rental housing. The critical success factors (CFS) related to the realization of affordable rental housing in the Netherlands will be investigated. To achieve this goal, the following main research question have been drawn up:

To what extent can public-private partnerships in real estate development influence the provision of private affordable rental housing in the Netherlands?

To answer the above-mentioned main question, this thesis will attempt to answer the following sub-questions:

1. What is the share of public-private partnerships and which actors are involved in relation to the development of the affordable Dutch rental housing?
2. What are the critical success factors (CSF) of public-private partnerships in relation to the development of affordable rental housing in the private rental sector?
3. What specific mechanisms can be identified from the government's perspective to establish an effective safeguard structure for monitoring public-private collaborations?
4. In what ways can effective supervision be implemented in development to ensure the affordability of Dutch private rental housing?

1.3 Societal and scientific relevance

1.3.1 Societal relevance

As mentioned earlier, the Netherlands is facing a major shortage of affordable housing. The importance of this housing crisis is underscored by the government's plans that emphasize housing affordability. For example, the "Programma Betaalbaar Wonen" reflects the government initiative to make housing affordable for middle-income citizens (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022a). Furthermore, contemporary private rents indicate a current affordability crisis in society as they are significantly above the government-established affordability standard of €1000 per month (NVM & VGM NL, 2023). This crisis affects the financial stability and quality of life of many Dutch citizens. Any plans by the government to counter this crisis have a direct impact on individuals and families struggling to find affordable rental housing in the private sector.

Furthermore, the study examines PPPs within the development of affordable rental housing in the private sector. The results of this research can reveal any negative impacts on the affordability of housing coming to market. With the previously mentioned example of Residentie Gerlachus, where rents fell far above affordable (Hendriks, 2020), the need for

adequate a safeguard structure is highlighted. At the same time, it highlights the importance of ensuring agreement on affordability objectives between the private and public sectors. The research not only aims to identify problems, but also contributes to solutions by exploring how a structure can be shaped to ensure affordability of real estate developments for private rental housing.

Additionally, the research provides policy recommendations for government agencies for supervision and steering for the realization of affordable housing in the private rental sector. As mentioned in the study by Klijn and Van Twist (2007), policy attention for PPPs needs to shift. The role of managing on the government side is very important since achieving results takes a lot of management effort. In addition, the outcomes of this research can be used to improve the design of safeguard mechanisms. By doing so, this research has the potential to mitigate the social impact of the housing shortage.

1.3.2 Scientific relevance

Previous research has emphasized the viability of PPPs as a strategic approach to affordable housing (Madden, 2011). Nevertheless, the existing literature on PPPs in relation to affordable housing is notably limited. The studies that have been conducted mainly focus on the critical success factors (CSFs) for PPPs in relation to affordable housing (Alteneiji et al., 2020). The limited published articles often exhibit geographic specificity. The majority of these cases concentrate on developing countries within Asia and Africa (e.g., Yuan et al., 2012; Kwofie et al., 2016; Muhammad & Johar, 2018; Kavishe & Chileshe, 2019). These studies generally all arrive at the same CSFs for the PPPs in relation to affordable housing. However, there has been no research on which CFSs occur in the Dutch housing market. This research contributes to the existing literature by providing new perceptions into the factors influencing the effectiveness of PPPs in delivering affordable housing in the private rental sector in the Netherlands.

Previous research by Alteneiji et al. (2020) developed for governments, developers, financial institutions, and researchers provided a list of CSFs needed from a research perspective to establish partnerships for affordable housing. However, this research is mainly based on prior studies that have occurred in developing countries and not in Europe. This research not only provides a mechanism to get a better understanding of affordable housing in PPPs, but it also provides a way to embed monitoring into the safeguard structure for PPPs. The findings from this research provide tools to ensure in the future that new affordable rental

housing enters the private rental market in the Netherlands affordably at the ending of a PPP. This completes the contemporary research gap as this has not been previously researched in the Netherlands for the private rental housing market.

Chapter 2 – Theoretical Framework & Conceptual Model

2.1 Theoretical Framework

2.1.1 Public-Private Partnerships (PPPs)

PPPs are found all over the world. However, not many researchers agree on exactly what PPPs are. Some see it as a new governance tool that replaces the traditional method of procurement (Hodge & Greve, 2007). Others see it as a new way of managing government that adopts older ways of involving private sector organizations (Linder, 1999). Jamali's (2004) research suggests that the PPP concept is used to identify possible relationships between public and private actors in the delivery of joint projects and services. According to the researcher, there is no single PPP model. Based on information from Gidman et al.'s (1995) research on PPPs in urban infrastructure services, Jamali (2004) has created Figure 1. This clearly shows the range of PPPs.

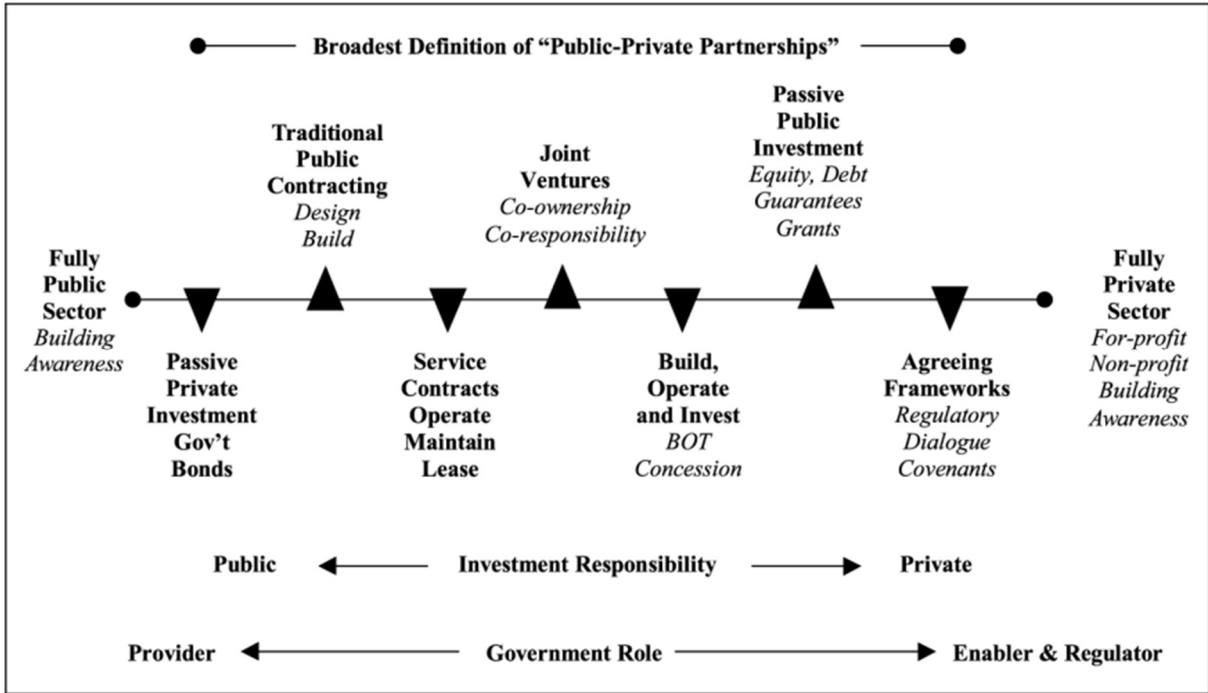


Fig. 1 The spectrum of “Public-Private Partnerships” (Jamali, 2004)

For the purposes of this study, the following definition of a PPP has been used: “a cooperation between public and private actors in which actors develop mutual products and/or services and in which risk, costs and benefits are shared” (Klijn & Teisman, 2003, p. 1). Policy makers argue that more cooperation between public and private parties will lead to more effective and efficient outcomes and products. This is supported by the fact that private

parties are involved in decision-making processes earlier and more intensively than in more traditional relationships (Klijn et al., 2007).

Figure 2 below illustrates the possible forms of cooperation according to Gidman et al (1995) and the indicators used to measure the type of cooperation. The figure clearly shows the degree and extent of risk sharing.

	Nationalization	Passive private investment	Traditional public procurement	Institutional PPP (PF2 model ^a)	Original PPP	PFI (concession model)	NPDOs	Lease	Service contract	Passive public investment	Agreeing framework	Privatization
<i>Characteristics of strategic alliances</i>												
Inter-firm relationship	No	No	No	No ^b	Yes	Yes	Yes	Yes	Yes	No	No	No
Long-term interdependence	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Shared control	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No
Continuous contribution from both public and private sector	No	No	No	No	No	No	No	No	No	No	No	No
Separate corporate identity (i.e. public vs private)	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Complex contract	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Sharing of both strategic and operational risk (management and bearing)	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No
<i>Identification of strategic alliances</i>												
SA ₁ within public sector	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
SA ₂ between public and private sector	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
SA ₃ within private sector	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
SA ₄ between public sector and voluntary sector	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
SA involving 1, 2, 3 and 4	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No

Notes: Yes/no is used when each characteristic of strategic alliance fits/does not fit with each form of collaboration. ^aThe main difference concerns the role and the involvement of the public sector. The PF2 is based on the creation of a public-private jointly owned SPV. ^bThe rationale for "NO" is attributable to the existence of intra-firm relationships within the SPV rather than inter-firm relationships between a private-owned SPV and the public sector.

Source: Personal elaboration, see the Appendix for more details regarding Table III.

Fig. 2 Identification of the forms of PPPs (Gidman et al., 1995)

According to d'Alessandro et al. (2014), cooperation can take different forms, including original PPPs, institutional PPPs, and private finance initiatives (PFIs), as well as non-profit distribution organizations (NPDOs). The main distinction between these and other forms of cooperation is the degree of risk sharing. There is no significant difference between institutional PPPs, original PPPs and PFIs. All three can be classified under the general term PPP, the only difference being their strategic alliances (d'Alessandro et al., 2014). In this study, the above forms are considered as the four types of PPP. Deloitte Real Estate Advisory and Partnerships (2017) conducted a study on the most common for area development in the Netherlands. The study found that original PPPs, where risks and rewards are shared without prior allocation, are by far the most common. PPPs are becoming increasingly common in the Netherlands (Klijn & Van Twist, 2007). In 2013, more than 240 municipal participations in area developments were based on this type of cooperation.

In addition, PPPs can be classified as PPP concessions/contracts and organizational cooperation projects/partnerships (Teisman, 1998; PPP Knowledge Centre, 2002; Hodge & Greve, 2005). In a PPP concession, design, construction, financing, and operation are all integrated into one contract, leading to efficiency. Efficiency is necessary for PPP concessions, but not sufficient to attract private or public sector interest. PPPs, as organizational collaborations, bring together activities that were previously separate to create value, allowing a financial trade-off between profitable and less profitable and socially relevant activities. The cooperation forms a partnership in which different projects and activities can be combined (Klijn et al., 2008). In addition, the concession form of co-production is mainly limited to the initial phase, where tendering takes place, and the emphasis is on monitoring. In the partnership form, co-production continues over a longer period.

The policy debate on PPPs in the Netherlands has been strongly influenced by the emergence of the PPP Knowledge Centre (Klijn & Van Twist, 2007). In addition, the Ministry of Finance's quest for innovative contracting has also strongly influenced the discussion. The assumption now seems to be that financial interest and good contracts are sufficient for success, but research has shown that the organization of interaction processes, the choice of scope and the provision of attractive content are essential (Klijn & Teisman, 2003). Detailed below in Table 1 and 2 are the most important pros and cons of PPPs in relation to housing provision. These advantages and disadvantages come from a study conducted on PPPs in housing and urban development by Moskalyk (2011) relate to PPPs in a general sense.

Advantages

PPPs provide various forms of cost savings. These are mainly due to the role of the private sector as a mutual partner within the project. In general, the drive for economic gain acts as an incentive to continuously improve performance with the result that overall project costs will decrease.

In PPPs, two or more phases of a project are combined into one bundle. This develops economies of scale by motivating the private sector for an organization in an efficient manner with maximization of return on investment.

Output-based contracting ensures payments on performance. This provides project outcomes in terms of quality delivered rather than how services are delivered. It also encourages the development of new methods and services at lower cost.

The design of these collaborations ensures that risks are transferred between the public and private sectors.

PPPs often ensure on-time delivery. This is because the financing risk is often transferred to the private consortium. This can involve additional high costs, giving the private sector a direct financial interest in timely deliveries.

Inviting the private sector ensures that public authority can transfer risks and responsibilities related to day-to-day operations of different phases in a project. This provides freedom for concentration on key policy issues.

PPPs help improve the delivery of projects and services to the population given the collaboration of strengths with resources and different technologies.

These collaborations release funds through potential cost savings and access to private financing.

Tab. 1 Advantages PPPs (Moskalyk, 2011)

Disadvantages

However, despite PPPs generally having low project costs, it can lead to additional costs. For example, the competitive bidding process can lead to additional costs. In addition, the long-term and comprehensive nature requires more time and resources. Finally, private financing can lead to higher capital costs.

Private sector involvement can lead to reduced control over key decisions related to public assets. Unintended decision making may be shared with private partners.

Managing risk is very important given the complexity of projects and the magnitude of risks in various areas. Often the public authority bears the financial burden in the event of unexpected project failure or other risks.

If contracts are not clearly designed, a loss of accountability can occur as they can lead to overlapping roles and responsibilities.

Rigidity in long-term contracts points to concerns about the inflexible nature of contracts within PPPs, limiting the ability to make changes from within the public sector.

Tab. 2 Disadvantages PPPs (Moskalyk, 2011)

Nowadays, PPPs are increasingly used to achieve affordable housing (Alteneiji et al., 2020). Affordable housing is an often-neglected aspect of social infrastructure investment (Yuan et al., 2012). As the amount collected from end-users is not sufficient to make a project viable for an investor, government support is required (Susilawati et al., 2009), meaning that today's returns are not attractive enough to encourage the private sector to provide affordable housing itself. Governments around the world are increasingly seeking partnerships with the

private sector (Moskalyk, 2011). One way they are doing this is by tapping into this sector for potential funding opportunities for affordable housing projects.

2.1.2 Safeguard mechanisms

This section discusses mechanisms that have been identified in the literature as important for PPPs. These existing mechanisms can all be used to ensure housing affordability during the collaboration.

Contractual arrangements

Contracts within PPP collaborations are important to set the terms and conditions between different partners (Quick, 2003). This includes aspects such as risk management (discussed later), dispute resolution arrangements and arrangements for dealing with (un)expected circumstances. These agreements should be transparent and define the main lines of activity (Quick, 2003). They can include mutual agreements and rules to ensure affordability.

Contracts can also include conditions and penalties if pre-agreed arrangements are not met. These penalties involve the payment of a sum of money or another service to the other party if a prearranged agreement is not met (De Graaf, 2013).

Risk sharing

Risk sharing is one of the most important mechanisms in PPPs (Karim, 2011). In PPPs, it ensures a balanced distribution of responsibilities between different partners. In a study, Li et al (2005) suggest that risk sharing refers to a primary measure of risk sharing between actors. Here, clear communication between the parties is very important. Research by Shen et al. (2006) supports this contention. This research argues that risk sharing is an advantage of PPPs because risks can be shared between the public and private sectors and is related to contract negotiations. The outcome of risk sharing is an important condition for successful development within PPPs (Wang & Dai 2009). Wang and Dai's (2009) research identifies three principles in structuring PPP projects. These include identifying the risks, assessing the acceptance level of each risk, and assigning the risks to a party. Returning to ensuring affordability, it is therefore important to identify affordability risks, what influences they may have and to whom these risks can be assigned.

Monitoring and evaluation

Regarding the monitoring and evaluation of PPP projects, Marques' (2018) research addresses three different dimensions. The first is compliance with project objectives. This involves

assessing compliance with planned agreements. The contract manager or oversight body monitors signed contracts to ensure compliance. The second dimension of the study relates to the governance of the PPP contract. The main reason for referring to governance is that PPP projects often involve public services or developments. Good governance is therefore important because it can contribute to the desired outcomes and effectiveness of a project. Finally, the third dimension relates to alignment with national policies. While this may not be directly related to private sector performance, effective monitoring can still contribute to actions and contractual changes to align project objectives with national or local policies (Marques, 2018). This in turn dovetails well with ensuring affordability, as effective monitoring of affordability in line with national policies can also be ensured in this way.

It is important to stress that ensuring affordability is not without its challenges. Van Hove's (2006) study shows that balancing the interests of public and private entities can be challenging. Navigating legal complexities and dealing with changing market conditions are tasks that require careful consideration.

2.1.3 Affordable housing private rental sector

There is a clear definition of social rental housing in the Netherlands. In 2023, this concerns rental housing with an applicable liberalization limit of a maximum of €808.06 (Ministerie van Algemene Zaken, 2023). As clear as the definition of social rental housing is, the Netherlands is ambiguous when it comes to affordable rental housing. As mentioned in chapter 1.1, the government has only indicated in a vision document what it roughly considers affordable in today's market. In it, the government mentions that affordable rent indicates rental housing from the social rent limit up to a maximum of €1000 per month (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022b).

Czischke and van Bortel (2018) have previously investigated what is considered affordable housing in the Netherlands. They argue that there are many local definitions of affordable housing. These are generally delineated from the liberalization limit to the rent level that is still affordable for households with the modal income that cannot or do not want to buy a house. The setting of a ceiling also depends on local market conditions (Czischke & van Bortel, 2018). For example, in Amsterdam, an upper limit of €1,175.72 per month is set for a medium-priced rental apartment (Gemeente Amsterdam, 2023), while in Groningen, an upper limit of €984.97 is used for medium-priced rental apartments (Gemeenteraad Groningen, 2023).

The research by Czischke and van Bortel (2018) found that, due to market conditions, the upper limit of affordable rental housing was between €900 and €1000 per month. This is also shown in Figure 3 below. This shows social housing on the left with a rent limit of up to €710.68. It also shows the affordable housing that fills the gap between the upper limit of social housing and the lower limit of €1000 at full market rent.

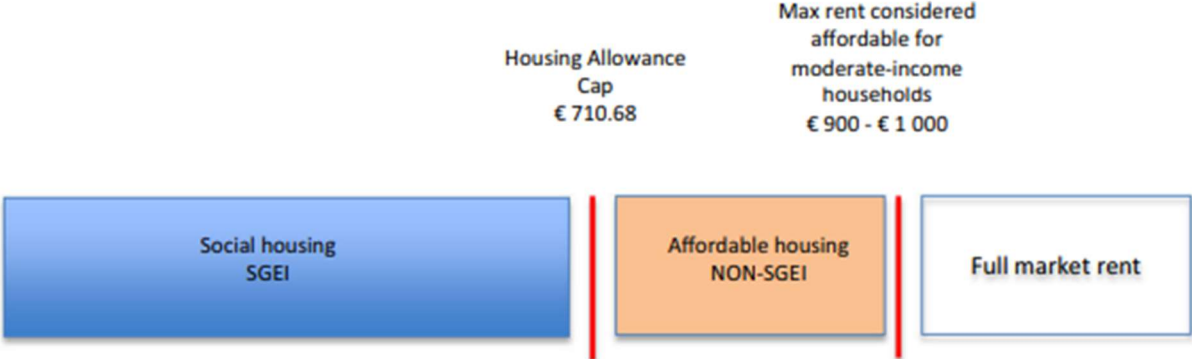


Fig. 3 Affordable housing in the Dutch housing market (Czischke & van Bortel, 2018)

The figure above is based on statistics dating back to 2018. Given that price increases in recent years have made housing affordability an urgent issue, a composite definition was formed for the definition of affordable rental housing in the private rental sector (Nijskens et al., 2019). For the lower limit of affordable rental housing in the private rental sector, the 2023 liberalization limit of €808.06 (Ministerie van Algemene Zaken, 2023) was used instead of the old limit of €710.68 used in the study by Czischke and van Bortel (2018). For the upper limit, €1000 per month is assumed given that this amount is explicitly mentioned in both the research by Czischke and van Bortel (2018) and the vision document of Dutch government (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022b).

2.1.4 Critical Success Factors (CSF) within PPPs in relation to affordable housing

To measure the successes of PPPs, it is crucial to establish measurable criteria. Vos and Tjemkes (2013) have developed a framework that maps out indicators, as shown in Figure 4 on the next page. These indicators include input, process, outcome, and impact indicators. To collect data on PPP performance, interviews or surveys can be conducted (Vos and Tjemkes, 2013). The operationalization of the conceptual model can be supported by this framework.

	Economic	Strategic	Operational	Learning	Relational	Social
Aspects	Economic value Measurable Short term	Strategic value Hard to measure Long term	Operational processes Measurable Short term	Knowledge and creation Hard to measure Medium-term future	Relational processes Hard to measure Long term	Value for society Hard to measure Long term
Input indicators	Value, quality and promptness of investments	Quality of market information, target group information	Quality and amount of resources and manpower	Investments in innovation and knowledge	Familiar with codes of conduct, trust	Urgence of relevance to societal problem
Process indicators	Continuity and stability of (financial) investments	Continuity and stability of strategic direction	Effectiveness, lead time, speed, frequency, compliance with procedure	Sharing knowledge, number of new contacts, Formal and informal meetings	Number of informal meetings, Openness of communication	Inter-mediary experiences of target groups
Result indicators	Revenues, cost-reduction, budget overrun	Market share image, opportunities, customer satisfaction	Quality of the services or products delivered	Market knowledge, Technological knowledge, product knowledge	Number of conflicts solved, extent of trust	Perceptions and experiences of stakeholders
Impact indicators	Reduction in social costs	Attractiveness and accessibility of an area	Quality of communication to internal and external stakeholders	Including new innovative products and services	Social cohesion within the target group	Awareness and behavioural change within the target group

Fig. 4 Theme's and examples of indicators for measuring effects of a PPP (Vos & Tjemkes, 2013)

The study by Alteniji et al. (2020) used literature review to identify what are generally the most consistent CSFs in PPPs related to affordable housing. The four most reported CSFs that emerged from the study are discussed below. It should be noted that most of the literature used is from studies in countries concentrated in Africa and Asia and thus only give an indication of such developments in Western countries such as the Netherlands.

Political support and stability

Political support and stability emerged as the most important CSF from all literature reviews. This concluded that political influence is related to a stable political system (Muhammed and Johar, 2018). The research shows that government incentive as well as political stability are considered to be important motivating factors for privately funded schemes. In addition, it is argued that political instability is a major concern in developments stemming from PPPs. Given concession periods typically take decades, political stability should be maintained over

a long period of time. However, the study by Alteniji et al. (2020) cites that this is especially true for the application of PPPs in developing countries.

In studies of developed countries, the factor of political support and stability is less significant. For example, research by Li et al. (2005) found that this factor was of low significance for the growth of these partnerships within the UK market. This was attributed to the endless support from different governments since the early 1990s for concepts of PPPs. In Malaysia, political support for these partnerships is less significant given that, unlike Nigeria, for example, the government provides standard support for PPPs (Ismail, 2013). From this, it can be concluded that insufficient support from the government can lead to significant risk for PPP projects, especially when PPPs are still in their early stages. Dulaimi et al. (2010) show why this makes sense: the intervention of political leadership is necessary to build trust among stakeholders for such schemes as PPPs. According to them, a consensus is present within several researchers that political support and stability are essential for PPPs in relation to housing development. Without such support, housing, especially for the private sector, would be considered unattractive. Here it mainly concerns the initial phase or when there is corruption or an ineffective political system.

Trust and openness

In shared second place with favorable and efficient legal framework, trust and openness emerged as CSF from all literature reviews. According to Tomkins (2001, p. 165), trust is defined as "the adoption of a belief by one party in a relationship that the other party will not act against his or her interests, where this belief is held without undue doubt or suspicion and in the absence of detailed information about actions of that other party." Muhammed and Johar (2018) indicate that trust and effective open communication between partners helps each other better assess and understand other parties' interests. According to them, it can lead to more efficient decisions that can contribute to PPP projects. An example is the transportation project in Bangkok, Thailand. In this case, the lack of trust between public and private parties led to the failure of the project (Tam, 1999). Researchers have previously drawn attention to the important link between trust and associated risks in strategic collaborations. Here, partners must implement effective risk management by understanding the shared aspects of control and trust. They also emphasize that the entire development process is less contentious when parties are well aligned when it comes to trust and openness. Above all, it requires effort, understanding each other and setting common goals to achieve desired outcomes (Alteniji et al., 2020).

Favorable and efficient legal framework

A favorable and efficient regulatory framework concerns one of the crucial factors for the successes of PPPs in relation to affordable housing. A solid regulatory framework is one of the prerequisites for a successful PPP (Pongsiri, 2002). Zhang's (2005) research emphasizes that the legal framework and project regulations are instruments that, among other things, protect interests, rights and objectives of all parties within the collaborations. It also identifies the importance of developing a practical legal and regulatory framework in accordance with legal system of the country. This is important to enable the formulation of practical contract mechanisms for PPPs. According to Zougari (2003), the availability of a well-developed legal framework also encourages the private sector to enter into long-term agreements, thus clearing and clarifying uncertainties. Formulation of effective contractual structures for partnerships are enabled in developed countries by well-developed legal frameworks (Al-Saadi, 2015). Several researchers agree that an effective and clear legislative framework helps to not hinder these collaborative projects (Alteniji et al., 2020). In addition, research suggests that the inability to solve legal problems is a major reason for the failure of such projects. Here, effective legal input in the early stages of a project is strongly emphasized to mitigate problems. This can save time, effort and costs.

Appropriate risk allocation and risk sharing

Research by Ong (2003) shows that assigning specific risks to the right partners is the basis for successful partnership. By this, the researcher refers to assigning risks to those who are most capable of managing them and generally reducing risks to acceptable levels. Also, according to Li et al. (2005), risk allocation is among the three most influential factors. Here it particularly relates to funded PPP construction projects in the United Kingdom. Within most PPP projects, the government is expected to assume the role of regulation and the developer performs all development tasks. (Abdul-Aziz & Kassim, 2011). In short, the private sector bears the risk assigned to the development phase and the government bears the commercial risk. Research by Alteneiji et al. (2020) found that many PPPs were terminated due to inadequate risk management. This shows that risk allocation is one of the unique features in PPPs. Here, parties assume the risks and burdens according to the efficiency of each party, that control costs and duration of the project benefit. Also, government interventions are needed to reduce risk and encourage the private sector to offer affordable housing projects (Alteneij et al., 2020). This contributes to making financial access easier for this target group.

2.2 Conceptual model

Figure 5 presents the study's conceptual model, illustrating the relationships between the main key concepts. The original PPP is shown at the top of the conceptual model. For the study, only this form of PPP was zoomed in on as it is the most common form of PPP in relation to area development in the Netherlands (Deloitte Real Estate Advisory and Partnerships, 2017). An arrow pointing downwards depicts the development of affordable housing in the private rented sector. This indicates that the use of PPPs can facilitate the development of affordable rental housing in the private rented sector. However, this is only possible if mechanisms are in place to oversee this development. An arrow indicates the development on the left side of the figure, while the right side shows the CSFs that influence the success of housing development. In short, the figure illustrates that affordable private rental housing can be realized through the deployment of PPPs where mechanisms oversee this development and CSFs influence this development..

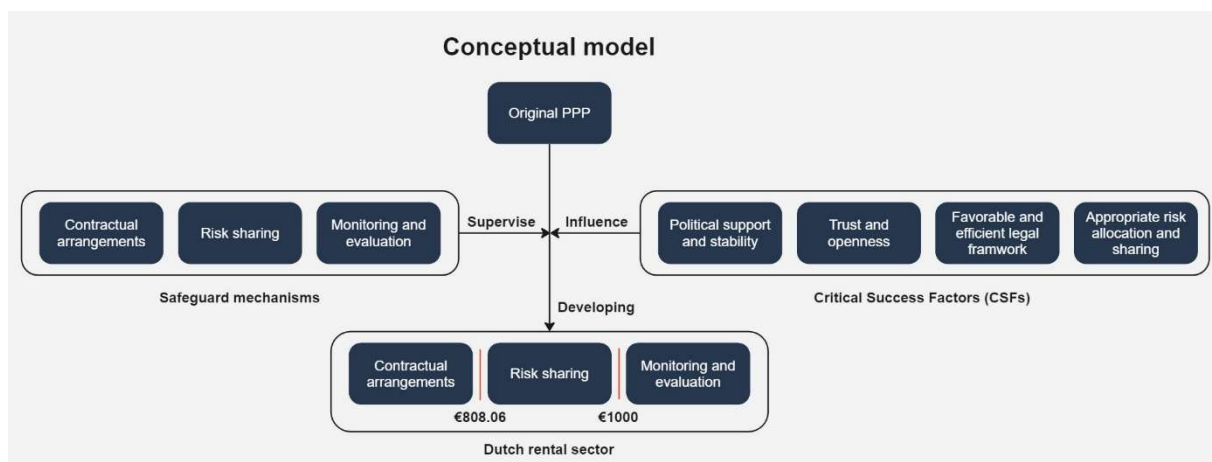


Fig. 5 Conceptual model created by author.

2.3 Operationalization

Table 3 below shows the operationalization of the study schematically.

Public-Private Partnerships (PPPs)			
Variable	Definition	Indicators	Measurements
Form of PPP	The research highlights the four main forms of PPPs, including This concerns institutional PPP, original PPP, PFI, and NPDOs.	Inter-firm relationship	Scale 1-5 (1 is weak relationship, 5 is strong relationship)
		Long-term interdependence	Percentage of collaborations with other companies
		Shared control	Create index with degree of control in scale

		Continuous contribution	Number of contributions from each partner
		Separate corporate identity	Create index with degree of separate business identities
		Complex contract	Assess based on criteria for degree of complexity
		Sharing of both strategic and operational risk	Using a risk index
Safeguard			
Variable	Definition	Indicators	Measurements
Mechanisms	Mechanisms that ensure affordability is maintained during housing development by PPPs.	Contractual agreements	Presence/not
		Risk Allocation	Using a risk index
		Consequents for future developments	Presence of contract manager or regulatory body monitors
Dutch rental housing			
Variable	Definition	Indicators	
Social housing	All rental properties that fall in the price range up to the liberalization limit set by the government.	When a rental property has a monthly rent up to €808.06.	
Affordable housing	Affordable rental housing falls in the price range between the limit of social rent and the limit of the full market rent.	When a rental property has a monthly rent between €808.06 and €1000.	
Full market rent	All rental properties that fall in the price range above the affordable housing price range.	When a rental property has a monthly rent above €1000.	
Critical Success Factors (CSFs)			
Variable	Definition	Indicators	Measurements
Political support and stability	The crucial role of political influence and stability within the political system in PPPs. It is essential to the success of government-sponsored projects.	Government involvement during the project	Scale 1-5 (1 little government support and 5 is much government support)

Trust and openness	Mutual trust and effective communication between parties when evaluating each other's interests. This contributes to efficient decision-making and the success of projects resulting from PPPs.	Frequency of information sharing	Scale 1-5 (1 is infrequent and 5 is frequent)
		The degree of openness in communication and decision-making	Scale 1-5 (1 is closed and 5 is open)
Favorable and efficient legal framework	The need for proper legal and regulatory structure to protect rights and interests of involved parties. This is essential for PPPs, especially in formulating practical contract mechanisms and avoiding legal problems.	Assessment of speed of judicial processes related to cooperative projects	Scale 1-5 (1 is very long and 5 is very short)
		Assessment of clarity of laws and regulations	Scale 1-5 (1 is very unclear and 5 is clear)
Appropriate risk allocation and risk sharing	Allocation of specific risks to the parties best suited to manage them. This is critical to the success of collaborations.	Risk allocation	Scale 1-5 (1 is low risk sharing to reduce risk in PPP and 5 is high risk sharing to reduce risk in PPP)

Tab. 3 Operationalization (Quick, 2003; Vos & Tjemkes, 2013; d'Alessandro et al., 2014; Czischke & Van Bortel, 2018; Alteneiji et al. 2020; Ministerie van Algemene Zaken, 2023)

Chapter 3 – Methodology

3.1 Research philosophy

Research philosophy involves determining how a phenomenon should be investigated and is based on three fundamental philosophical positions: ontological, epistemological, and methodological (Moon & Blackman, 2014). This research adopts an objectivist epistemological approach. This is concerned with the acquisition of knowledge and the objective nature of reality. It rejects skepticism and subjectivism and advocates for a systematic and integrated approach to knowledge. (Rand, 1990). The researcher maintains a neutral and unbiased stance when collecting and analyzing data. Furthermore, the study's findings are collected impartially (Moon & Blackman, 2014). The study aims to comprehend the creation of low-cost private rental housing through PPPs while ensuring affordability. The study is comparative, presenting different cases side by side. The examined cases all involve PPPs in the development of affordable rental housing within the private sector. The purpose of this scrutiny is to establish a means of ensuring affordability.

Critical realism is employed as an approach, which posits that reality exists independently of our experience, but our knowledge of it is always mediated by faculties (Collier, 1994). Critical realism posits the existence of only one reality (Guba & Lincoln, 1994). Easton's (2010) research proposes critical realism as a coherent and novel philosophical position that not only provides a foundation for case study research but also has implications for theoretical development within the research process. Finally, this research assumes a post-positivist perspective based on epistemological views. This because this study employs multiple qualitative research methods to provide a comprehensive overview (Moon & Blackman, 2014).

3.2 Research strategy

This study examines methods for ensuring the affordability of rental housing developed by private sector PPPs. The study looks at critical success factors (CSFs) that affect this development, using a deductive approach that tests existing theories. The theoretical framework is informed by existing knowledge and literature on PPPs and housing affordability in the rental sector. This is in contrast to an inductive approach, where research leads to the development of new theories. The sources cited in this text are Van Thiel (2014) and Yin (2015).

In this study, qualitative research methods were used, which allow for in-depth studies of various topics in ordinary and everyday language. In Yin's (2015) research, five key features are mentioned, including the 'explicit consideration of real-life contextual conditions'. This demonstrates the relevance of real-world cases of affordable rental housing development in contemporary market conditions and highlights the suitability of qualitative research for this study.

In addition, this study adopted an in-depth multiple case study approach. This is defined as follows: Case studies are the preferred strategy for investigating 'how' or 'why' questions, especially when the investigator has little control over events and when the focus is on a contemporary phenomenon in a real-world context (Yin, 2014, p.1). Multiple case studies are recommended, for example, when independent innovations occur in different places (Yin, 2014). This study focuses on the use of PPPs in the development of affordable private rented housing. Here, the different development projects can be considered as different locations, each representing a separate case. This approach also facilitates comparisons between cases, which can further enhance the overall understanding.

The cases of Strijp-S in Eindhoven and the Waalfront in Nijmegen were used for this study. These cases were carefully selected for the study. Although it proved practically impossible to find specific PPP projects that exclusively provide affordable private rental housing, these large-scale projects were chosen since they did integrate affordable private rental housing into the larger area development. The projects focus not only on various types of housing, but also the creation of an entire area in which to work and recreate. The selection is based on similar size and objectives, making them similar results. Also, both are roughly at the same stage of development, which also further aids comparability. Although specific figures on the proportion of PPP projects nationwide are lacking, a conversation with BDP's project director confirmed that these cases are virtually unique in the Netherlands being at this stage (Project Director BPD, personal communication, May 1, 2024). It is true that PPP projects are emerging more and more, but these are generally only in the initiation phase, which unfortunately made them not useful for the study.

The geographical location in the (south) east of the Netherlands does not mean that these cases are representative of the whole of the Netherlands. This is because regional market conditions can vary, and the success of PPP projects cannot be guaranteed the same everywhere. Nevertheless, due to their large scale of housing units, recreational spaces and

collaboration of actors, the case studies offer valuable insights for the research (BPD Bouwfonds Gebiedsontwikkeling, s.d.).

These characteristics allowed the researcher to examine specific successes and outcomes that occur when integrating affordable private rental housing. Their unique characteristics, goals and scope make them ideally suited for in-depth analysis within this study. As a result, meaningful conclusions can be drawn about the potential of PPP projects for the realization of affordable private rental housing. Further elaboration on the description of these cases can be found in Chapter 4.

3.3 Research methods

The study employed various methods to obtain answers to the main and sub-questions, which are shown in Table 4. To obtain a comprehensive understanding, particularly in case study research, it is crucial to use multiple data collection methods (Yin, 2014). This research utilized semi-structured interviews, structured interviews and document analysis which are explained in detail below.

Sub-questions	Research method(s)
1. What is the share of public-private partnerships and which actors are involved in relation to the development of the affordable Dutch rental housing?	<ul style="list-style-type: none"> - Semi-structured interview - Media analysis
2. What are the critical success factors (CSF) of public-private partnerships in relation to the development of affordable rental housing in the private rental sector?	<ul style="list-style-type: none"> - Structured interview
3. What specific mechanisms can be identified from the government's perspective to establish an effective safeguard structure for monitoring public-private collaborations?	<ul style="list-style-type: none"> - Semi-structured interview
4. In what ways can effective supervision be implemented in development to ensure the affordability of Dutch private rental housing?	<ul style="list-style-type: none"> - Semi-structured interviews

Tab. 4 Sub-questions with their research method(s) created by author.

3.3.1 Semi-structured interviews

Conducting interviews is a method frequently used in case studies (Van Thiel, 2014). Semi-structured interviews are set up using an interview guide. As this is a deductive study, the research questions for the interviews are based on the operationalization of the variables from the theoretical framework (Van Thiel, 2014). This form of interviewing allows for more in-depth information to be gathered as this type of interview provides structure, but also gives the opportunity to be able to ask pressing questions given that it is only an interview guide (Van Thiel, 2014). The semi-structured interviews in this study were used to gain insight into the PPPs discussed in chapter 3.2. The interviews allowed us to identify the stakeholders involved in the projects, answering sub-question 1 of the study. Additionally, semi-structured interviews with government officials enabled exploration of the mechanisms used in the cases to ensure affordability. If this is not the case, it may be possible to discuss how this can be addressed in the future. The interviews aim to explore various perspectives within the collaborations and determine which of the mentioned mechanisms can be applied in practice and how they can be better enforced in the future.

3.3.2 Structured interviews

Conducting numerous interviews for a study can be time consuming, especially at a time when the researcher does not yet know exactly what answers are being sought (Falck, 2014). This is different with structured interviews. This type of interviews makes it possible to test specific parts of the literature because questions are formulated specifically in advance (Millwood & Heath, 2000). They are often predetermined based on existing theory (Van Thiel, 2014). Bowling's (2005) research suggests that conducting interviews also yields more responses than simply administering a survey because you can expect more complete answers to the questions this way. This study uses structured interviews to test the extent to which the CSFs identified in Chapter 1 are perceived in practice by stakeholders in Dutch PPPs.

3.3.3 Document analysis

It is important to consider the methodological aspects of document analysis, as it is often taken for granted (Karppinen & Moe, 2012). Document analysis is a useful method for discovering underlying thoughts by providing context and tracking changes in documents or using them as secondary data (Altheide, 2000; Bowen, 2009). The original intention was to gain insight into contractual arrangements and how the projects are structured through document analysis. This was to be achieved by analyzing contracts between actors and

identifying mechanisms to ensure affordability. Unfortunately, this was not achieved during the research because documents such as contracts and the like proved too sensitive to implement in this study. This unfortunately made it impossible to obtain the necessary documents. Nevertheless, the opinion is that even without these documents sufficient answers were gathered by addressing them in content during interviews.

3.3.4 Media research

Media research is a valuable method for studying complex cases because of its ability to capture multiple interpretations and perspectives of projects (McCombs & Shaw, 1972). By gathering internal information as well as analyzing external news sources, it is possible to gain a deeper understanding of the social impact and perceptions surrounding a case (Entman, 1993). In addition, Iyengar (1990) emphasizes that the media can highlight different aspects of events, which affects public perceptions. Therefore, it is important to conduct media research to identify any differences between internal information and external perceptions. This promotes a more holistic understanding of the cases being studied.

3.4 Data analysis

3.4.1 Semi-structured interview analysis

A total of 7 semi-structured interviews were conducted for the study. Of these, 2 interviews were conducted with the project directors in order to fully identify the two cases mentioned in Chapter 3.2. In addition, 3 in-depth interviews were conducted with other project leaders and actors in the PPP to identify the mechanisms for maintaining affordability. For the Strijp-S case, this involves 2 semi-structured interviews and for the Waalfront case this involves 1 semi structured-interview. In both cases, also a resident of the area was interviewed in order to examine the success of the cooperation from a different perspective.

All interviews were recorded and transcribed for uploading into Atlas.ti. The analysis uses an abductive approach that combines deductive and inductive coding strategies. This method allows existing theories to be tested and unexpected themes or patterns to be identified. It ensures that important information is not missed (Linneberg & Korsgaard, 2019). Deductive coding involves the use of a preconceived coding scheme based on core concepts from the conceptual framework (Azungah, 2018). This approach ensures that the findings from the transcripts can be linked to the theory. Inductive coding, on the other hand, helps to identify important aspects that may emerge from the transcripts. This process involves three

steps, beginning with open coding, followed by axial coding, and ending with selective coding (Miles et al., 1998). In order to incorporate this information into the report, a table was used to clearly map the codes for each interview. This provides a comprehensive overview of the different findings and perspectives.

3.4.2 Structured interview analysis

The study used 3 structured interviews to explore the CSFs of PPPs from the literature in practice. Since these questions had to be answered by the same people within the case study, it was decided to implement the structured interviews in the semi-structured interviews with the other project leaders and actors within the PPPs in the case study. Thus, of the 7 interviews mentioned in 3.4.2, 3 interviews consist of two parts. The first part deals with the CSFs of the PPPs and the second part deals with the monitoring of the affordability of these collaborations.

The analysis of the interview results was also carried out using Atlas.ti. A deductive approach, similar to the semi-structured interviews, was also used to generate insights by systematically developing a coding scheme in advance. This scheme is derived from the theoretical framework and provides a seamless integration of science and empirical findings (Azungah, 2018; Linneberg & Korsgaard, 2019). This approach not only facilitates the identification of recurring patterns (such as different CSFs), but also allows emerging themes to be clearly linked to scientific elements (Miles et al., 1998). Finally, the findings were compared to identify any differences or similarities that emerged from the coding.

3.4.3 Media research analysis

The research used media analysis to further explore the cases and identify the less positive aspects of the context, rather than focusing only on the internal positive sounds of the cases. By using both internal sources of information and external news media, it was possible to gain deeper insights into the social impact and perceptions of the cases. This contributes to a holistic understanding of the situations.

3.5 Validity and reliability

The validity of research pertains to the accuracy and truthfulness of its findings. When conducting qualitative research, ensuring validity involves several strategies (Golafshani, 2003). The first strategy is triangulation, which involves using multiple methods, perspectives, or sources to validate findings (Denzin, 1978). This study employs semi-

structured interviews, structured interviews, and document analysis to collect data from multiple sources, ensuring the reliability and validity of the findings. The study employs the strategy of 'member checking' to enhance validity. This involves sharing findings from the preliminary research with participants in the Dutch context to explore whether these experiences are reflected in practice (Lincoln & Guba, 1985). Another aspect of validity is credibility, which refers to the extent to which findings accurately examine the phenomenon (Lincoln & Guba, 1985). To increase the credibility of this study, all aspects of the research process, including decision-making moments and reflections, were accurately recorded. This ensures transparency and enhances the credibility of the research.

Validity encompasses both internal and external validity. Internal validity refers to whether the research accurately measured what it intended to measure and corresponds to the operationalization of appropriate theoretical concepts (Van Thiel, 2014). External validity, as defined by Van Thiel (2014), refers to the generalizability of a study. In case study research, it refers to the applicability of results, which are often limited to the specific context that was studied (Flyvberg, 2006). Although case study research usually has limited external validity, it has high internal validity. In this study, internal validity is ensured by the operationalization of the critical literature review. The cases were selected carefully to create a representative picture, as mentioned in Chapter 3.2. Although the results of this study are not statistical, they may be representative of other applications of PPPs.

Reliability in a study refers to the accuracy and feasibility of the results obtained through appropriate measurement methods and clear distinction of variable values. Additionally, it refers to accurately representing the entire population (Joppe, 2000). The interviewees and research sites are representative samples for collecting information about the stakeholders involved in their respective cases. The research should be replicable under the same circumstances, which is related to feasibility. This study used the triangulation strategy (Golafshani, 2003; Van Thiel, 2014) to contribute to its reliability. The study's overall reliability is increased by using multiple data sources and methods (Denzin, 1978; Van Thiel, 2014).

Chapter 4 - Cases

As mentioned in chapter 3, two cases were used for the study. These cases are the Strijp-S PPP in Eindhoven and the Waalfront PPP in Nijmegen. In this chapter, the case studies are compared in order to provide an overall picture of the situations. First, the genesis of the cases is discussed, then the actors and their responsibilities in each case are explained. The chapter concludes with the current status and results of the cases to date. All information in this chapter comes from interviews conducted with the project leaders or residents of both cases, unless otherwise noted.

4.1 Strijp-S Eindhoven

In the past, the Strijp areas were mainly known under the ownership of Philips. This changed in 2002 and the area has become the epitome of Eindhoven, where a mix of living, working and culture is sought (Gewest13, 2024). Strijp-S is currently in the process of being transformed into a unique piece of the Eindhoven urban area. The challenge for the area is to break the separation from the rest of the city and invite people to join the "forbidden city". To achieve this, an important transition from the old city and the surrounding neighborhoods is important. The area also offers opportunities to expand the cultural sector and thereby break through Eindhoven's technology image (Restauratiefonds, n.d.).

In 2001, Philips organized a tender for the sale and redevelopment of the Strijp-S area, which was won by Volkerwessels. This resulted in a PPP between Volkerwessels, and the municipality of Eindhoven called 'Park Strijp Beheer'. The master plan was drawn up in 2002 and the land was purchased from Philips in 2004. During the redevelopment of the area, attention was paid to aspects such as housing, cultural and catering facilities. Despite an economic crisis, the cooperation between the parties led to a success as the PPPs have not collapsed and have already achieved most of their objectives. (Restauratiefonds, n.d.). See section 4.6 for further explanation.

4.2 Waalfront Nijmegen

The Waalfront in Nijmegen is a large-scale urban development project that will transform a former industrial area into a lively residential and living environment on the banks of the river Waal. The project is an important part of Nijmegen's major urban renewal effort to create an attractive and sustainable urban district. This urban district should meet the contemporary

modern needs of residents, businesses and visitors to the area (BPD Bouwfonds Gebiedsontwikkeling, n.d.).

Development of the area began in the 2000s and includes several sub-areas, including Handelskade, Dijkkwartier (Havenkade), Waalkwartier (Iris), Park Fort Krayenhoff and Koningsdaal. The aim of the projects is to create a diverse mix of housing, amenities and recreational opportunities with a focus on quality of life, sustainability and accessibility (BPD Bouwfonds Gebiedsontwikkeling, n.d.).

4.3 The history of the collaborations

The collaborations in Eindhoven and Nijmegen have different histories and characteristics, but both illustrate a PPP as a key element in area development, with affordable private rental housing interwoven. Both collaborations start with an obsolete site in need of redevelopment. In Eindhoven, this was the Strijp-S site, formerly the domain of Philips, while the Waalfront in Nijmegen was a closed and outdated business park. Both areas were out of step with modern urban development goals and in need of transformation.

In both cases, private parties acted as catalysts for change. In Eindhoven, the collaboration on Strijp-S began with an initiative by Volkerwessels, sparked by Philips' desire to sell the site. This resulted in a firm purchase agreement, driven by the time constraints imposed by Philips' plans. In Nijmegen, on the other hand, the cooperation on the Waalfront arose from a municipal tender called "Koers West", in which Rabobank Vastgoed was selected for the redevelopment, of which BPD Bouwfonds is a part.

This step marked a shift to PPP as the model for further development. The PPP model offered flexibility and autonomy to act and make decisions more quickly, which proved essential to the progress of the projects despite the challenges. External factors such as the financial crisis and the withdrawal of potential partners, such as a pension fund for Strijp-S and the 2008-2009 sales crisis for the Waalfront, posed challenges to project progress. These obstacles highlight the vulnerability of such partnerships to external events.

4.4 Actors

In both cases, different actors play an important role in the development of the projects. Both the redevelopment of Strijp-S and the Waalfront involve public and private parties, each with their own responsibilities and expertise in different areas. Volkerwessels and BPD Bouwfonds are the main private parties involved in the projects. Both private parties are responsible for

the development and implementation of the projects. The Municipality of Eindhoven and the Municipality of Nijmegen act as the main public parties in the developments. The parties together form the basis for the creation of the PPP in both cases. A BV has been established for both developments. Park Strijp Beheer BV and Ontwikkelingsbedrijf Waalfront Beheer BV are the organizations that have a coordinating role in the Strijp-S and Waalfront projects. They act as the main link between all parties involved, monitor the progress and ensure the management of the projects.

In addition to these main parties, other parties are also involved. These include housing associations, investors, contractors, architects and other local entrepreneurs. The cooperation of all these parties is essential to the success of the projects. These other parties act as stakeholders but are not contractually part of the PPP. This is discussed further in Section 4.5.

4.5 Type of cooperation

Both cases involve the original form of PPP, where risks and rewards are shared without prior allocation. In Eindhoven, the mix of public and private interests is central, with a focus on healthy long-term returns. The PPP structure is used to ensure autonomy and agility, with direct involvement of key stakeholders, including the municipality of Eindhoven and Volkerwessels.

In Nijmegen, on the other hand, the focus is on the cooperation between BPD and the municipality of Nijmegen, where the PPP structure is also crucial, but with different challenges within development such as underwater land use and legal disputes over land valuation. The 50-50 financing and risk sharing between BPD and the municipality is highlighted as a model that ensures equal cooperation.

Although both cases fall under the umbrella of PPP as an organizational partnership, they show differences in the details of financing and risk bearing. Eindhoven emphasizes autonomy and agility, while Nijmegen emphasizes equality in cooperation through a symmetrical distribution of responsibilities between the public and private partners. These cases illustrate the importance of flexibility, transparency and cooperation between all parties involved in the implementation of large-scale urban development projects.

4.6 Current status and achievements

The current results of the redevelopment of Strijp-S show that the project has so far made good progress and successfully transformed into the new cultural heart of Brabant (Ministerie van Onderwijs, Cultuur en Wetenschap, 2020). Currently, about two thirds of the area has been built and a large part of the program has been implemented. This shows that the development is at an advanced stage. Preparations are currently underway for the final planning phase, which will see the construction of between 15 and 16 hundred more homes in the area. Another 40,000 square meters of office space will also be built in the area. The cooperation between Volkerwessels and the Municipality of Eindhoven has already borne fruit in the transformation of the area into a thriving and creative center. Flexibility, willingness to make concessions and agility within the cooperation have helped to achieve the goals set with a healthy return on land use. Not only have physical adaptations been made, but the development has had a positive impact on the surrounding area and community, making the area vibrant with creativity, collaboration and innovation (Ministerie van Onderwijs, Cultuur en Wetenschap, 2020; Resident Strijp-S, personal communication, June 6, 2024).

The current results of the Waalfront also show a positive development when looking at the results achieved. More than 900 apartments have already been built, creating a real residential area. One of the most important aspects has been the realization of affordable housing, where social rental housing, mid-rent housing and affordable housing for sale have been realized in the area. In addition, the project has provided various amenities and recreational facilities. Meanwhile, attention has also been paid to connecting the development area with the city, which is considered a positive effect on the quality of living environment in both the existing and the newly developed area. The results achieved so far show that the cooperation has led to the successful realization of housing, the creation of an attractive living environment and the provision of various amenities in the new area, which would probably not have been realized to this extent otherwise.

4.7 Obstacles in development

Of course, a major area development never goes without obstacles. With the Waalfront in Nijmegen there was much criticism of the closure of the Honig factory in 2009. The FNV Bondgenoten was strongly against the closure given concerns about employment in the area and the impact on workers (ANP, 2009). There was also opposition to the loss of culture in the area if the Honig disappeared. Due to environmental circles over the Honig area,

demolition was a long time in coming. This is because there was a slaughterhouse adjacent to the Honig factory. The Honig factory had already been purchased at the time, but the slaughterhouse had an environmental circle that ran over the Honig factory. Until the final demolition, the original activities in the Honig factory made way for 8 years of temporary filling of creative enterprises. The great success of this temporary creative infill eventually led to determination by all parties involved to preserve the unique character of the Honig. "From many ways, the Honig was able to develop in a very nice way and make itself visible in that place. But that was actually because of the issues. These are the kinds of things we encounter within area development." said Project Director BPD, personal communication, May 1, 2024). Eventually a consensus was reached, and the original plan was revised, from which followed the plan "The New Honig. Now it promises to be a modern urban district with a mix of housing and amenities. This will preserve the old factory building, including the distinctive Honig tower. It promises to become a lively area in the future.

In addition to the Honig, the Waalfront also had several discussions within the development when it came to the water issue in relation to the river Waal in the area and the construction of housing along the railroad track. However, according to BPD, it is natural for conflicts of interest between parties involved to arise within PPP collaborations. In particular, mediation, understanding and respect are important factors that can tackle these conflicts in the collaboration in order to get everyone on the same path (Janssen, 2020).

An economic crisis can also have a major impact on such development. The start in the development of Strijp-S went fluently, but the economic crisis caused a strong stagnation. In 2005, it even caused all development to come to a standstill. Nevertheless, in retrospect it turned out to be good for the realization of the area. In 2005, mainly classical planning was ready, but the process actually became more organic due to the crisis. This led to the area being characterized as the cultural heart of Brabant. During development, the 'Crisis- en herstelwet' made it possible to rent out some of the buildings to be transformed. This led to attracting young start-ups with little money which created a pleasant atmosphere and allowed the area to develop in a healthier way (Ministerie van Onderwijs, Cultuur en Wetenschap, 2020).

4.8 Residents' experiences

One resident of Strijp-S stated that she enjoys living in the area. According to the interviewee, the area is easily accessible, and all facilities are within easy reach. "The place is just nice.

Everything in the neighborhood. You are so close to the Strijp-S station. The store and everything are close. My work is close," said Resident Strijp-S (personal communication, June 6, 2024). The architecture and mix of buildings in the area is perceived as pleasant. However, the interviewee expressed concern about the increasing construction and disappearance of green spaces: "It's really popping up here in terms of housing" (Resident Strijp-S, personal communication, June 6, 2024). On the other hand, it is noted that the quality of housing is very good. The mix of different types of housing and the differences in supply in the area are perceived as pleasant. The interviewee was also informed about the PPP between VolkerWessels and the municipality of Eindhoven for the development of the area. Although the resident thinks that the commitment of the cooperation works for the development of such projects, she still has her doubts when it comes to the concept of affordability, because in her opinion the new houses cannot be called affordable.

The residents of the Waalfront report a mostly positive experience with the development of the area. According to the interviewee, the pleasant living environment is characterized by the new infrastructure, the facilities and the quality of the apartments. The quiet residential location close to the city center and the train station is particularly praised: "So it was just very close to the center, but also relatively quiet. I think it's a really good place to live. (Resident Waalfront, personal communication, June 5, 2024). Regarding the PPP for the use of affordable housing in the area, the resident is a strong supporter. For example, the interviewee states, "Well, I think it was good because this made it affordable. Because this was really unique, in 2017. So, I support that." (Resident Waalfront, personal communication, June 5, 2024). Furthermore, the housing mix in the area is perceived as pleasant, with no significant negative conflicts between residents of different housing types in the same area. "No, it was well mixed. I haven't had any bad experiences with it at all." Says Resident Waalfront (personal communication, June 5, 2024). This shows that the integration of different housing segments has been successful.

It can be concluded that residents perceive the developers' goals for the areas as successful. They are satisfied with the living environment, the amenities and the quality of the housing. In both cases, PPP construction is valued for the development of affordable private rental housing. They strongly support the use of this form of collaboration in both cases.

Chapter 5 – Findings

This chapter presents the results of the research and aims to provide an understanding of the CSFs that contribute to the development of affordable private rental housing through the use of PPP projects. The chapter also presents the mechanisms that ensure affordability. These include both mechanisms within the PPP and mechanisms that can be used by government agencies such as municipalities.

The findings in this chapter are based on an analysis of the relevant academic literature and interviews with the actors involved in the cases mentioned in Chapter 4. These interviews provide valuable insights into the practical experiences of both public and private parties. The findings are structured according to central themes that emerged from the analyses. The presentation of these findings has provided a detailed picture of the successes and failures of these projects. In addition, the findings have been related to the research questions to finally formulate the conclusion of the study in Chapter 6.

5.1 Critical Success Factors of PPPs

Worldwide, PPP projects can be found as a method for the realization of joint projects and services by public and private actors. Consequently, in several countries, this development method is used for the realization of affordable housing. Alteneiji et al (2020) studied the main critical success factors for these projects. From this research, as also mentioned in section 2.1.4, four key factors emerged:

- 1. Political support and stability**
- 2. Trust and Openness**
- 3. Favorable and efficient legal framework**
- 4. Appropriate risk allocation and sharing.**

During the interviews with the actors within the cases, the above factors were presented in order to test the extent to which these factors are noticeable in practice. These actors were also given space to highlight additional factors that were noticeable in practice. A scale of 1 to 5 was used to compare noticeability in practice between the cases, with 1 representing no noticeability and 5 representing full noticeability in the case. For each case, the average of the responses formulated by the participants was taken. The results are presented in table 5 below and are ranked displayed from most noticeable to least noticeable in practice.

	Strijp-S, Eindhoven	Waalfront, Nijmegen	Average practical experience
Political support and stability	4.5	4	4.25
Appropriate risk allocation and risk sharing	4	4.5	4.25
Trust and openness	4	4	4
Favorable and efficient legal framework	3.5	3.5	3.5

Tab. 5 The importance of CSFs in practice compared.

As shown in Table 5, all CSFs are experienced in practice to an above-average to full extent. The comparison shows that “Political support and stability” as well as “Appropriate risk allocation” are perceived as the most important factors in practice with an average of 4.25. Not much lower are “Trust and openness” between the different actors within a PPP with an average of 4. The comparison shows that a “Favorable and efficient legal framework” is least perceived as a CSF in practice by the experts interviewed. Nevertheless, this factor still scores high with a 3.5 average. The reason for this is that it was found to be very important for the success of the PPP, even if it was not always the case. These factors are discussed in more detail below.

5.1.1 *Political support and stability*

Not only in the literature, but also from the interviews it became clear that political support and stability is seen as a crucial factor for the success of both Strijp-S and the Waalfront. It therefore scores considerably high with an average of 4.25. The interviewees emphasized in the interview that larger area developments require a long-term vision and depend on consistent political policy, despite possible changes in political coalitions and administration periods. For example, one interviewee from Strijp-S states: "Yes, that one is always important. Why? Because an area development, well, Strijp has been around for twenty years, it will be around for another ten years. So, at thirty years, that's a lot of coalition agreements coming in between that." (Actor Park Strijp Beheer, personal communication, May 23, 2024). This is supported by the statement of another interviewee from the Waalfront: "And it is just of great importance indeed that politics or the administration, the boards, college and councils are well aware of what a PPP is and what you want to achieve with it. And that you also make it very clear at the front that it is something long-term, especially with area developments that you definitely have to deal with over the next 10 years." (Project Director Waalfront, personal communication, June 13, 2024).

In addition, the political crisis is also cited. Thus, it appears that despite economic and political fluctuations, it is important to maintain a stable and supportive political environment. Thus, it is indicated that with a new coalition, the cards are reshuffled, and different priorities may be set. This in turn can lead to project delays or revisions. Furthermore, the field research has shown that it is crucial that political parties and officials involved have a clear understanding of the long-term vision of the project. In doing so, they should have their noses in the same direction without becoming too dependent. One interviewee stated: "Then it is important that you can reasonably implement the dot on the horizon that you have set together in a kind of continuity. Then it is important that you are not dependent on the whims of the day of politics." (Actor Park Strijp Beheer, personal communication, May 23, 2024).

The study highlights that political support and stability are essential not only for the initial approval of the projects, but also the progress and adjustments of the projects during the term. Political support and continuity help achieve the long-term goals of area developments. In addition, consistent policies reduce the likelihood of project disruptions and revisions. The findings suggest that a successful PPP requires government officials and political parties to be involved in the project from the early stages and throughout the development cycle. This helps ensure a shared long-term vision, which contributes to project stability and success. Based on these results, it can be concluded that practice supports the literature in this case and that this factor has indeed proven to be crucial to the success of PPP projects such as this one.

5.1.2 Trust and openness

Not only political support and stability, but also trust and openness were found to be noticeable factors in practice with an average of 4. Not only building trust came up several times, but especially maintaining it was found to be very important. For example, one interviewee stated: "So on trust you just have to work continuously." (Project Director Park Strijp Beheer, personal communication, May 27, 2024). This clearly shows that continuous effort is necessary to create and maintain a solid foundation of trust. Indeed, this is essential for successful and effective collaboration. "If indeed you start in a PPP, if there is no trust, then everything runs away. Then you don't get down to business, then you always remain in tension towards each other. And that openness in that is very important." said Project Director Waalfront (personal communication, June 13, 2024). This confirms what the literature says about building and maintaining trust and openness. Maintaining this in particular has been shown to be very important.

Furthermore, open communication is also identified as a crucial factor within the collaboration. Sharing information and showing transparency about decision-making processes supports trust between actors and prevents potential conflicts. Openness and trust are further strengthened by sharing information and showing transparency within set decision-making processes. Thus, it is stated that it promotes a positive collaboration; "that is that open communication and being honest and then also saying, and of course, that is also at Strijp, then there are several problems that are there, so to speak, you throw them together. And you then try to say that together, okay, and now we're going to move on again." (Actor Park Strijp Beheer, personal communication, May 23, 2024). This clearly shows that the practical experience matches the findings that emerged from the literature.

5.1.3 Favorable and efficient legal framework

Favorable and efficient legal framework is also an important factor noted in practice. Admittedly the least of the four CSFs with an average of 3.5. Nevertheless, this still proved to be a crucial factor for PPPs in practice, encompassing not only the legal aspect but also the vision laid down by contract. In the case of the Strijp-S case study, the legal framework played an important role in the development. The procurement rules can be mentioned as an example. There was stated, "state support may be a new one, but procurement rules. Because of the tax and legal structure that has been devised, we are not bound." (Actor Park Strijp Beheer, personal communication, May 23, 2024). In the case of Strijp-S, the procurement rules ensured continuity of the operating company. Thus, the legal frameworks, including the set procurement rules have had a positive influence on the development of the case. This also confirms the literature that states that the legal framework helps encourage the private sector to enter into long-term agreements.

Furthermore the interviews show that performing government tasks, such as applying for a permit, is no faster with a PPP than without one. For example, the Waalfront project director stated, "No, not when it comes to these kinds of executive tasks like permits and things like that. Absolutely not." (personal communication, June 13, 2024). Nevertheless, the involvement of the municipality as a partner is perceived as useful. The short lines of communication it creates can solve problems more quickly. As a representative of Park Strijp Management points out, "You have a business interest, that PPP is just a business. You have a business interest that it does things within certain schedules. So then you do notice that often faster a building permit not, but take a zoning process or things with it" (personal communication, May 23, 2024). This shows that a PPP carries with it a certain responsibility

for the parties involved to make the project successful. Although legal proceedings are not faster, cases are more often approved or reconsidered. This highlights the importance of clear legislation and rules in PPP projects, which is consistent with the literature.

5.1.4 Appropriate risk allocation and risk sharing

Finally, there is also recognition in practice when it comes to appropriate risk allocation and risk sharing. This therefore scores high in the comparison with a 4.25. The correct allocation of risks between the parties involved ensures stability within the collaboration. In the case of Strijp-S, this proved to be an important theme, with clear agreements being made at the outset about which actors bear which risks. The interviews also emphasized that a common goal contributes to this. For example, one interviewee stated, "That's also when you're married. You have to see it a bit like that. Then you don't just get divorced either. Then you're going to try first anyway. I assume that if things don't go well for a while, then you work together to make sure they do. Yes, that's how you have to see a PPP." (Actor Park Strijp Beheer, personal communication, May 23, 2024). This of course includes taking joint responsibility for the risks that may arise within the project. Not only identifying and managing these risks have proven to be important, but also the more flexible approach to bend the risks into benefits is important, according to interviewee. "So mainly try to bend them, which is what we did here, to a benefit. And if you continuously just sit on risks, which you do see a lot in government land, in other projects, then you end up in a kind of straitjacket." said Project Director Park Strijp Beheer (personal communication, May 27, 2024).

In addition, the difference in approach between public and private partners also plays a role. While public partners often focus on risk management and accountability, private partners focus more on entrepreneurship and flexibility. This is also the strength of a PPP since it leads to a more versatile and adaptive project approach than if another form of cooperation were used. The task is to organize the risk management of a project together, but above all to keep evolving during the development.

To the last point, it has become apparent that incorrect or unreasonable allocation of risks can also lead to project failure. Indeed, a Waalfront interviewee stated, "Because if we hadn't done that financing, in my belief, we probably would have fallen apart by 2008, 2009." (Waalfront Project Director, personal communication, June 13, 2024). This statement refers to the 50/50 risk allocation within the Waalfront project where the funding was divided fairly. Had it not been so agreed upon, the interviewee suggests that the PPP probably would not

have survived. This fits perfectly with what is stated in the literature about the proper allocation of specific risks to the appropriate actors. Indeed, this is necessary for a project to succeed.

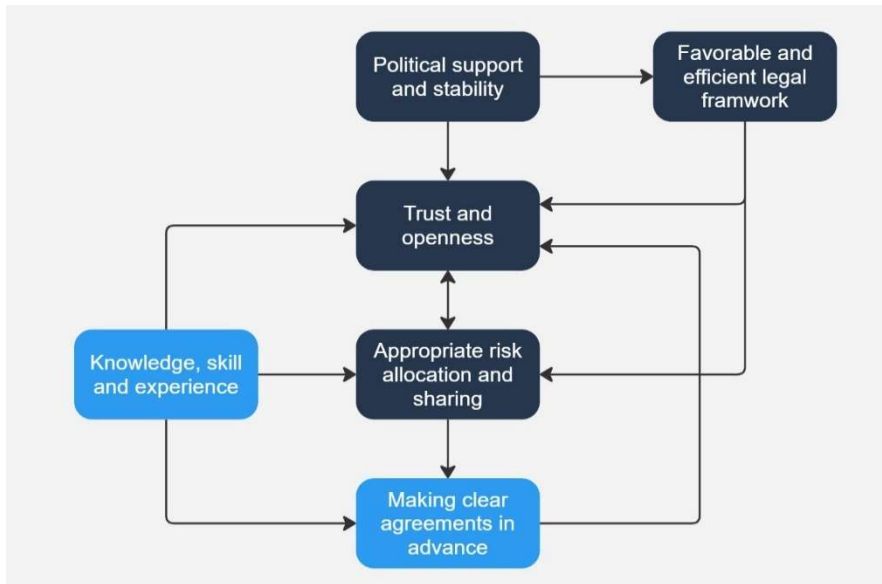
5.1.5 Additional Critical Success Factors of PPP

In general, it can be concluded that all the factors from the literature have also proved essential in practice. However, beyond the CSF that emerged from the literature, other factors were also found to be important in practice. All interviewees unanimously agreed that clear agreements at the front end of the project are essential for the success of a project. If clear agreements are not made on the front end, this can lead to misunderstandings and conflicts between the various actors. This is obviously not only true in projects where a PPP has been deployed, but also in other projects. For example, one interviewee stated, "but of course it is good to start with a clear set of agreements. And the fewer the better, but the agreements you make, they have to last a whole process, so a whole project, a whole area development." (Park Strijp Beheer Project Director, personal communication, May 27, 2024). Making these agreements at the front end of the area development creates certainty for the actors involved.

Not only clear agreements, but also equality, knowledge and experience of the parties involved is a factor that emerged clearly among all interviewees. "Yes, equality I have already mentioned, expertise, being able to look across each other's borders and also understand what is going on. I think that's a very important one." said Project Director Waalfront (personal communication, June 13, 2024). The experience and knowledge of the actors involved are crucial to the success of a development. It helps if people have knowledge and expertise from both sides, public and private actors. This ensures that each other's interests and viewpoints are better understood that more guarantees a successful project; "And knowledge and expertise, that's also kind of... Of course, it is very difficult to argue with people who have no understanding of the matter." (Actor Park Strijp Beheer, personal communication, May 23, 2024). Not only is it important that the knowledge and expertise is present, but also the sharing of this knowledge is very important. After all, this contributes to better cooperation and understanding of each other's working methods and objectives. After all, cooperation is central within PPP projects.

5.2 Connections between all CSFs

To better visualize the results, this section discusses the relationships between the various CSFs. These relationships are illustrated in Figure 6, which shows the relationships between



the various factors. These relationships are then explained in more detail. In the figure, the dark blue boxes are factors drawn from the literature, while the lighter boxes are drawn from the interviews.

Fig. 6 Connections between CSFs created by author.

1. Political support and stability

This factor affects both "Trust and openness" and "Favorable and efficient regulatory framework". When politics supports a project, it creates mutual trust in the cooperation of the PPP. Indeed, if the policy shows clear decision-making and mutual transparency, this has a positive impact on the trust between the actors (Project Director Park Strijp Beheer, personal communication, May 27, 2024). In addition, political support and stability are closely linked to a favorable and efficient regulatory framework, as the government establishes the legal and regulatory framework that is essential for the success of a PPP (Alteniji et al., 2020).

2. Trust and openness

This factor has a direct impact on "appropriate risk allocation and sharing". For example, the research by Alteniji et al. (2020) states that effective risk management can only be implemented through the shared aspects of control and trust. Openness is critical to identifying all risks before they can be shared.

3. Favorable and efficient legal framework

This factor has a direct influence on "Appropriate risk allocation and sharing" and "Trust and openness". Zhang (2005) emphasizes in the study that a well-developed legal framework

is a tool that protects the interests of the parties involved, which implicitly means that such protection contributes to risk allocation and sharing. In addition, a solid legal framework promotes the establishment of long-term agreements, which helps to clarify uncertainties. (Zouggari, 2003), which is crucial for the fairness of risk sharing and also for trust between the parties involved.

4. Appropriate allocation and sharing of risks

This factor directly affects both "Trust and openness" and "Making clear agreements in advance". Allocating risk to the right partners is essential for successful collaboration. Effective risk allocation fosters mutual trust between the parties (Ong, 2003). In addition, clear allocation of roles and risks allows clear agreements to be made from the outset. Clear risk management agreements can prevent problems and uncertainties in projects (Abdul-Aziz & Kassim, 2011; Alteneiji et al., 2020).

5. Knowledge, skill and experience

Although it is a complementary factor in the literature, it is very important. For example, all respondents indicated that it is extremely important within the PPP. Therefore, this factor also influences 'Trust and openness', 'Appropriate risk allocation and sharing' and 'Clear agreements in advance'. After all, knowledge and experience are the basis for shaping these factors.

6. Make clear agreements in advance

This factor has a direct impact on the 'Trust and openness factor' in a collaboration. For example, research shows that setting common goals and agreements is the basis for building trust between actors. It also requires effort and mutual understanding (Alteniji et al., 2020).

5.3 Safeguard mechanisms for development

Several safeguard mechanisms can be found in the literature to ensure affordability within projects. These different mechanisms are mentioned below. They are further elaborated in chapter 2.1.2.

- 1. Contractual arrangements**
- 2. Risk Sharing**
- 3. Monitoring and evaluation**

During the interviews with all actors, the above mechanisms were mentioned to test the extent to which the professionals think these mechanisms contribute based on their knowledge and experience. Room was also left for actors' own interpretation of new mechanisms to ensure affordability within projects.

5.3.1 Contractual arrangements

In the case of Strijp-S, clear agreements were made in advance between the Municipality of Eindhoven and Volkerwessels that were laid down by contract. These agreements include the distribution of rights and objectives for housing construction. For example, Volkerwessels has 88% of the first right of purchase of the land at the front, while the municipality uses 12% of the land for social objectives such as the Klokgebouw. These agreements led to agreements being made on the realization of 25% social housing, 50% medium and 25% expensive housing. For example, one interviewee stated, "Only in the whole discussion around affordability did we actually say in 2017 of yes, we actually need at least 25% social, 50% medium duration and 25% above that expensive." (Park Strijp Beheer Project Director, personal communication, May 27, 2024). This shows that clear agreements on the front end are essential for achieving affordability goals. This confirms what is already suggested in the literature that it is important to implement front-end agreements and clarity in contracts.

Also, at the Waalfront, clear agreements were made in advance when it came to affordability. For example, one interviewee stated, "We said 40% must be affordable here. Cheap was that. We had whole discussions about what is affordable and cheap and social. But here then it was cheap. It was then 40%, of which 20% was in the owner-occupied sector and 20% in the social rental sector." (Project Director Waalfront, personal communication, June 13, 2024). Later, medium rent was added. This decision not only has to do with driving the financial picture around, but also contemporary market demand. Indeed, there is a large gap in the market with housing supply from 800 to 1,000 euros rent per month. For this study, these ranges align with the definition of affordable private rent as mentioned earlier in section 2.1.3.

5.3.2 Risk sharing

Risk sharing was implemented at the front end of the Strijp-S development. This confirms the basis of the literature stating that it is crucial to implement this in order to share responsibilities among the various partners within the project. Within Strijp-S, risk sharing was made clear by VolkerWessels. In fact, they were initially willing to start construction at a loss to ensure continuity during the economic crisis around 2014. This example shows that

private parties in some cases accept strategic losses to create long-term stability and continuity. However, risk sharing in relation to affordability was limited within the project. For example, one interviewee said, "The government wants affordability, but we are not going to build for the loss." (Actor Park Strijp Beheer, personal communication, May 23, 2024). This indicates that despite VolkerWessels' initial willingness to start at a loss, there are limits to this for private parties. Despite a PPP, a developer has limited willingness to do developments without sufficient returns.

Risk sharing was also discussed at the front of the Waalfront development to ensure affordability. The importance of equal risk sharing was stressed in the interviews. At the Waalfront, both the Municipality of Nijmegen and BPD bear equal risk, even when it comes to ensuring affordability in the project. For instance, one interviewee stated, "The risk sharing of affordability. Yes each 50-50." (Project Director Waalfront, personal communication, June 13, 2024).

5.3.3 Monitoring and evaluation

Monitoring of affordability was limited during the development of Strijp-S, this while the literature explicitly states to have a supervisor to guarantee the success of a project. From the interviews with stakeholders, this seems to be a conscious choice. The focus of the project is more on the diversity of the housing supply and preventing "sameness" in the streetscape and supply. For example, one interviewee stated, "With that, we actually already indirectly created that affordability would come into that, so where we would already completely meet those objectives that we had agreed on the front end." (Actor Park Strijp Beheer, personal communication, May 23, 2024). This statement points to the collaboration with the housing associations that were responsible within the project to provide the affordable housing. Nevertheless, it did reveal that the actors interviewed saw monitoring affordability as essential; "If you don't monitor it, you're not on the ball." (Actor Park Strijp Beheer, personal communication, May 23, 2024). Although it was also recognized that monitoring by itself cannot guarantee affordability without the right market conditions in the area. This shows that it is not just about monitoring affordability as an objective, but also ensuring diversity and mix in a neighborhood, taking into account market conditions.

In contrast to Strijp-S, in the Waalfront case study, affordability was monitored during development. This monitoring was done by assigning development rights to contractors or developers and by carefully determining where in the area the affordable housing was to be

realized. This was done through the use of a plan map that was reviewed at each shareholder meeting. For example, says one interviewee, "Look, at the end of the day the development rights were issued to a contractor or a developer. And at the time that was issued, and we had the map, the plan map for the whole thing. And there we kept looking at where do we want to add affordable." (Project Director Waalfront, personal communication, June 13, 2024).

5.3.4 Additional mechanisms

Apart from these mechanisms from the literature, the study also identified additional mechanisms that contributed to ensuring affordability. One of these aspects is the reinvestment of profits in the project. In the case of Strijp-S, profits from various projects remained in the limited liability company Park Strijp Beheer. This was then used to improve the quality of the environment without affecting the affordability of the housing in that area. "There have been profits made on Strijp that have remained in the PPP." said Actor Park Strijp Beheer (personal communication, May 23, 2024). Furthermore, interviewees also indicate that adjusting plans to market conditions can be used as a mechanism. When taking into account market conditions and construction costs during development, it is possible to adjust projects to maintain affordability in the project. Consider, for example, adjustments in housing size or types. For example, one interviewee says, "So then it stops. Or you have to make the homes smaller. And there, of course, it's also a bit of the wishful thinking of we're going to cut it down." (Actor Park Strijp Beheer, personal communication, May 23, 2024).

Finally, experts also see cooperation with housing corporations as a way to ensure affordability in larger projects. Corporations have a stake in the development and therefore offer housing at lower prices. However, this form of creating affordable housing only relates to social housing rather than private affordable rental housing. This shows, this is certainly a right way to ensure affordability, but unfortunately not for the private sector on the market.

5.4 Safeguard mechanisms government's perspective

Several mechanisms emerged from the interviews that experts believe can be used by government agencies to ensure affordability within PPP projects. These mechanisms are detailed below.

First, according to the experts in the field, government incentives and support for projects could help to ensure affordability in the projects. Examples include subsidies, tax breaks or the creation of appropriate policies. Government policies can be aimed at encouraging and

enabling specific housing projects. Today, it is common for the government to apply strict regulation to get projects done, which is often counterproductive in practice. For example, one interviewee stated, "Of course it helps if there is policy that makes this partly possible and also prescribes it, but the very coercive laying down of you should, you must, you shall, you don't see that working in practice, because all those market parties say yes, then I won't get my business case closed, so I won't build." (Park Strijp Beheer Project Director, personal communication, May 27, 2024). This shows that, precisely according to the experts, forcing requirements is not the way to achieve affordability in area developments.

It also showed that when the government creates clear planning and policies, it is possible to support projects like this one and ensure affordability. Consider, for example, the drafting of rent legislation to create continuity. Clear planning and policies can prevent plans from failing or costing a lot of extra time and money due to subsequent adjustments or resistance. For example, one interviewee refers to a method in Amsterdam where policy is used to get developments done: "So then I think the Amsterdam method is actually interesting, because first you actually very much consider from policy what do we want, realistically. Then just make sure that you're planning, and environmental laws are in order. And then you put it on the market." (Park Strijp Beheer Project Director, personal communication, May 27, 2024). In this method, policy first looks at what is necessary and realistic. Then the planning and environmental laws have to be in order in order to put it on the market. This not only at the best price, but especially at the best conditions. So stated the Park Strijp Management Project Director: "Thus, the more clear on the front end, without shutting it down completely, the better." (personal communication, May 27, 2024).

Finally, the government's commitment to housing diversity can also contribute as a mechanism for ensuring affordability in PPP projects. By not focusing on the realization of one form of housing, a diverse offer can be realized. "A kind of segmentation that also comes more to have some kind of diversity in your neighborhood. Because otherwise you have created a new Bijlmer." said Actor Park Strijp Beheer (personal communication, May 23, 2024). This diversity enables the financing of these projects by generating higher revenues from the sale or rental of more expensive housing. Using this mechanism suggests a balanced approach where different price categories complement each other. As a result, total construction costs can be better covered, and affordable housing better realized. This also reflects on the aforementioned quote from one of the interviews suggesting that a developer will never build a development to create a loss.

Chapter 6 – Conclusion, discussion and recommendations

This final chapter answers the main research question of the study. In addition, the chapter offers a critical reflection on the methods and outcomes of the study. In addition, the chapter will conclude with recommendations for follow-up research.

6.1 Conclusion

The aim of the research was to answer the following main question: "To what extent can public-private partnerships in real estate development influence the provision of private affordable rental housing in the Netherlands?". Based on the two case studies Strijp-S in Eindhoven and Waalfront in Nijmegen, the development of affordable private rental housing was analyzed in depth on the basis of (semi-) structured interviews. Below are the paragraphs that answer the sub-questions to then answer the main research question.

The results from the study show that political support and stability are crucial for the success of PPP in realizing affordable private rental housing. Practical experiences confirm that long-term political vision and continuity in policy is necessary to make and maintain such projects successful, despite changing political coalitions. Furthermore, the findings show that trust and openness between public and private actors is also a crucial factor. Building and maintaining this factor from the start of the collaboration is essential to avoid tensions and make the collaboration successful. Not only the literature, but especially practical experiences emphasize the importance of this factor. The third important factor is a favorable and efficient legal framework. Although this has emerged less prominently in practice, a good legal framework provides needed certainty and stability. This is thankfully also endorsed by practitioners. Proper allocation of risks has also proven to be a crucial factor contributing to the success of this form of cooperation. Allocating risks to the most appropriate parties not only promotes cost and project duration efficiency, but also increases resilience to unforeseen circumstances. Finally, the factors such as clear agreements on the front end and knowledge, skill and experience have been found to be essential to the success of a PPP construction in the eyes of practitioners.

As for the mechanisms that ensure affordability within these collaborations, both the literature and practice show that contractual arrangements, proper allocation of risks, and monitoring and evaluation are important. The use of these mechanisms establishes a framework in which obligations, balance of responsibilities and monitoring of progress ensure

compliance with affordability goals. Although monitoring was not employed in either case study, it is a factor that both the literature and the other case study confirm as a working essential mechanism.

In the context of Dutch area developments, it has become clear that government agencies such as municipalities play an essential role in ensuring affordability in larger area developments where PPP is applied. Using clear planning and policy developments, steering for diverse housing supply and incentives, they can contribute to the success of such developments.

Public-private collaboration enables large-scale PPPs to accelerate housing development. Where private developers contribute capital and project development expertise, public parties such as municipalities can provide spatial planning, policy frameworks and, where necessary, financial incentives. This form of collaboration allows them to tackle large-scale projects that may be too costly or risky for others to undertake alone. The ability to address the housing shortage through such collaboration stems from their ability to promote efficiency in both development and management of affordability.

The results of this study have shown that PPP is a potentially powerful tool for larger area developments in the Netherlands to deliver affordable private rental housing in an integrated manner. This is a promising way to alleviate the housing shortage in the sector. Its success depends on a complex interplay of political support, trust, an effective legal framework, risk management, and appropriate knowledge and experience of the stakeholders at the table. In addition, various mechanisms to ensure affordability must be implemented in the collaboration. By optimizing all these elements, it is possible to maximize the impact of PPP projects on the market and to better guarantee affordable rental housing in the Dutch context.

6.2 Discussion and recommendations

This section reflects on the findings of the study and discusses the implications and limitations of the results. In addition, a critical evaluation of the methods used and assumptions underlying the study is provided. Furthermore, a view of feasibility of realizing affordable private rental housing because of a PPP is provided.

Although this study has been able to explore useful success factors and mechanisms, the study entails some limitations. For example, only two case studies were used: Strijp-S in Eindhoven

and Waalfront in Nijmegen. Although the cases are representative of large-scale urban developments, the generalizability of the findings to other contexts or projects may be limited. However, in the Netherlands today there are only a few projects where this form is used to create affordable private rental housing, among other things. As a result, this research can provide guidance as to how PPPs can be used for such developments in the Dutch market in the future. Of course, it would have been an addition for the research if a PPP case had been implemented that shows a less positive side. The research would probably have provided broader insights the moment the cases did not show the same outcomes. However, due to practical circumstances, this unfortunately proved impossible. Nevertheless, for future research it is important to examine a wider range of projects where possible, including other urban areas and smaller projects. This will help generate a fuller picture of the applicability of PPPs in different contexts.

Furthermore, the reliance on qualitative data from (semi-)structured interviews may be another limitation of the study. While this form of research allows for in-depth insights, quantitative data analysis would be a valuable addition to strengthen robustness of the results. Here, data such as financial performance of the collaboration would also benefit the results. However, it should also be noted that the range of PPP projects in the Netherlands today is limited. As a result, multiple comparisons between projects based on financial performance have not been possible on a large scale.

Another point of interest concerns the nature of the cases studied. Both projects involve a large-scale area development in a city where a mix of different housing types have been realized. This included affordable-, expensive- and social rental housing as well as expensive and cheap owner-occupied housing. As the results also showed, private parties are rarely inclined to take on loss-making projects. An important view that emerges from this is that affordable private rental housing can only be realized through a PPP construction if it is a large area development in which a mix of different housing types is realized. This is because the feasibility of such plans depends on this financial balance. This is because the diversity creates a financial balance in which losses from the cheaper segment can be absorbed with revenues from the more expensive segment. The moment a smaller PPP area development creates only affordable housing, feasibility is an issue due to today's oppressive costs. That said, PPP has still proven to be a very effective way to create affordable private rental housing as part of a larger development.

These findings from the study offer important implications for developers and policymakers. Namely, it is possible to consider facilitating and supporting large-scale area development based on PPP construction as a strategy to create more affordable private rental housing. Consider financial support, cooperation with other parties and appropriate local regulations. Indeed, the importance of political continuity has proven crucial. Furthermore, this may help private parties such as developers see the benefits of participating in a PPP, especially in large-scale projects. Not only does collaboration help create socially responsible projects, but it also creates long-term and stable investments where shared risks can be benefited from during development.

Despite the proven effectiveness of PPPs in delivering affordable private rental housing, this method is not widely used in the Netherlands today. Apart from its integration into large projects, this is also due to its financial feasibility. The private parties still need to be able to bear the costs and are often reluctant to do so in today's market conditions. For the same reason, the government is often unwilling to provide financial support in such cases. This creates a gap, as the cases in this study were initiated in more favorable economic conditions prior to the crisis. The current market and policy conditions are often even less favorable for the new initiatives. This situation highlights the need for policymakers to consider measures to improve the financial viability of PPP projects, such as subsidies, tax breaks or other forms of support to make it more attractive for private parties to enter this form of cooperation. These measures are essential to promote the use of PPPs in the delivery of affordable private rental housing in the future.

In addition to using PPPs, there are other ways to market affordable private rental housing. Cooperative housing and social housing offer interesting alternatives, especially for smaller-scale housing projects. These approaches can be effective in specific contexts. However, given today's housing shortage and the need to build in larger numbers, PPP remains an important strategy. Large-scale housing projects can be completed more efficiently and cost-effectively through PPPs, especially in urban areas where the social problem of affordable housing is high. Future research should examine under what circumstances the various approaches are most effective. This could help develop a hybrid approach that leverages the benefits of each strategy depending on the specific needs and circumstances of the project. If the aspects mentioned above are integrated into the promotion of PPPs, it is likely that this form of collaboration will take a significant share of the market.

Chapter 7 - Bibliography

- Abdul-Aziz, A., & Kassim, P. S. J. (2011). Objectives, success and failure factors of housing public–private partnerships in Malaysia. *Habitat International*, 35(1), 150–157.
<https://doi.org/10.1016/j.habitatint.2010.06.005>
- Al-Saadi, R. S. a. S. (2015). *A framework for guiding the briefing proces in public-private partnerships in the UAE construction industry*. Scholarworks@UAEU.
https://scholarworks.uaeu.ac.ae/all_dissertations/17?utm_source=scholarworks.uaeu.ac.ae%2Fall_dissertations%2F17&utm_medium=PDF&utm_campaign=PDFCoverPages
- Alteneiji, K., Alkass, S., & Dabous, S. A. (2020). A review of critical success factors for public–private partnerships in affordable housing. *International Journal of Systems Assurance Engineering and Management*, 11(6), 1192–1203.
<https://doi.org/10.1007/s13198-020-00976-x>
- Altheide, D. L. (2000). Tracking discourse and qualitative document analysis. *Poetics*, 27(4), 287–299. [https://doi.org/10.1016/s0304-422x\(00\)00005-x](https://doi.org/10.1016/s0304-422x(00)00005-x)
- ANP. (2009, September 20). *FNV woedend over sluiting Honig-fabriek Nijmegen*. NU.nl.
<https://www.nu.nl/algemeen/2085805/fnv-woedend-sluiting-honig-fabriek-nijmegen.html>
- Azungah, T. (2018). Qualitative research: deductive and inductive approaches to data analysis. *Qualitative Research Journal*, 18(4), 383–400. <https://doi.org/10.1108/qrj-d-18-00035>
- Berg, N. (2022, September 2). *Atlas voor gemeenten 2022 - Wonen - Atlas Research*. Atlas Research. <https://atlasresearch.nl/atlas-voor-gemeenten-2022-wonen/>
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. <https://doi.org/10.3316/qrj0902027>

- Bowling, A. (2005). Mode of questionnaire administration can have serious effects on data quality. *Journal of Public Health*, 27(3), 281–291.
<https://doi.org/10.1093/pubmed/fdi031>
- BPD Bouwfonds Gebiedsontwikkeling. (n.d.). *Wonen in Waalfront | Nieuwbouw Nijmegen*.
<https://www.nieuwbouw-waalfront.nl/>
- Collier, A. (1994). *Critical Realism: An Introduction to Roy Bhaskar's Philosophy*.
<http://ci.nii.ac.jp/ncid/BA2293051X>
- Custers, G. (2022). De wooncrisis in Nederland: voorbij het idee van 'natuurverschijnsel.' *Tijdschrift Sociologie*. <https://doi.org/10.38139/TS.2022.27>
- Czischke, D., & Van Bortel, G. (2018). An exploration of concepts and policies on 'affordable housing' in England, Italy, Poland and The Netherlands. *Journal of Housing and the Built Environment*, 38(1), 283–303. <https://doi.org/10.1007/s10901-018-9598-1>
- D'Alessandro, L., Bailey, S. J., & Giorgino, M. (2014). PPPs as strategic alliances: from technocratic to multidimensional risk governance. *Managerial Finance*, 40(11), 1095–1111. <https://doi.org/10.1108/mf-07-2013-0165>
- De Graaf, T. (2013). Aandachtspunten bij het draften van contracten. *TIJDSCHRIFT OVEREENKOMST IN DE RECHTSPRAKTIJK*, 1, 20–24.
<https://scholarlypublications.universiteitleidenn.nl/access/item%3A2837622/view>
- De Rijke, M. (2023, November 17). *Ruim driekwart van de oriënteerders verwacht dat krapte op woningmarkt verder zal toenemen*. Hypotheker.
<https://www.hypotheker.nl/actueel/persberichten/ruim-driekwart-van-de-oriënteerders-verwacht-dat-krapte-op-woningmarkt-verder-zal-toenemen/#:~:text=Nieuwbouwwoningen%20onbetaalbaar%20voor%2080%20procent,de%20prijsklasse%20van%20hun%20voorkeur>
- Deloitte Real Estate Advisory and Partnerships. (2017). Publiek-private samenwerking bij gebiedsontwikkelingen: sneller, beter en goedkoper. In *Deloitte*.
<https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/public-sector/deloitte-nl-publiek-private-samenwerking-bij-gebiedsontwikkelingen.pdf>

- Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*.
- Dulaimi, M., Alhashemi, M. Y., Ling, F. Y. Y., & Kumaraswamy, M. (2010). The execution of public–private partnership projects in the UAE. *Construction Management and Economics*, 28(4), 393–402. <https://doi.org/10.1080/01446191003702492>
- Easton, G. (2010). Critical realism in case study research. *Industrial Marketing Management*, 39(1), 118–128. <https://doi.org/10.1016/j.indmarman.2008.06.004>
- Entman, R. M. (1993). Framing: toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51–58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- Falck, T. (2014). *DEVELOPING ENGINEERING PHASE SCHEDULING OF PRODUCTION PLANT PROJECTS*.
https://lutpub.lut.fi/bitstream/handle/10024/162720/MSc_Thesis_Falck_Timo.pdf?sequence=1&isAllowed=y
- Flyvbjerg, B. (2006). Five misunderstandings about Case-Study research. *Qualitative Inquiry*, 12(2), 219–245. <https://doi.org/10.1177/1077800405284363>
- Gemeente Amsterdam. (2023). *Middeldure huurwoning*. Amsterdam.nl.
<https://www.amsterdam.nl/wonen-leefomgeving/wonen/woonmogelijkheden/middeldure-huurwoning/>
- Gemeenteraad Groningen. (2023). *Wijziging Verordening doelgroepen woningbouw Groningen*.
- Gewest13. (2024). *Strijp-S*. Strijp-S. <https://strijp-s.nl/>
- Gidman, P., Blore, I., Lorentzen, J., & Schuttenbelt, P. (1995). *Public private partnerships in urban infrastructure services*. <https://www.ircwash.org/sites/default/files/202.2-95PU-13068.pdf>
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*. <https://doi.org/10.46743/2160-3715/2003.1870>
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Thousand Oaks*, 105–117. <http://psycnet.apa.org/record/1994-98625-005>

- Haffner, M., & Boumeester, H. (2010). The affordability of housing in the Netherlands: an increasing income gap between renting and owning? *Housing Studies*, 25(6), 799–820. <https://doi.org/10.1080/02673037.2010.511472>
- Hendriks, A. (2020, July 28). Huurprijzen van gerenoveerd woonzorgcentrum in Maastricht zijn niet betaalbaar voor iedereen, terwijl dat wel. *De Limburger*. https://www.limburger.nl/cnt/dmf20200728_00169660
- Hodge, G., & Greve, C. (2005). The challenge of Public–Private partnerships. In *Edward Elgar Publishing eBooks*. <https://doi.org/10.4337/9781845428082>
- Hodge, G., & Greve, C. (2007). Public–Private Partnerships: An International performance review. *Public Administration Review*, 67(3), 545–558. <https://doi.org/10.1111/j.1540-6210.2007.00736.x>
- Ismail, S. (2013). Critical success factors of public private partnership (PPP) implementation in Malaysia. *Asia-pacific Journal of Business Administration*, 5(1), 6–19. <https://doi.org/10.1108/17574321311304503>
- Iyengar, S. (1990). Framing responsibility for political issues: The case of poverty. *Political Behavior*, 12(1), 19–40. <https://doi.org/10.1007/bf00992330>
- Jamali, D. (2004). Success and failure mechanisms of public private partnerships (PPPs) in developing countries. *International Journal of Public Sector Management*, 17(5), 414–430. <https://doi.org/10.1108/09513550410546598>
- Janssen, C. (2020, April 24). *Casus Waalfront Nijmegen: geschiedenis vormt gebiedsidentiteit*. Gebiedsontwikkeling.nu. <https://www.gebiedsontwikkeling.nu/artikelen/casus-waalfront-nijmegen-geschiedenis-vormt-gebiedsidentiteit/>
- Joppe, M. (2000). *The Research Proces*. <http://www.ryerson.ca/~mjoppe/rp.htm>
- Karim, N. a. A. (2011). Risk allocation in Public Private Partnership (PPP) project: A review on risk factors. *International Journal of Sustainable Construction Engineering and Technology*, 2(2). <http://penerbit.uthm.edu.my/ojs/index.php/IJSCET/article/download/344/239>

- Karppinen, K., & Moe, H. (2012). What We Talk about When We Talk about Document Analysis. In *Intellect Books* (pp. 177–194). <https://doi.org/10.2307/j.ctv36xvj36.12>
- Kavishe, N., & Chileshe, N. (2019). Critical success factors in public-private partnerships (PPPs) on affordable housing schemes delivery in Tanzania. *Journal of Facilities Management, 17*(2), 188–207. <https://doi.org/10.1108/jfm-05-2018-0033>
- Klijn, E., Edelenbos, J., & Hughes, M. (2007). Public-Private Partnership: a Two-Headed Reform. A Comparison of PPP in England and the Netherlands. In *Palgrave Macmillan UK eBooks* (pp. 71–89). https://doi.org/10.1057/9780230625365_5
- Klijn, E., Edelenbos, J., Kort, M., & Van Twist, M. (2008). Facing management choices: an analysis of managerial choices in 18 complex environmental public—private partnership projects. *International Review of Administrative Sciences, 74*(2), 251–282. <https://doi.org/10.1177/0020852308089905>
- Klijn, E., & Teisman, G. (2003). Institutional and Strategic Barriers to Public—Private Partnership: An analysis of Dutch cases. *Public Money & Management, 23*(3), 137–146. <https://doi.org/10.1111/1467-9302.00361>
- Klijn, E., & Van Twist, M. (2007). Publiek-private samenwerking in Nederland, Overzicht van theorie en praktijk. In *Deventer : Kluwer eBooks* (Vol. 61, pp. 156–170). <http://repository.ubn.ru.nl/bitstream/handle/2066/47262/47262.pdf>
- Kwofie, T. E., Afram, S. O., & Botchway, E. A. (2016). A critical success model for PPP public housing delivery in Ghana. *Built Environment Project and Asset Management, 6*(1), 58–73. <https://doi.org/10.1108/bepam-04-2014-0026>
- Li, B., Akintoye, A., Edwards, P. J., & Hardcastle, C. (2005). The allocation of risk in PPP/PFI construction projects in the UK. *International Journal of Project Management, 23*(1), 25–35. <https://doi.org/10.1016/j.ijproman.2004.04.006>
- Li, B., Akintoye, A., & Hardcastle, C. (2005). Critical success factors for PPP/PFI projects in the UK construction industry. *Construction Management and Economics, 23*(5), 459–471. <https://doi.org/10.1080/01446190500041537>
- Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. In *Newbury Park*.

- Linder, S. H. (1999). Coming to terms with the Public-Private partnership. *American Behavioral Scientist*, 43(1), 35–51. <https://doi.org/10.1177/00027649921955146>
- Linneberg, M. S., & Korsgaard, S. (2019). Coding qualitative data: a synthesis guiding the novice. *Qualitative Research Journal*, 19(3), 259–270. <https://doi.org/10.1108/qjrj-12-2018-0012>
- Madden, J. R. (2011). OVERCOMING COLLABORATION BARRIERS IN AFFORDABLE HOUSING PUBLIC-PRIVATE PARTNERSHIPS. *Proceedings - Academy of Management*, 2011(1), 1–6. <https://doi.org/10.5465/ambpp.2011.65869640>
- Marques, R. C. (2018). Regulation by contract: Overseeing PPPs. *Utilities Policy*, 50, 211–214. <https://doi.org/10.1016/j.jup.2017.10.004>
- McCOMBS, M. E., & Shaw, D. L. (1972). The Agenda-Setting function of mass media. *Public Opinion Quarterly*, 36(2), 176. <https://doi.org/10.1086/267990>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (1988). *Qualitative Data Analysis: A Methods Sourcebook*. <http://cds.cern.ch/record/2261864>
- Millwood, J., & Heath, M. (2000). Food choice by older people: the use of semi-structured interviews with open and closed questions. *Gerodontology*, 17(1), 25–32. <https://doi.org/10.1111/j.1741-2358.2000.00025.x>
- Ministerie van Algemene Zaken. (2023, December 13). *Wat is het verschil tussen een sociale huurwoning en een huurwoning in de vrije sector?* Rijksoverheid.nl. <https://www.rijksoverheid.nl/onderwerpen/huurwoning-zoeken/vraag-en-antwoord/wat-is-het-verschil-tussen-een-sociale-huurwoning-en-een-huurwoning-in-de-vrije-sector>
- Ministerie van Binnenlandse Zaken en Koninkrijkrelaties. (2022a). Programma Betaalbaar wonen. In *Rijksoverheid*. Retrieved November 24, 2022, from <https://open.overheid.nl/repository/ronl-46809d544d7011b442382c151c94944dbd66c93d/1/pdf/programma-betaalbaar-wonen.pdf>

- Ministerie van Binnenlandse Zaken en Koninkrijkrelaties. (2022b). Programma Woningbouw. In *Rijksoverheid*. Retrieved November 24, 2022, from <https://open.overheid.nl/repository/ronl-2150b1aaf700c40903aa0029241d9a34de6ab6ce/1/pdf/Programma%20Woningbouw%20def.pdf>
- Ministerie van Onderwijs, Cultuur en Wetenschap. (2020, February 20). *Strijp-S culturele hart van Brainport Eindhoven*. Praktijkvoorbeelden | Rijksdienst Voor Het Cultureel Erfgoed. <https://www.cultureelerfgoed.nl/onderwerpen/praktijkvoorbeelden/overzicht-praktijkvoorbeelden/strijp-s-wordt-culturele-hart-van-brainport-eindhoven>
- Moon, K., & Blackman, D. (2014). A guide to understanding social science research for Natural Scientists. *Conservation Biology*, 28(5), 1167–1177. <https://doi.org/10.1111/cobi.12326>
- Moskalyk, A. (2011). *Public-Private partnership in housing and urban development | UN-Habitat*. <https://unhabitat.org/books/public-private-partnership-in-housing-and-urban-development>
- Muhammad, Z., & Johar, F. (2018). Critical success factors of public–private partnership projects: a comparative analysis of the housing sector between Malaysia and Nigeria. *International Journal of Construction Management*, 19(3), 257–269. <https://doi.org/10.1080/15623599.2017.1423163>
- Nijskens, R., Lohuis, M., Hilbers, P., & Heeringa, W. (2019). Hot property. In *Springer eBooks*. <https://doi.org/10.1007/978-3-030-11674-3>
- NVM & VGM NL. (2023). *Huurmarktcijfers (vrije sector)*. NVM. <https://www.nvm.nl/wonen/marktinformatie/huurmarkt/>
- Ong, A. (2003). Higher learning: educational availability and flexible citizenship in global space. In *Diversity and Citizenship Education: Global Perspectives*.
- Pongsiri, N. (2002). Regulation and public-private partnerships. *International Journal of Public Sector Management*, 15(6), 487–495. <https://doi.org/10.1108/09513550210439634>

- PPP Knowledge Centre. (2002). *Public private comparator*.
https://www.mfcr.cz/assets/attachments/2002-07-01_Public-Sector-Comparator-guidance-Ministry-of-Finance-the-Netherlands.pdf
- Quick, R. (2003). Long-term ties: Managing PPP contracts. *Public Infrastructure Bulletin*, 1, 5.
http://epublications.bond.edu.au/pib/vol1/iss2/5?utm_source=epublications.bond.edu.au%2Fpib%2Fvol1%2Fiss2%2F5&utm_medium=PDF&utm_campaign=PDFCoverPages
- Rand, A. (1990). *Introduction to Objectivist Epistemology: Expanded Second Edition*. Meridan.
- Restauratiefonds. (n.d.). *Strijp S, Eindhoven*. Herbestemming.nl.
<https://www.herbestemming.nl/projecten/strijp-s-eindhoven>
- Sekhuis, S. (2018, August 20). Zorgcentrum Sint Gerlachus renoveren, niet slopen. *De Limburger*. https://www.limburger.nl/cnt/dmf20180819_00071250
- Shen, L. Y., Platten, A., & Dang, X. (2006). Role of public private partnership to manage risk in public sector project in Hong Kong. *International Journal of Project Management*, 24, 578–594.
- Smith, D. A. (2023). *A guidebook to successful affordable housing PPPs* [Slide show]. Affordable Housing Institute.
<https://thedocs.worldbank.org/en/doc/fff83f483c76eef814d7488b25689a10-0430012023/related/AHI-lp-Successful-affordable-housing-PPPs-v0-1-230529.pdf>
- Susilawati, C., Wong, J., & Chikolwa, B. (2009). An evaluation of viability of public private partnerships in social infrastructure procurement projects in Queensland, Australia. *Paper Presented at the CRIOCM 2009 International Symposium on Advancement of Construction Management and Real Estate*, 1929–1941.
<https://eprints.qut.edu.au/29487/>

- Tam, C. M. (1999). Build-operate-transfer model for infrastructure developments in Asia: reasons for successes and failures. *International Journal of Project Management*, 17(6), 377–382. [https://doi.org/10.1016/s0263-7863\(98\)00061-1](https://doi.org/10.1016/s0263-7863(98)00061-1)
- Teisman, G. R. (1998). *Procesmanagement: de basis voor partnerschap*. https://esb.nu/procesmanagement-de-basis-voor-partnerschap/editie_pdfs_d83221_tcm445-244605/
- Tomkins, C. (2001). Interdependencies, trust and information in relationships, alliances and networks. *Accounting, Organizations and Society*, 26(2), 161–191. [https://doi.org/10.1016/s0361-3682\(00\)00018-0](https://doi.org/10.1016/s0361-3682(00)00018-0)
- Van Hove, J. (2006). *PPS in de zorg* [Afstudeerrapport]. Technische Universiteit Delft.
- Van Mourik, P. (2022, October 10). *De woningnood is helemaal niet zo groot*. Binnenlands Bestuur. <https://www.binnenlandsbestuur.nl/ruimte-en-milieu/woningnood-door-gebrek-aan-betaalbare-huizen>
- Van Thiel, S. (2014). Research methods in public administration and public management. In *Routledge eBooks*. <https://doi.org/10.4324/9780203078525>
- Vastgoedjournaal. (2021, March 25). Woningbouwversnelling door betere publiek-private samenwerking. *Vastgoedjournaal*. <https://vastgoedjournaal.nl/news/49814/woningbouwversnelling-door-betere-publiek-private-samenwerking-nbsp>
- Vos, P., & Tjemkes, B. (2013). *Samen werken samen winnen. Aanpak voor het organiseren van publiek-private samenwerking*. <https://repository.tudelft.nl/view/tno/uuid:941c02d2-0c67-42fe-959f-b06a4f7038f9>
- Wang, W., & Dai, D. (2009). Risk Allocation Mechanism for Public-Private Partnership (PPP) Projects. *IEEE*. <https://doi.org/10.1109/icmss.2009.5305514>
- Yin, R. (2015). Qualitative research from start to finish (2nd edn.). *Neuropsychological Rehabilitation*, 27(8), 1156–1158. <https://doi.org/10.1080/09602011.2015.1126911>
- Yin, R. K. (2014). *Case study research: Design and methods* (Vol. 5). <https://cds.cern.ch/record/1171670>

- Yuan, J., Guang, M., Wang, X., Li, Q., & Skibniewski, M. J. (2012). Quantitative SWOT Analysis of public housing delivery by Public–Private Partnerships in China based on the perspective of the public sector. *Journal of Management in Engineering*, 28(4), 407–420. [https://doi.org/10.1061/\(asce\)me.1943-5479.0000100](https://doi.org/10.1061/(asce)me.1943-5479.0000100)
- Zhang, X. (2005). Critical success factors for Public–Private Partnerships in Infrastructure development. *Journal of the Construction Division and Management*, 131(1), 3–14. [https://doi.org/10.1061/\(asce\)0733-9364\(2005\)131:1\(3](https://doi.org/10.1061/(asce)0733-9364(2005)131:1(3)
- Zhang, Y. (2023). *Affordable Housing PPPs: Framing, Complexities, and Models* [Slide show]. World Bank group. <https://thedocs.worldbank.org/en/doc/fff83f483c76eef814d7488b25689a10-0430012023/related/Affordable-Housing-PPP-FRAMING-Yan-Zhang-June1.pdf>
- Zougari, M. (2003). Public-Private Partnership: Major hindrances to the private sector’s participation in the financing and management of public infrastructures via delegated management. *International Journal of Water Resources Development*, 19(2), 123–129. <https://doi.org/10.1080/0790062032000089257>

Appendix A – Codebook 1

This appendix shows the codes from the Atlas.ti program in relation to the interview transcripts with the project directors to map the cases.

Project: Thesis interviews Case study

Report created by Joeri Lahaye on 24-6-2024

Code Report – Grouped by: Code Groups

All (34) codes

Actoren

10 Codes:

- Aandeelhouders
 - Initiatiefnemer planvorming
 - Initiatiefnemer PPS
 - Marktpartij
 - Ontwikkelings BV
 - Overheidspartij
 - Primaire actoren
 - Secundaire actoren
 - Stakeholders
 - Voormalige eigenaar
-

Huidige situatie

7 Codes:

- Doelstelling project
- Doorstroming markt
- Marktverandering

- Marktvraag
 - Ontstaan project
 - Overheidseisen betaalbaarheid
 - Realisatie project
-

PPS inzet praktijk

11 Codes:

- Lage merkbaarheid PPS
 - Marktcrisis
 - Marktkennis
 - Positieve invloed betaalbaarheid
 - Resultaat PPS
 - Risico PPS
 - Uitdaging ontwikkeling
 - Uitdagingen PPS
 - Visie betaalbaarheid
 - Visie PPS
 - Voordelen PPS
-

Soort samenwerking

6 Codes:

- Ontwikkelniveaus
- Reflectie betaalbaarheid
- Samenwerking
- Samenwerkingsafspraken
- Samenwerkingsverandering
- Vorm PPS

Visie betaalbaarheid

1 Codes:

- Visie betaalbaarheid

Appendix B – Codebook 2

This appendix shows the codes from the Atlas.ti program in relation to the interview transcripts and project actors to map all CSFs to the cases.

Project: Thesis interviews results

Report created by Joeri Lahaye on 24-6-2024

Code Report – Grouped by: Code Groups

All (49) codes

Aanvullend algemeen

14 Codes:

- Ambities hebben
 - Diversiteit woningaanbod
 - Financiële risico's
 - Langjarig perspectief
 - Marktveranderingen
 - Mix in woningaanbod
 - Monitoring diversiteit woningaanbod
 - Niet bouwen voor verlies
 - Politieke procedures
 - Scheefwonen woningmarkt
 - Snellere communicatie
 - Sturing markt in plaats van verplichting
 - Wensdenken overheid
 - Winstmarges private partijen
-

Betaalbaarheid

6 Codes:

- Beleid op betaalbaarheid
 - Doelstellingen betaalbaarheid
 - Eisen bewoning betaalbaarheid
 - Financiering betaalbaarheid
 - Geen consequenties betaalbaarheid
 - Geen monitoring op betaalbaarheid
-

CSFs Aanvullend

14 Codes:

- Bedrijfsbelang
 - Betrokkenheid actoren
 - Duidelijkheid van wetgeving en regels
 - Gelijkheid onderling
 - Helderheid in afspraken
 - Inspanning en energie
 - Institutionele structuur en autonomie
 - Kennis en kunde
 - Living lab
 - Personele continuïteit
 - Politieke urgentie
 - Risico's buigen naar een voordeel
 - Samenwerking en relatiebeheer
 - Verandering omarmen
-

CSFs Literatuur

4 Codes:

- Adequate risicodeling en risicospreiding
 - Gunstig en efficiënt wettelijk Kader
 - Politieke steun en stabiliteit
 - Vertrouwen en openheid
-

CSFs praktijk

8 Codes:

- Adequate risicodeling en risicospreiding - 4
 - Adequate risicodeling en risicospreiding - 4,5
 - Gunstig en efficiënt wettelijk Kader - 3
 - Gunstig en efficiënt wettelijk Kader - 3,5
 - Gunstig en efficiënt wettelijk Kader - 4
 - Politieke steun en stabiliteit - 4
 - Politieke steun en stabiliteit - 5
 - Vertrouwen en openheid - 4
-

Mechanismen waarborgen betaalbaarheid literatuur

3 Codes:

- Contractuele overeenstemming
- Monitoring en evaluatie betaalbaarheid
- Risicodeling

Appendix C – Codebook 3

This appendix shows the codes from the Atlas.ti program in relation to the interview transcripts of the residents within the cases to map the cases more completely.

Project: Thesis interviews Residents

Report created by Joeri Lahaye on 24-6-2024

Code Report – Grouped by: Code Groups

All (45) codes

Beoordeling woonomgeving

10 Codes:

- Beoordeling behoud cultuurhistorie 3
 - Beoordeling betaalbaarheid woning 4
 - Beoordeling bruisend nieuw stadsdistrict 3
 - Beoordeling duurzaamheid 2
 - Beoordeling groei economie woonomgeving 4
 - Beoordeling groenvoorzieningen woonomgeving 2
 - Beoordeling levendigheid woonomgeving 5
 - Beoordeling voorzieningen woonomgeving 4
 - Beoordeling woonomgeving 7
 - Beoordeling woonomgeving 8.5
-

Participatie

5 Codes:

- Communicatie bewoners
- Geen participatie belang
- Geen participatie mogelijkheden
- Hoge betrokkenheid

- Lage betrokkenheid
-

Publiek - private samenwerking (PPS)

6 Codes:

- Bewustzijn PPS negatief
 - Bewustzijn PPS positief
 - Maatschappelijk belang door gemeente belangrijk
 - Ontwikkelingsfase gebied
 - PPS is belangrijke meerwaarde
 - Verdienmodel Trudo
-

Woning

5 Codes:

- Betaalbaarheid woning
 - Contrast betaalbaarheid omringende wijken
 - Keerzijde procedure woning
 - Procedure woning
 - Woning
-

Woningmarkt algemeen

2 Codes:

- Scheefwonen
 - Situatie woningmarkt
-

Woonomgeving

17 Codes:

- Architectuur bebouwing
- Bereikbaarheid gebied
- Bewonerswens omgeving
- Bruisend nieuw stadsdistrict
- Contrast omringende wijken
- Drugsoverlast woonomgeving
- Duurzaamheidstoepassing omgeving
- Evenementen woonomgeving
- Faciliteiten woonomgeving
- Geen verbeterpunten woonomgeving
- Groenvoorzieningen woonomgeving
- Hoge bebouwingsdichtheid
- Imago gebied
- Levendigheid woonomgeving
- Mix woningaanbod
- Positief gevoel leefomgeving
- Woningaanbod gebied