

# A campus as a solution for the main location of the Landelijke Eenheid in Driebergen

Towards a campus assessment framework that will support the organization

## P5 Report

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## Preface

This research investigates how a campus can support the organization the Landelijke Eenheid for the location of Driebergen. It is conducted as the final part of the graduation of the master track Management in the Built Environment (MBE) at the faculty of Architecture of the Technical University Delft.

When I grew up, I was always fascinated how things were managed. Visiting many big projects all over the world, I have always been amazed how buildings were developed, managed and designed. Now, I present this thesis which is about management. What is funny is that when you talk about the police, you never really think about their real estate or their management of real estate. When I was asked if I would like to graduation within the track of Real Estate Management, I immediately knew that this was a nice chance to get more understanding of the police and their real estate. Focusing on the main location was even better. When I told my family and friends about my graduation, they all looked at me and said: ‘‘What are you going to do at the police?’’ and they were all positively surprised that the Dutch police would be the organization of my graduation internship. To me it motivates me to create a product which can be used to help public real estate and therefore have an impact on society. It makes me enthusiastic to be included into the organization of the Landelijke Eenheid as a graduation student. The Landelijke Eenheid is an immense organization in which many operations take place. By helping to create a police campus, the Landelijke Eenheid will have new functional real estate in which operational processes will take place and therefore a more efficient work environment could be created.

I would like to thank several people for guiding me through this graduation process. Starting with both my mentors from the TU Delft, Dr. ir. Monique Arkesteijn and Prof. dr. Paul Chan. I would like to thank you for the feedback and the meetings that we had over the last year and encouraging me throughout the process. I appreciate that you have taken time to exchange your knowledge by having multiple conversations about my research. In addition, I would like to thank Ir. Jochem Frehe from the national police for the insight documents from the Landelijke Eenheid and for the discussion have we had about how exactly the real estate department operates within the Landelijke Eenheid and during the development process of the police campus. Also, I would like to thank Daniël van Staveren for giving me useful tips and feedback. Lastly, I would like to thank the interviewees from the Landelijke Eenheid who have provided me with comprehensive input for this research.

Even though this year has been quite difficult because of the pandemic, I gratefully look back at this graduation process. I would like to thank my family and friends for always being supportive throughout this intense year.

For now, enjoy reading this graduation research and if any questions arise, I will kindly answer them.

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## Abstract

Recently, campus strategies have become popular in managing portfolios of real estate. The growth of business and employment on campuses has continued unabated in recent years, leading to the conclusion that campuses are a popular location and an engine for new and innovative activity. Because of the thirteen added values that a campus can offer to an organization, the Landelijke Eenheid wants to implement a campus to support the organization and consequently also support future operational processes. However, for the Landelijke Eenheid it is still unclear and abstract what a police campus looks like because they have never developed a police campus so there is not a campus assessment framework on how to make a police campus yet. What we know about the police campus at the moment is not enough. Therefore, this research will investigate what a campus can offer to the organization of the Landelijke Eenheid for the location of Driebergen. By making use of the four perspectives of den Heijer, a new campus assessment framework is made to help the Landelijke Eenheid with an overview of their ambition and vision document and the four real estate documents that are used within this research. The empirical part will focus on the new campus assessment framework and how the occurring contradictions can be solved. The input for the research will be conducted through both qualitative and inductive research. Semi-structured interviews are held and a case study about a campus with similar contradictions (Brightlands Chemelot campus) is executed. The theoretical review will focus on the campus, its management and the operationalization of a campus. The Activity Theory by Engeström is used to examine the activity of creating a police campus and serves as the conceptual framework. The goal in this research is to formulate an outcome of how a campus can support the organization of the Landelijke Eenheid.

**Keywords:** Campus, Campus Strategy, Activity Theory, Operationalization, Assessment Framework, Landelijke Eenheid

# Executive summary

## 1. Introduction

### Context

Currently, the Netherlands has dozens of campuses and science parks throughout the country. These are hubs where business, innovators, researchers and academics come together to form a hub. What is noticeable is that the trend of developing a campus has become increasingly popular because of the many advantages that a campus can bring along. Think about stimulating collaboration, be more innovative, more attractive to employees and third parties and reduce travel time because buildings could be closely positioned to each other. The advantages that come along with a campus are called added values and are a result of campus management. The widespread implementation of campuses on national level also sparked the Landelijke Eenheid to create a campus for their organization in Driebergen. This is a difficult and challenging task because this is the first time that the police is creating a police campus. The police have a big variety of functions, visions and ambitions, and they expect to move towards different operational processes and unknown organizational structures in the future. The police and the TU Delft's campus research team (CRT) started a cooperation in 2020 and the CRT is supporting the police in their process to create a police campus. It is crucial to know that the police organization has always been changing and that a continuous organizational change requires periodical alignment with the accommodation, to avoid becoming a disabler for the organization. The police organization reorganized in 2013. After that, the Dutch police was formed into one national police force with ten regional forces, a national force (Landelijke Eenheid) and the police services centre. This change resulted into a different way in which the accommodation of support services, such as ICT, personal affairs and housing were located.

### Problem statement

Campus strategies have become popular in managing portfolios of real estate. Buck Consultants International (2018) states that in 2018 thirty-five campuses are found in the Netherlands. Those thirty-five campuses are divided into different campuses such as a science park, innovation campuses and facility campuses. The research of Buck Consultants International (2018) shows that many different organizations tend to create a campus for themselves nowadays. In addition, the growth of business and employment on campuses has continued unabated in recent years, leading to the conclusion that campuses are a popular collection of buildings and land and an engine for new activity. The covid-19 pandemic is momentarily a catalyst when it comes to change. Organizations are now being exposed to quickly adapt to new ways of their operational processes and to think differently about the real estate of the organization. Because of the strategic alignment that a campus can offer to an organization, the Landelijke Eenheid strives for a campus to support their internal organizational change.

Most studies have shown that campus strategies can provide added value to the portfolio and support change within the organization (Den Heijer, Arkesteijn, de Jong, & de Bruyne, 2016; Buck Consultants International 2018; Jensen, Voordt, Coenen, Von Fletten, 2012). A campus strategy will take all the ambitions and visions of the different stakeholders into account, which results in a more optimized real estate portfolio that will support the organizational change demands. In 2013, the strategic accommodation plan because an important implementation strategy. This meant that 25 regional police units were merged to one national police with 12 police units. The focus of the 2013 strategic housing mostly regarded adjustments at the building level. As a result of this, the police has not defined yet what a police campus is, and how it exactly looks like because they have no prior experience in the process of creating it. It is unclear within the Landelijke Eenheid how to create a police campus or how to align according to a campus real estate model in the organization of the Landelijke Eenheid and start the process of developing a police campus with the campus model. Therefore, this research will investigate what a campus can offer to the organization of the Dutch Landelijke Eenheid for the location of Driebergen. The main research question is as follows: *'How can a campus support the Landelijke Eenheid in Driebergen?'*.

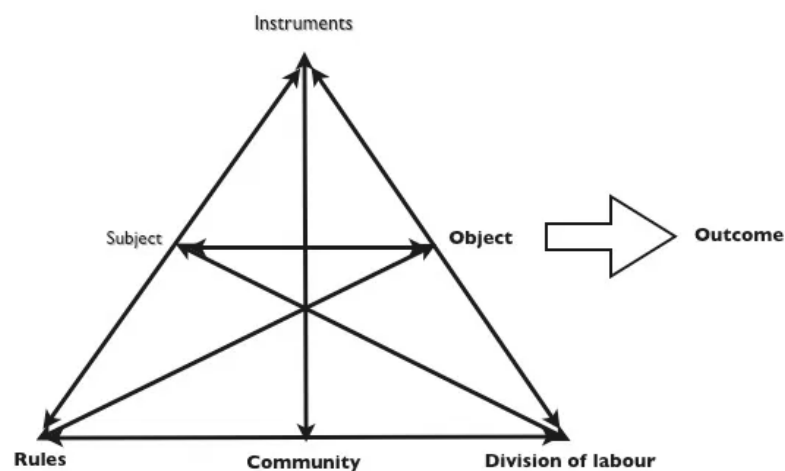
## 2. Methodology

This qualitative and inductive research investigates how a campus can support the Landelijke Eenheid in Driebergen. The research method that is applied consists of a literature study, fourteen semi-structured interviews and a case study. The semi-structured interviews were conducted with real estate developers, policy makers, the asset manager, the users, the architect and the security department of the Landelijke Eenheid. The case study that has been used is the Brightlands Chemelot campus in Sittard-Geleen. The

literature study, the semi-structured interviews and the case study were used to answer the main research question and the sub-questions:

1. How can a campus accommodate the needs of an organization and how can a campus be operationalized?
2. What are the major areas of (expected) impact of the Landelijke Eenheid regarding real estate?
3. What is a possible campus assessment framework that is suitable for the Landelijke Eenheid?
4. What is actions and campus configuration can the Landelijke Eenheid use and how does that relate to the contradictions of accessibility, safety & security and flexibility?

The conceptual model that is used in this research is the Activity Theory by Engeström (2001), see figure 1. Activity Theory is a descriptive framework that targets the work activity as a whole, this is referred to as an activity system, making it useful for tracking the process, rather than focusing on the outcome of the organizational transformation.



1: Conceptual framework: The Activity Theory

Figure

### 3. Research findings Contradictions

In the two workshops that were held by Arkesteijn, den Heijer and van Staveren (2021) arose different contradictions when developing a police campus. The first contradiction is found between accessibility and safety and security. This theme triggers discussion between the participants during the workshop because they want the police campus to be accessible, but it also needs to be clear where employees or stakeholders can go regarding the safety and security requirements. In this research, accessibility will be divided in the terms of openness and closedness. The second contradiction is present in the term of collaboration and flexibility. It is undefined and impossible to exactly predict what future operational processes need to incorporate, so that makes it more difficult to create spaces to collaborate or implement flexible spaces/rooms for this purpose. The current real estate is inflexible and is obstructing optimal collaboration. Flexibility is a mean to create more and better collaboration for the Landelijke Eenheid. Within the Activity Theory, the process, contradictions, issues and actions are mentioned to get more understanding of each component.

#### New campus assessment framework

Four documents of the police are used to create a new campus assessment framework because the police do not have one yet. Firstly, the campus assessment framework is a helpful aspect because it incorporates four main documents that are used within the organization of the Landelijke Eenheid but have their purpose on building level. By selecting the campus criteria within those four documents, the new assessment framework can serve as a tool as in process of the development of the police campus. Secondly, the terminology is aligned between the departments. New overarching terms have been created that serves one suitable campus terminology. Thirdly, the campus model of den Heijer positions the new assumed added values into the four perspective model. In this way the Landelijke Eenheid has an overview how their added values are positioned into the campus model, see figure 2.



Figure 2: The assumed added values of the new campus assessment framework for the Landelijke Eenheid. Adapted from den Heijer (2011)

### Police campus configuration

The positioning of the building will have the most impact on the aspects of accessibility. The accessibility is determined by the security zones so when designing and developing the campus, the interests to be protected need to be clearly formulated. The configuration must consider that some buildings could be divested or changed into other functions, therefore modular and flexible buildings are recommended to develop. Each building or zone should adapt to the needs of each department and clustering functions is a suitable option. The gradation of security zones should be implemented in a way in which employees and other stakeholders immediately can experience where they are and that the barriers are uncomplicated. There is no final campus configuration yet but with considering the new modular buildings, the security zones, the physical connectors, and the positioning of the buildings a configuration is proposed. The configuration incorporates the solid-liquid-gas model which shows how a real estate portfolio can be managed or used. The police campus will incorporate all three models. A set of actions is proposed to solve the contradictions that occur within the Landelijke Eenheid. The case study helps suggesting how the contradictions can be solved because the Brightland campus had the same contradictions when they developed their campus.

### 4. Conclusion

It can be concluded that a campus can have multiple definitions because of the different typologies that exist. When combining the practice and academic side, the campus has the following definition: a campus includes all building that are used by a university, an institution or a company and often refers to its territory and it is not only a place for innovation or possibilities for (public or private, internal or external) collaborations, but also its distinctive capability to respond to physical or non-physical priorities which are feasible in different typologies with their own characteristics. When developing a police campus, campus elements and added value offer a solid base to create a police campus. There are seven campus elements and thirteen added values found in literature. First, the new campus assessment framework is the first campus framework that the Landelijke Eenheid can use, because they have never created this before. The four documents that were used in this research have been examined and the campus criteria have been selected and positioned according to the campus model of den Heijer and operationalized values have been found and positioned into the campus assessment framework. As a result of the new campus assessment framework, the Landelijke Eenheid has an overview of sixteen assumed added values, see figure 2, which are useful for the organization. Secondly, a set of actions and a configuration has been proposed to solve the contradictions of accessibility and safety & security and collaboration and flexibility. By proposing a configuration and a set of actions together with the new campus assessment framework and a literature research, the Landelijke Eenheid is more aware what a campus can offer to their organization and how campus real estate can accommodate the needs and demands that the organization has.

## 5. Recommendations

The outcomes of this research resulted in the following recommendations:

### 1. Recommendations for future research

- More in-depth research of the police campus and its operationalization values in a later phase
- Focus on the user
- Change the scope of the research
- The financial perspective
- Early warning signs
- Smart tools

### 2. Recommendations for practice

- More detail in the campus assessment framework
- Balance out the added values and get more understanding of their meaning
- One terminology
- Connect with other departments for campus knowledge exchange (Landforum)
- Positioning security zones
- Campus model as strategic tool
- Better formulate what the contradictions mean
- Deduplicate functions
- Campus terrain
- More workshops
- Include the user more



## Table of content

Personal data	
Abstract	p. 4
Executive summary	p. 5
1. Introduction	p. 11
1.1 Problem statement	p. 13
1.2 Aim	p. 14
1.3 Scope	p. 14
1.4 Societal relevance	p. 15
1.5 Scientific relevance	p. 15
2. Methodology	p. 16
2.1 Research design	p. 16
2.2 Research question and sub questions	p. 17
2.3 Methods and techniques	p. 18
2.4 Theoretical review	p. 18
2.5 Empirical analysis	p. 19
2.5.1 The general practice	p. 19
2.5.2 Semi structured interview approach	p. 19
2.5.3 Selection of interviewees	p. 19
2.6 Conceptual framework	p. 20
2.7 Case study	p. 21
2.8 Data collection and validation	p. 22
2.9 Research deliverables	p. 22
2.10 Ethical considerations	p. 22
3. Introduction police campus Driebergen	p. 23
3.1 Current situation of the real estate in Driebergen and its performance	p. 23
3.2 The police of tomorrow and its real estate	p. 26
4. What is important when implementing a campus?	p. 29
4.1 Campus strategies	p. 29
4.1.1 What is a campus?	p. 29
4.1.2 Added values of campuses	p. 35
4.2 Campus characteristics	p. 39
4.2.1 Campus states of matter and management	p. 39
4.2.2 Campus characteristics explained	p. 40
4.2.3 Campus themes explained	p. 41
4.2.4 Eight different campus typologies	p. 43
4.3 Operationalization of different campuses	p. 48
4.3.1 The campus decision maker toolbox	p. 48
4.3.2 Science parks	p. 53
4.4 Operationalization table	p. 54
4.5 Conclusion first sub question	p. 57
5. Empirical research towards creating a police campus	p. 59
5.1 What is a police campus according to the Landelijke Eenheid?	p. 59
5.1.1 Workshop 1	p. 59
5.1.2 Workshop 2: from ambitions towards considerations	p. 61
5.1.3 Contradictions found in workshops	p. 63
5.2 Supporting the contradictions found in workshops by using the data from the interviews	
5.2.1 The contradictions found in interviews	p. 64
5.3 The Activity Theory: what outcome for the Landelijke Eenheid?	p. 65
5.3.1 Efficient and flexible real estate that supports the organizational processes	p. 65

5.3.2 Accessibility (openness vs closedness) and Safety & Security	p. 65
5.4 The new campus assessment framework	p. 77
5.4.1 The four documents	p. 77
5.4.2 Step by step translation into one common language	p. 78
5.4.3 Step one	p. 78
5.4.4 Step two	p. 79
5.4.5 Step three	p. 80
5.4.6 Step four	p. 81
5.4.7. Step five	p. 82
5.4.8 Step six	p. 82
5.4.9 Feedback on the assessment framework	p. 86
5.4.10 Conclusion Step by step translation into one common language	p. 86
6. Case study: Brightlands Chemelot Campus, Sittard-Geleen	p. 87
6.1 Preparing for the case	p. 87
6.1.1 Data collection	p. 87
6.2 The Brightlands Chemelot campus in Sittard-Geleen	p. 88
6.2.1 Brightlands real estate organization	p. 88
6.2.2. Ambitions of Brightlands	p. 89
6.3 Data from the Brightlands Chemelot campus	p. 90
6.3.1. The operationalized ambitions of accessibility and & safety & security	p. 90
6.3.2. The operationalized ambitions of flexibility	p. 94
6.3.3. The operationalized ambitions of attractiveness	p. 96
6.4 Lessons learned from the Brightlands chemelot case	p. 97
7. Synthesis (confidential so left out of this publication)	p. 99
8 Discussion and limitations	p. 100
8.1 Discussion: the campus assessment framework	p. 100
8.2 Discussion: literature review and empirical work	p. 100
8.2 Limitations	p. 101
9. Conclusion and recommendations	p. 102
9.1 Sub conclusions	p. 102
9.2 Main conclusion	p. 105
10 Recommendations	p. 108
10.1 Recommendations for future research	p. 108
10.2 Recommendations for practice	p. 109
11 Reflection	p. 111
11.1 The process	p. 111
11.2 The product	p. 112
11.3 Personal view	p. 112
12 References	p. 113
13 Appendices	p. 115
13.1 A1 Semi gestructureerd informatieblad	
13.2 A2 Interview guide	
13.3 A3 interview guide tweede ronde	
13.4 A4 Interview guide case study	

## 1. Introduction

Currently, the Netherlands has dozens of campuses and science parks throughout the country. These are hubs where business, innovators, researchers and academics come together to form a hub. Companies, universities, academic medical centers and research institutes have been using campuses for many years now (Buck Consultants International, 2018). What is noticeable is that the trend of developing a campus has become increasingly popular because of the many advantages that a campus can bring along. Think about stimulating collaboration, be more innovative, more attractive to employees and third parties and reduce travel time because buildings could be closely positioned to each other. By creating a campus ecosystem, it turns out that operational processes will run more smoothly (Buck Consultants International, 2018). One of the advantages is that parties can use shared research facilities and make research and development much more accessible, especially for start-ups or spin-offs. To add up, these campus areas create a larger scope for organization and therefore the operational processes can compete on a bigger scale. This can positively impact the knowledge sharing and could result in more profit or better efficiency.

The widespread implementation of campuses on national level also sparked the Landelijke Eenheid to create a campus for their organization in Driebergen. This is a difficult and challenging task because this is the first time that the police is creating a police campus. Currently, the ambitions for the police campus have been set but it is not clear how a police campus will look like and how it will be operationalized. The police have a big variety of functions and ambitions, and they expect to move towards different operational processes and unknown organizational structures in the future. The police are now investigating what is necessary to change in the future regarding operational processes, its organizational changes and its real estate. Also, the question arises: ‘‘What does the police campus exactly look like?’’ and ‘‘How are we going to operationalize a police campus?’’. This is still an unanswered question. The current pandemic has put more emphasis on the organizational change and the work environment in general, so a new real estate strategy is recommended. Many questions about a campus or campus strategy are present within the Landelijke Eenheid, so research is needed for its implementation. Campuses have vastly been implemented in the Netherlands, but not yet at the police.

The police and the TU Delft’s campus research team (CRT) started a cooperation in 2020 and the CRT is supporting the police in their process to create a police campus. The ambitions of the police and the Landelijke Eenheid can be aligned according to the four CREM perspectives: the strategic, financial, physical and functional perspective (den Heijer, 2011). When balancing out these four perspectives, the needs of the organization can be supported.

Den Heijer (2011) points out that there are ten ways in which real estate can add value to organizational goals. These organizational goals are focused on regard to a campus model.

1. Increasing real estate value
2. Controlling risk
3. Decreasing costs
4. Increasing flexibility
5. Supporting user activities
6. Increasing user satisfaction
7. Supporting image
8. Supporting culture
9. Stimulating collaboration
10. Stimulating innovation

When designing a new campus, all ten functional goals need to be taken into account to create the best possible (police) campus. CREM theory is essential to campus management and therefore always needs attention. Den Heijer (2011) describes four different CREM perspectives that are applied to the university campus, and they are linked to their visions, the stakeholders in general and the relevant representatives of these stakeholders on multiple levels within and outside (the university). This can also be applied when designing a police campus. The most important aspects per perspective are as followed:

- The physical perspective which shows the quantity and quality of the current and future campus. This includes the location characteristics, the types of spaces, the condition and age of the buildings.
- The functional perspective shows the number and types of users that have to be accommodated, the satisfaction about the current state of the campus, the occupancy and frequency rates.
- The financial perspective shows the costs of campus investments, resources that are spent on real estate and the values that the campus represents.

- The strategic perspective shows the main variables such as the institutional goals for education, research, human resources and valuation of knowledge supported, achieved or obstructed with the current real estate portfolio.

It is crucial to know that the police organization has always been changing and that a continuous organizational change requires periodical alignment with the accommodation, to avoid becoming a disabler for the organization. The police organization reorganized in 2013. After that, the Dutch police was formed into one national police force with ten regional forces, a national force (Landelijke Eenheid) and the police services centre. This change resulted into a different way in which the accommodation of support services, such as ICT, personal affairs and housing were located. The ministry of Safety and Justice thinks that the centralization of those different tasks, could create an important and moreover an ameliorated efficiency within the police organization (Deloitte, 2012). By combining all the real estate that the police have under one organization, efficiency advantages are strived for together with the positive effect of centralizing knowledge and expertise for all police units (Deloitte, 2012). Centralized accommodation management is also expected to make it more feasible to align the accommodation with the overall strategy and policy of the Dutch national police. The new campus should also incorporate themes such as sustainability, innovation, healthiness and safety, but also identity, flexibility and affordability are important. The police must search for a right balance in which real estate can play a role in physical, mobile and digital workplace (TU Delft, 2020). The chosen accommodation strategy is therefore the campus strategy.

Substantial research reveals how campus management is done and what campuses look like. Campus advantages will support the organization of the Landelijke Eenheid but what a police campus will be remains undefined. This research makes a contribution to answer that question. By making use of the four perspectives of den Heijer (2011), the literature about campuses and its operationalization, the documents from the police, semi-structured interviews, workshops, a case study and an internship at the police will give an answer on how to create a campus assessment framework for the police that supports the needs of the Landelijke Eenheid.

## 1.1 Problem statement

Recently, campus strategies have become popular in managing portfolios of real estate. Buck Consultants International (2018) states that in 2018 thirty-five campuses are found in the Netherlands. Those thirty-five campuses are divided into twenty-three science parks, eight innovation campuses and four facility campuses. The campuses throughout the Netherlands show that the total amount of companies and workplaces in the adult phase, which is the phase when a campus is fully operating, has respectively grown with 22 percent compared to 2014. More than 2200 companies on seventeen campuses now have more than 47.000 people, of which mostly highly educated. The research of Buck Consultants International (2018) shows that many different organizations tend to create a campus for themselves nowadays. In addition, the growth of business and employment on campuses has continued unabated in recent years, leading to the conclusion that campuses are a popular collection of buildings and land and an engine for new activity. The covid-19 pandemic is momentarily a catalyst when it comes to change. Organizations are now being exposed to quickly adapt to new ways of their operational processes and to think differently about the real estate of the organization. This is a result of empty workplaces or vacant parts of buildings that are barely used nowadays. Real estate management (REM) could offer a solution and will focus on both the matching supply and demand and will connect operational processes to strategic ambitions (Den Heijer, 2021). Because of the strategic alignment that a campus can offer to an organization, the Landelijke Eenheid strives for a campus to support their internal organizational change. It is necessary to know that organizational change is evolving quickly. This is a result of a changing nature of job roles and a more substantial level of workforce agility. Those aspects have consequences for the way people interact within their work environment and the impact on the organization because it creates the urge for new suitable real estate in which future operations can take place.

Most studies have shown that campus strategies can provide added value to the portfolio and support change within the organization (Den Heijer, Arkesteijn, de Jong, & de Bruyne, 2016; Buck Consultants International 2018; Jensen, Voordt, Coenen, Von Fletten, 2012). Buck & Draisma (2013) state that the added value of campuses is expressed in knowledge exchange, turnover and employment growth in companies, intensive relationships (with universities or chainpartners), adoption of new technologies, increase of the number of spin-off activities and the establishment of new international companies and faster valorization of knowledge. A campus could come along with flexible new workspaces because of a demand driver of the organization, so the demand towards the support from a campus to facilitate an effective work environment could be included. Also, Buck Consultants International (2018) shows that open innovation campuses where an anchor tenant carries out research and development, but other companies can establish themselves at the campus as well, the mutual interaction and collaboration in the field of research is actively stimulated. A campus strategy will take all the ambitions and visions of the different stakeholders into account, which results in a more optimized real estate portfolio that will support the organizational change demands. For the Landelijke Eenheid, we know that the real estate must change because of the inflexible old buildings they operate in, the changing organization and the new ways of working. To adapt to these changes, the police's work processes strive to become more efficient to be able to accommodate the Landelijke Eenheid in Driebergen in their new "police campus". This will eventually lower costs and provide more benefits if strategic goals and operational processes will be aligned.

An important implementation strategy of the police's nationalisation was the strategic accommodation plan of 2013 (Dutch National Police, 2013). This strategic accommodation plan is a direct consequence of the nationalisation of the Dutch police: the transition from 25 regional police units to one national police with 12 police units. The strategic accommodation plan set in motion a comprehensive set of CREM (corporate real estate management) activities, aimed to match supply with demand. Many police teams merged in new, robust police frontline teams, operating a larger geographical area. Additionally, several police services using office accommodation, merged together in existing or new office buildings.

The 2013 strategic accommodation plan aims to deliver the following results:

1. More efficient and effective operational processes;
2. A cost reduction of €76 mln. to the aimed cost reduction of € 230 mln. by reorganising the police yearly through merging and concentrating processes;
3. Integration of the accommodation concept to the new (digital) service concept: click-call-face;
4. Improved governance through collaboration with partners facilitated by adequate accommodation.

Over the course of 2013 – 2016, most of the regional police units have implemented the strategic accommodation plan through regional accommodation plans, including the interventions necessary to solve the mismatches in the regional supply. Next to the 11 regional units, there is an accommodation plan for the PDC (politiedienstencentrum), for the OBT (operationele begeleiding en trainingscomplex) locations, the police academy, the national alert and response services (in Dutch, landelijke meldkamer samenwerking, or LMS) and the national unit (in Dutch, Landelijke Eenheid). To date, some of the accommodation plans are in development (e.g. the OBT accommodation) and some are well underway to be realised, such as the merging of local police stations to robust police basis teams (the frontline police). The focus of the 2013 strategic housing mostly regarded adjustments at the building level. Therefore, the police has not defined yet what a police campus is, and how it exactly looks like and they have no prior experience in the process of creating it.

As stated, it is unclear within the Landelijke Eenheid how to create a police campus or how to align according to a campus real estate model in the organization of the Landelijke Eenheid and start the process of developing a police campus with the campus model. The police and the TU Delft's campus research team (CRT) started a cooperation in 2020 and next to many activities they are deploying to create a police campus, the CRT is supporting the police in their process to create a police campus. Currently, the police is working on creating an assessment framework for a police campus and this research will support this process. As input for this assessment framework, next to the ambitions for the Landelijke Eenheid for their new campus, the police has four real estate documents and frameworks on building level which also are relevant when creating a campus. Two frameworks are especially relevant in this process: (1) the real estate framework (Landelijke Eenheid, 2020b) and (2) the document of the politiebouwmeester (Politie, 2020). However, in these policies different terminology has been used needs and ambitions can also contradict each other when they are operationalized and prioritize will need to be set. For instance, when studying these frameworks as well in workshops and interviews contradictions have been found between openness/closedness, accessibility and safety & security. For this reason, this research will focus on the possibility to incorporate the ambitions from the organization into a campus assessment framework. The Landelijke Eenheid want a campus to support their internal organizational change and the reason for that is in their organizational change demands. How can they support that best with a campus? What we know about the police campus is at the moment not enough. Therefore, this research will investigate what a campus can offer to the organization of the Dutch Landelijke Eenheid for the location of Driebergen. In this research some suggestions will be given how to operationalize the police campus and what a possible configuration is with actions that could be undertaken. In the case of the police, a campus is a means of getting to an answer in how to operationalize a police campus and it is also serving as a start of a new process.

## 1.2 Aim

The aim is to create a campus assessment framework for the police campus in Driebergen to support the organizational demands. As a result of this, an effective new work environment for the Landelijke Eenheid will most likely be a result of the implementation of a campus. The campus assessment framework will help to combine the ambitions that are described within various real estate documents. Recommendations will be given to show what a possible police campus could look like and what action need to be taken. The campus real estate strategy would positively support the organization because it supports their organizational demands and will align strategic goals to operational processes.

## 1.3 Scope

This research focusses on the campus real estate of the main location of Driebergen. The ambitions and visions from the police will be investigated and will be translated into a combined campus assessment framework. The scope will focus on the implementation of campuses in public real estate and confirm if those implementations could fit the requirements and the needs of the Landelijke Eenheid for the main location of Driebergen. Interviews will clarify questions that are not found by literature and data from the Landelijke Eenheid will be acquired. The focus in this research is about three main topics: 1) The organization of the Landelijke Eenheid and their needs 2) the operationalization of a campus, that will include a newly created assessment framework. 3) The campus real estate in Driebergen and suggestions for the possible police campus, see figure 1. Therefore, the scope of this research focusses on the area where the overlap between those three main topics touch.

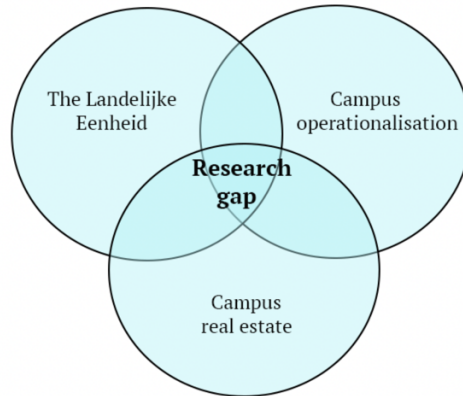


Figure 1: the research gap between the Landelijke Eenheid, operationalisation of a campus and the campus real estate (own illustration)

#### 1.4 Societal relevance

The societal relevance of this thesis is to give a more elaborated view in how the operationalization and creation of a combined assessment framework for the main location of Driebergen will help the Landelijke Eenheid to support their organizational changes and therefore probably increase the overall efficiency and satisfaction of the work done. If the portfolio of the police is more optimized, the organization can work more effectively, and this will eventually positively contribute to immediate surroundings and the economic and social vitality of the police and on national level. The work force of the Landelijke Eenheid will clearly improve the communication between the different departments on campus because of being closer to each other and more space to interact, which will result in more satisfied people that make use of this new police campus. The possible new ways of working on campus, which could be a result of a campus strategy, and the organizational change, could be an example for many other public real estate parties. If there is more knowledge about what campuses can offer in public real estate sectors with strict key ambitions (security, accessibility, flexibility) like the police, it is more likely that campus strategies will be carried out more in society.

#### 1.5 Scientific relevance

The existing knowledge about campuses has been researched for many years now, but there is an increasing demand for its implementation in public and private real estate. The scientific relevance is providing a contribution to the knowledge of understanding what a campus (strategy) can offer to public real estate, and in this case the Landelijke Eenheid. The ambitions and visions need to be positioned into the campus model with the criteria of the Landelijke Eenheid and therefore a campus assessment framework will be set up. The scientific relevance in this research will investigate what a campus can offer for the new real estate portfolio of the Dutch police and the organization of the Landelijke Eenheid. The police campus has not been defined by a framework yet and it is not clear how to operationalize the police campus. By making use of the four perspectives of den Heijer (2011), different ambitions and visions can be set out in a campus framework.

# 2. Methodology

This chapter will outline the research design. It mentions the research methods, the conceptual framework, the empirical part, the interviews, data collection, case study and the ethical considerations.

## 2.1 Research design

Figure 2 shows the research methods and techniques that will be used to conduct this research. To start with this thesis, a literature study will give a proper basis for this research. By all the conducted information from the literature, a good basis is developed with understanding of the key aspects in the main research questions, such as the campus, the campus strategy and its operationalization. The explorative literature will help to understand the challenges that the Landelijke Eenheid face and will underline the importance of aspects for the implementation of a campus.

The theoretical part starts with reading and exploring scientific papers, journals, and existing documents (mainly from the police itself). Non-scientific information will be gathered in the form of workshops and semi structured interviews. This will provide more insight information which is needed to answer the research question and the sub questions. The literature review exists of different parts that focus on the most important topics in this research. Firstly, the focus is on campuses; what exactly is a campus and what does it add to an organization. The four perspectives of den Heijer (2011) will provide as a basis when focusing on campuses and its management. Secondly, the vision and ambition documents of the police will be investigated and translated into the four perspectives of den Heijer’s (2011) framework of campus management. Also, semi structured interviews will be held, to get more information from the different police departments about their thoughts of the campus. More about the interviews in the heading of data collection. Thirdly, a literature study will be done on the operationalization of the ambitions and visions from the police. Relevant literature will be searched on how this has been done regarding campuses. Fourthly, a case study will be done to gain more knowledge how important elements for the police campus are implemented in an already existing campus. Furthermore, the workshops that were held by Arkesteijn, den Heijer & van Staveren (2021) will serve as a starting point for the contradictions that are used in this research. Two workshops were held in context of the collaboration between the TU Delft and the National Dutch Police in order to inform the Landelijke Eenheid with information about campuses. The workshops were held to inform the participants from the real estate department, the policy department, the user and the politiebouwmeester (architect) about what a campus is, the different types of campuses and what could make the police campus good. The first workshop gave substantial campus information to help the Landelijke Eenheid in defining what a police campus is and the second workshop helped to make the wishes and needs from the different departments concrete and eventually, a successful campus concept had been presented. The data from the workshops is used in order to get a deeper understanding of what the participants would like to see in a future police campus. Lastly, the explorative interviews as well as the internship at the police will provide information of the Landelijke Eenheid in general. This will be to get a deeper understanding of the police’s organization at the location of Driebergen. The Activity Theory will be used to examine the activity of creating an efficient police campus and its future expectations.

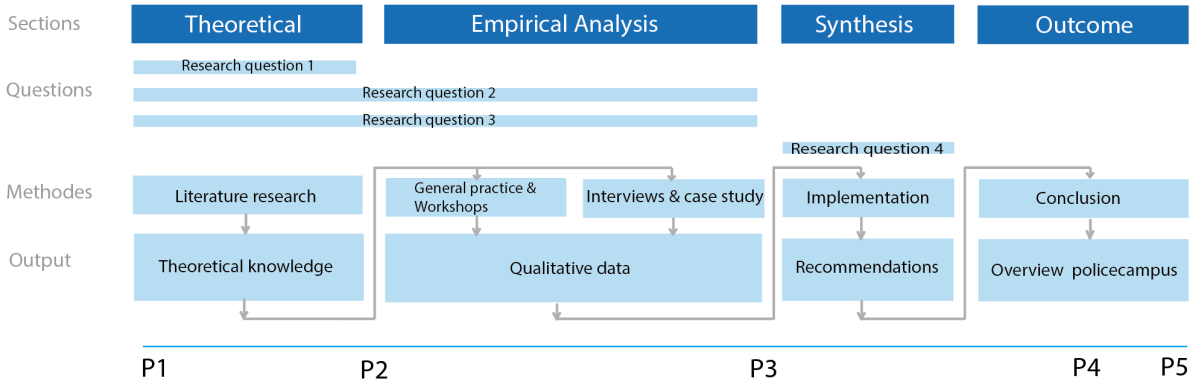


Figure 2: The research methods (own illustration)



## 2.2 Research questions

The following research question is established to clarify the purpose of the research. This research question will run like a thread through this research. Furthermore, will the sub questions support the main research question. By splitting up into smaller sub questions, a more in-depth research can be done, and a more complete answer will be given to the main research question.

The main research question of this research is:

### ***How can a campus support the Landelijke Eenheid in Driebergen?***

To give an elaborate answer to the main research question, multiple sub-questions are established:

1. *How can a campus accommodate the needs of an organization and how can a campus be operationalized?*

This first sub question explains relevant elements such as the definition of a campus, the added values that come along with it, the explanation of the campus model and tools to operationalize campuses.

**Research method:** Literature review

**Data collection:** Scientific publication (internet, Scopus and Google Scholar)

2. *What are the major areas of (expected) impact of the Landelijke Eenheid regarding real estate?*

This sub question explains which areas have an impact on the organization of the Landelijke Eenheid. The data from the workshops and interviews will be used to determine in which areas or which ambitions the Landelijke Eenheid can still improve or if contradictions can be found.

**Research method:** Literature review and interviews

**Data collection:** Scientific publication (internet, Scopus and Google Scholar) and semi-structured interviews

3. *What is a possible campus assessment framework that is suitable for the Landelijke Eenheid?*

In this sub question a new combined campus assessment framework will be created to help the Landelijke Eenheid towards the police campus.

**Research method:** Literature review and interviews

**Data collection:** Scientific publication (internet, Scopus and Google Scholar) and semi-structured interviews

4. *What actions and campus configuration can the Landelijke Eenheid use and how does that relate to the contradictions of accessibility, safety & security and flexibility?*

A possible solution will be given to the contradictions that are found in the workshop and in the interviews. The campus assessment framework will help to create a possible configuration and will offer a solution to solve the contradictions

**Research method:** Interviews & campus literature

**Data collection:** semi-structured interviews and document analysis

## 2.3 Methods & Techniques

The input for the research will be conducted by qualitative and inductive input. Denzin & Lincoln (1994) describe qualitative research as a multimethod in focus. This involves an interpretive and naturalistic approach to the subject. Qualitative research means to study things in their natural settings, attempting to perceive or interpret, phenomena in terms of the meaning people bring up. This is especially useful for the observations and interviews of the Landelijke Eenheid. Denzin & Lincoln (1994) state that methods for collecting empirical materials range from interviews to direct observation, the analysis of artifacts, the use of visual material, personal experiences or documents. Bryman (2016) describes that the main purpose for explorative qualitative literature review is to outline and investigate what is already researched. This is known as the narrative review, to frame and explain the research question.

The inductive research will also play a part in the research. In an inductive approach, a researcher begins by gathering data relevant to his or her topic of interest, analyzing patterns in the data (the semi-structured interviews), and then theorizing from the data to investigate. After gathering a significant amount of data, the researcher will take a break from data collection and step back to gain a bird's eye view of the findings. The researcher looks for patterns in the data at this stage and works to construct a theory that can explain those patterns. When researchers use an inductive technique, they begin with a set of observations and work their way up from there to a more general set of propositions regarding those data (Morales Pedraza, 2017). In Figure 3, the methods and techniques are shown throughout the graduation process.

Sections	Theoretical	Empirical Analysis	Synthesis
Methodes	Literature research	general practice + case study	implementation
Techniques	Literature reviews & explorative workshop	Interviews & ambition and vision documents comparison & Activity Theory	Analysis

Figure 3: methods & techniques used throughout the graduation process (own figure)

## 2.4 Theoretical review

In the first phase of this research, the focus lays on the literature. The literature will make sure that more information about campuses, the police organization, and ways of operationalizing it, are clearer. This is done with literature reviews, two workshops that were held by Arkesteijn, den Heijer & van Staveren (2021) and explorative talks with the police.

Firstly, the literature will elaborate more what exactly a campus is and what campus characteristics are. It is essential to get a better understanding of campuses to finally come up with a recommendation of what a police campus will look like. Specific themes will be set explained, so that this information can serve as a basis to further continue with what a police campus exactly is. Secondly, a theoretical literature review will conduct different ways of operationalizing campuses. This will provide different views on how to operationalize different campuses. Thirdly, literature will be searched for what change is within an organization and how this can be stimulated regarding new real estate. The theoretical framework of the Activity Theory will help to find answers of the outcomes of what the future Landelijke Eenheid will look like.

The theoretical part of this thesis will give substance to continue with the empirical analysis and the synthesis. With the knowledge that is gained in the theoretical part, the empirical part can much more be focused on the police campus itself and the future outcomes of the Landelijke Eenheid regarding their needs towards a police campus.

## 2.5 Empirical analysis

The empirical analysis is the second phase within this research and consists of the general practice and the interviews. This research will start with giving a direction towards filling the empirical gap on what a police assessment campus framework will look like and how this can eventually help the organization of the Landelijke Eenheid. Fellows & Liu (2015) state that qualitative research tends to determine why things happen as they do. This is essential to answer the main research question of this research.

### 2.5.1 The general practice

This part analyses how the police campus can be operationalized according to the available information and the ambition and vision documents. The different stakeholders that are related with the real estate, the design and use of the campus will be interviewed and a comparison between the literature, the campus knowledge and the outcomes of the interviews will be made. The theoretical review gives more understanding of what is already known for campuses. The important characteristics of campuses are relevant to serve as a solid base for a police campus. However, it is undefined yet what a police campus is because this is the first time the Landelijke Eenheid develops a campus. The information thus far will serve as a start to develop a campus assessment framework and give more body to what a police campus is. For this reason, interviews will help to get a clearer thought towards a police campus so that the location of Driebergen facilitates a more efficient environment and can support the organizational change of the Landelijke Eenheid

In the first phase of this study, two workshops from Arkesteijn, den Heijer and van Staveren (2021) were attended to get more understanding of what different participants from the Landelijke Eenheid and other related participants think about a police campus. To further continue with the study, semi-structured in-depth interviews were held. In those interviews the focus lays at key characteristics of campuses such as flexibility and accessibility. The empirical part shows that collaboration has a high priority, but the Landelijke Eenheid does not know exactly yet how to operationalize this. The characteristics of collaboration, flexibility, and openness or closedness could possibly be differently operationalized for a police campus. By making use of the data that will be gathered from semi-structured interviews, clarification about those characteristics will occur.

### 2.5.2 Semi structured interview approach

Semi-structured in-depth interviews are commonly used when the researcher makes use of qualitative research (Dejonckheere & Vaughn, 2019). Semi-structured interviews are not about structured queries, but serve more as a guided conversation (Yin, 2017). For this research, semi-structured interviews will be conducted conversationally with one respondent at a time. This has a format of open-ended questions which are often accompanied by follow-up why or how questions (Adams, 2015). The interviewees will be selected and different stakeholders that are related to the Landelijke Eenheid will be interviewed to see what their expectations are about the police campus and how this could be operationalized. For the case study, a semi-structured interview will be held as well to get more information which is helpful for the implementation of important aspects within the police campus. The semi-structured interview and questions are found in the appendix of this research.

### 2.5.3 Selection of Interviewees

As mentioned before, the empirical analysis contains interviews with stakeholders that are involved in the process of developing a police campus. An important part is that the semi-structured in-depth interviews will be held within the Landelijke Eenheid to examine their (future) expectations about the police campus, their needs, the organizational change and how they see their ambitions and vision operationalized. In table 1, a list with the interviewees is shown.

Number	Organisation	How	Date	Subject
A1	Landelijke Eenheid	Telephone call	15-10-2021	Centre location
A2	TU Delft	Video call	18-10-2021	TU Delft operationalization
A3	Landelijke Eenheid	Video call	20-10-2021	Centre location
A4	Landelijke Eenheid	Video call	21-10-2021	Centre location
A5	Landelijke Eenheid	Video call	26-10-2021	Centre location
A6	Landelijke Eenheid	Video call	27-10-2021	Centre location
A7	Landelijke Eenheid	Video call	27-10-2021	Centre location

A8	Landelijke Eenheid	Video call	16-11-2021	Centre location
A9	Landelijke Eenheid	Video call	27-01-2022	Centre location
A1	Landelijke Eenheid	Video call	25-04-2022	Validation assessment framework
B1	Brightlands Chemelot campus	Real life campus visit	02-05-2022	Brightlands Chemelot campus
A7	Landelijke Eenheid	Video call	03-05-2022	Validation assessment framework and centre location
A3	Landelijke Eenheid	Video call	03-05-2022	Centre location
A1	Landelijke Eenheid	Video call	09-05-2022	Centre location
A10	Landelijke Eenheid	Video call	23-05-2022	Centre location

Table 1: list of interviewees

## 2.6 Conceptual framework

It is useful to set the study into a framework that justifies the study and explains its structure or design. It provides the research with an essential support for the study components, and it strengthens and clarifies the context of the study (Crawford, 2020).

To be able to identify what is required to formulate outcome within an organization, it is necessary to analyse the different actions that intervene in the process of creating and formulating what exactly is needed. The Activity Theory is chosen as conceptual framework. According to the Activity Theory, each human activity can be both described and analyzed. Activity Theory has a set structure and are carried out under conditions with specific tools to achieve an objective (McAvinia, 2016). The Activity Theory by Engeström (2001) offers a useful framework to holistically capture the dynamic that shape the evolution of the organization, so in this case the Landelijke Eenheid. Activity Theory is a descriptive framework that targets the work activity as a whole, this is referred to as an activity system, making it useful for tracking the process, rather than focusing on the outcome of the organizational transformation. In figure 4, the activity system in the Activity Theory exists of seven interrelated analytical components:

- **The subject:** the individual and groups directly engaged in the activities.
- **The instruments:** the artifacts, physical objects or conceptual tools that mediate social actions in the activity system.
- **The object:** The purpose of the activity system.
- **The outcome:** the desired outcome of the activity

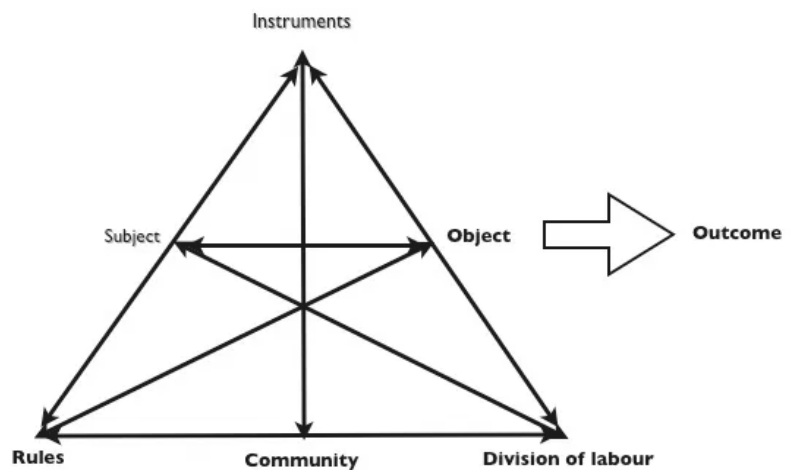


Figure 4: conceptual framework: The Activity Theory (Engeström, 2001)

- **The division of labour:** the relational and hierarchical structure governing the subjects within the system.
- **The community:** all the individuals and groups involved in or affected by the activity system, including those or directly involved in executing the activity.
- **The rules:** the processes, procedures, and contractual, legal, or regulatory rules governing the activity system.

Activity theory allows us to deconstruct what business model innovation truly means in the everyday life of the organ by putting these components open across the value chain of systems integrators.

Changes within activity systems are driven by contradiction, mismatches within a given component of the activity system, between different parts within the system, or between other activity systems, according to Kutti (1996). The subjects must endeavor to change the activity system in order to resolve the challenges and problems that arise from these contradictions so that they do not obstruct the realization of the desired outcome. So, the contradictions that will be captured and will emerge as an activity system unfolds need to be addressed. The outcome also has to be specified. In this research the activity theory will serve as the conceptual framework which will include all components. First to zoom in on the organization and what contradictions can be found and later on to include new instruments that will help to come to the desired outcome (efficient police campus). The relation between the components from the Activity Theory and the parts of this research will be described:

First, the instruments: this means the physical objects, systems of symbols such as language, or conceptual tools or in this case [the campus model, a newly created campus assessment framework and a case study](#) to accomplish the activity. Secondly, the subject which is the Landelijke Eenheid that carries out an activity and who is engaged in the activity as well. Thirdly, the rules that people adhere to while engaging in the activity. This part will entail the vision and ambition documents which show the criteria. Fourthly, the community which exists of the departments within the Landelijke Eenheid and its stakeholders. In this research the community includes the real estate developers and asset manager, the user or representative of the user and the policy makers of the Landelijke Eenheid, because those community members have been interviewed. By the conducted interviews, a clearer image can be made about the organization of the police and what its community looks like. Fifthly, the division of labor which shows how the work in the activity is divided among the participants in the activity to create the police campus. This element will explain the work processes and dynamics within the Landelijke Eenheid. Sixthly, the object which is the direct goal of the activity (develop a police campus). Lastly, the outcome which is the need for (new) real estate that facilitates more efficient work processes and the added values that it will bring. This could be described as the efficient police campus.

## 2.7 Case study

As stated by Kumar (2018), a case study should focus on a bounded subject that is either seen as representative or anomalous for the research topic. Thomas (2021) states that a case study focusses on particular aspects that are analyzed within the case in different contexts. In this research, the case study that will be examined, will be considered as representative option regarding the police campus. However, the selected case differs in functional aspects from the police campus, but specific features can be used as a recommendation for the police campus. The case study helps as a design frame for the research but is not a method itself. Yin (2017) states that the researcher must first determine the case and the exact type of case that will be used. Another key factor for the researcher to consider is the context. According to Stake (1995), a case study might have a complicated approach, making it difficult for the researcher to report the findings. However, when the data are presented in a certain fashion, the reader may easily understand the case study.

For the selection of the case, the case needs to be a representative. For that reason, the requirements that are set for the case:

1. The case is a campus
2. The case has at least three ambitions that overlap with the ambition document (2020) of the Landelijke Eenheid (collaboration, innovation, attractiveness, accessibility, health & comfort, task-oriented, sustainability and flexibility)
3. The case has strict safety & security requirements
4. The case needs to be accessible for employees as well as for chain partners
5. The case must be incorporated with multi-functional elements (leisure, flexible workspaces, collaboration with chain partners)

The objective is to research how similar ambitions and visions between the case and the Landelijke Eenheid are operationalized and translated into the physical campus.

The case that is selected is the Brightlands Chemelot campus in Sittard-Geleen and will help to get more understanding of a campus with the abovementioned requirements.



Figure 5: Case: Brightlands Chemelot Campus in Sittard-Geleen (Brightlands, 2022)

## 2.8 Data collection and validation

Different sources (google scholar, Scopus, literature and general websites), will be investigated, and the necessary data will be collected. General information from literature will serve as a basis to further develop an answer to the research question and the sub questions. Data regarding ambitions and visions are gathered from existing documents and will be supported with semi-structured interviews and the data from the workshops. In this way specific data can be obtained in regard to specified questions that needs clarification to answer sub-questions or the main research question.

## 2.9 Research deliverables

The final research exists of three deliverables that have relevance for the Landelijke Eenheid when developing a police campus. First of all, a literature study will be done to investigate what a campus exactly is, how a campus strategy works and how to operationalize it. The literature and data from the Landelijke Eenheid will help to create the new campus assessment framework. This is also the second deliverable. The third deliverable is to bring more insight in how the new police campus could look like, what a possible configuration is and what actions could be undertaken.

## 2.10 Ethical considerations

One of the most important parts of doing research are ethical considerations. The focus on the police and their ambitions, visions and needs has strict conditions in regard to whom can access this information. In the first week, an agreement of nondisclosure had to be signed to gain access to specific information. When my internship starts, it is needed to go to a full screening, so this process has started. Research ethics is a core aspect of the research work and the foundation of research design. Fleming & Zegwaard (2018) explain four concepts that the researcher always needs to be aware of.

- Ethical expectations: the level of attention on ethical conduct has both increased and widened in response to society's expectation of greater accountability. Make sure to do research with an ethically acceptable research approach.
- Informed consent: Participants must be fully informed of what will be asked of them, how the data will be analyzed and what the consequences could be. Hereby, the participant has to provide explicit, active signed consent to taking part with the research.
- Risk of Harm, Anonymity and Confidentiality: Always make sure that the identity of participants is kept confidential or anonymous. Anonymity and confidentiality are an important aspect in protecting the participants from potential harm.
- Conflict of interest: Prior activities by the researcher can potentially create a conflict of interest that are necessary to transparently report on within an ethics approval application.

### 3. Introduction police campus Driebergen

It is important to better understand the current real estate and the Landelijke Eenheid in Driebergen and show what the needs, ambitions and problems are. By introducing the police campus first, the theory can immediately reflect on the police campus in Driebergen. To start, this chapter explains the current situation of the police's real estate in Driebergen and its performance are discussed to get more understanding of the location and organization of the Landelijke Eenheid.

#### 3.1 Current situation of the real estate in Driebergen and its performance

To start with, an explanation will be given about the current situation in Driebergen and its performance. The origin of the Landelijke Eenheid goes back a long way. Since the formation of the National Police Force in 1945, the task force has grown enormously. The national police nowadays employ more than 6000 colleagues in about 75 locations, spread across the Netherlands. Of the 6000 employees, almost 3000 employees and partners work in Driebergen, Woerden and Zoetermeer (Landelijke Eenheid, 2020a). Since 1960 the location of Driebergen has served as a place where national task forces have been operating. It started with three small buildings but until 2020 the real estate has been changed, renovated, or expanded. In figure 6, a timeline of the origin of the police organization and accommodation is shown.

#### Origin organisation and accommodation

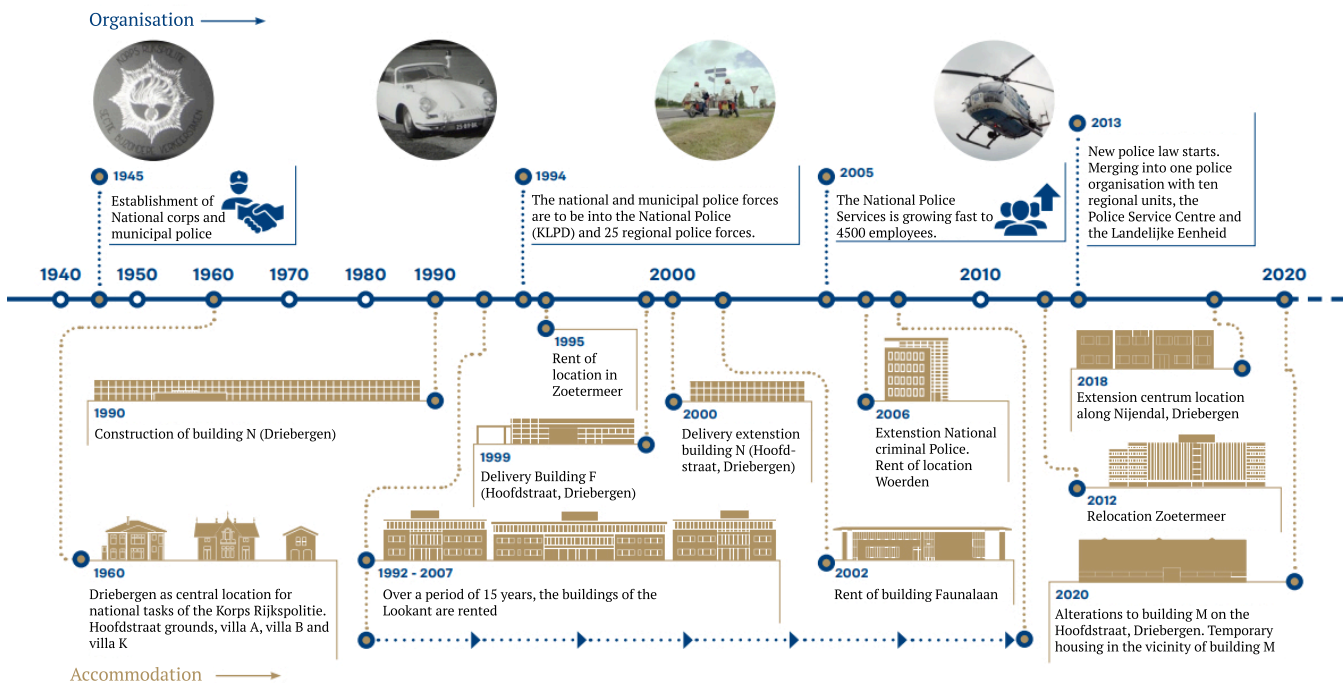


Figure 6: the origin of the police organization and its accommodation (adapted from Landelijke Eenheid, 2020a, p.7)

Currently, the center location of the Landelijke Eenheid exists of three dispersed locations; Driebergen, Woerden and Zoetermeer. Driebergen serves as the main location and shows some campus-like features. Closely to the main building, there are three ancillary locations: Lookant, Faunalaan and Nijendal.

The current accommodation of the Landelijke Eenheid is not future proof yet, because of the outdated and inflexible real estate. Although the employees of the Landelijke Eenheid are attached to the location because of its rich history, the center location also has its shortcomings. The rapid social changes create an urge to think differently about what to do in the future regarding the police organization and the location of Driebergen. This also has consequences for the accommodation of different functions, the layout, the energy supply and the accessibility of the center location.

There are seven points of attention for the center location:

- **Accessibility:** Driebergen is centrally located in the Netherlands and is very easily accessible by car thanks to the exit of the A12 motorway. The distance to public transport is not far either and is easily reachable. The problem is the parking capacity and it is currently limited. Parking problems cause inconvenient situations in the neighborhood (Landelijke Eenheid, 2020a).
- **Multiple location are not ideal:** Due to the strong growth of the organization, the size of the center location is no longer sufficient. Several nearby buildings in Driebergen, but also in Woerden and Zoetermeer, have to be rented to accommodate the organization. This is not an optimal situation in terms of security, logistics, recognizability and collaboration (Landelijke Eenheid, 2020a).
- **Too little space for interaction:** The current buildings offer too little space for interaction, meetings and consultations. In the future this will be necessary to allow colleagues to work together optimally. This put extra emphasize to modernize the existing buildings (Landelijke Eenheid, 2020a).
- **Not efficient:** As shown in figure 24, the buildings connected to the Hoofdstraat are not efficient. In building N, for instance, the narrow and long shape of the building creates long walking lines along many doors. This also makes it difficult to divide the building into different security zones (Landelijke Eenheid, 2020a).
- **Utilization:** There are on average 21% more working places than what the police norms describe. The standard work places are for 60% in use on average (Landelijke Eenheid, 2020a).
- **Limited expansion possibilities:** The location along the Hoofdstraat is divided by the A12 motorway, the Hoofdstraat, a high-voltage line and sports fields. This limits the possibility to expand or change the current real estate (Landelijke Eenheid, 2020a).
- **Outdated installations:** Architecturally, the quality of the buildings is reasonable or good. Substantial investments are needed to replace outdated installations. In addition, the buildings must comply with changing legislation and regulations, including the area of sustainability (Landelijke Eenheid, 2020a).

The seven points of attention create enough support to start the change of the real estate portfolio of Driebergen for the Landelijke Eenheid. In figure 7, the points are summarized and figure 8 shows the current plan of Driebergen.

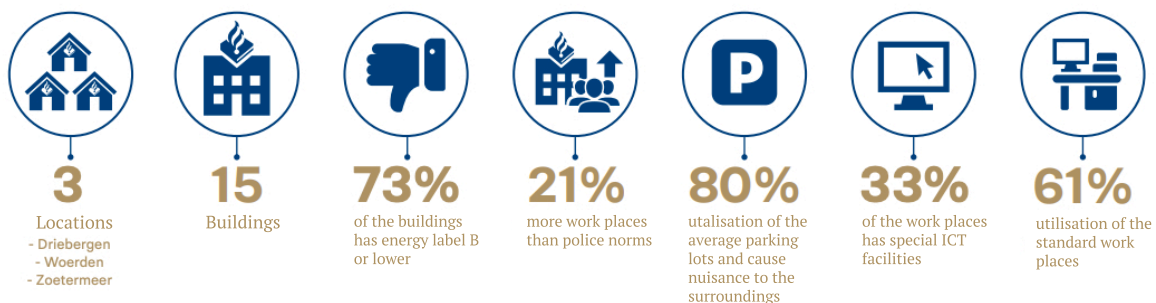


Figure 7: Facts from the real estate portfolio of the center location (adapted from Landelijke Eenheid, 2020a, p.17)



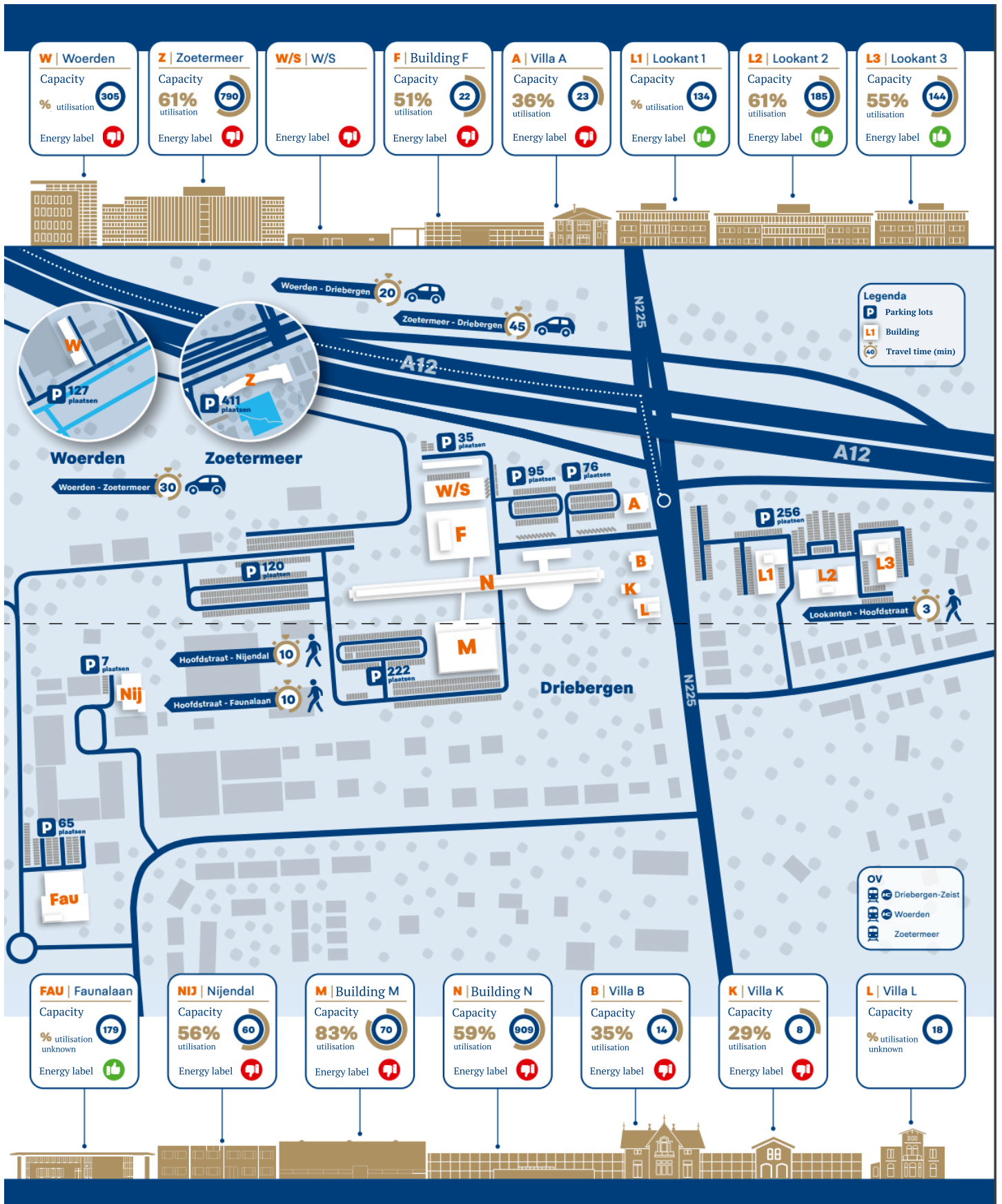


Figure 8: Plan of the center location of the Landelijke Eenheid with information about its real estate (adapted from Landelijke Eenheid, 2020a, p.18)

### 3.2 The police of tomorrow and its real estate

When it comes to implementing the rule of law, the police face new obstacles. Increased migration has a negative influence on neighborhoods, while increased digitalization provides criminals with new chances through cybercrime, and civilians discover new means to join and protest in society, especially during the pandemic. These changes have an impact on police work and raise the question of what the police of the future will look like. The strategic housing plan 2013-2025 of the national police force has been developed as a framework for the realization of a suitable accommodation portfolio to support the (changing) operations of the national police corps. Accommodating the Dutch police must comply with laws and regulations. The special duties of the police need to comply with the requirements that concern the accommodation aspects such as safety and the ability to guarantee privacy of employees and visitors. Additionally, the police are changing the transition of housing that is more suitable for the police's work in the future: more future-proof, safe and sustainable. The police respond to the developments in society and the organizational developments, as well as the operational side which involves more mobile workplaces, working in smart buildings and working together with important stakeholders (van Staveren, 2022)

Van Staveren (2022) explains that it is important to first know what the mission and core values of the police are before talking about the strategic compass. The mission of the police is described as: "Unchanged remains the police, watchful and conducive, to the values of the constitutional state." The police fulfil this mission by, depending on the situation solicited and unsolicited, to protect, to limit or to ratify. They described their core values as: brave, reliable, connecting and honorable (Staf korpsleiding, 2019).



Figure 9: elements of the tomorrow's police Adopted from <https://publicaties.politie.nl/politievancouver/lente-2020/doe-je-mee/>

In the strategic agenda '5-4-3' (Police, 2019), the police sketch the future trajectory:

- The Five (5) elements are depicted above and sketch the vision of the police of tomorrow;
- The police works on four (4) tasks:
  - 1) the 'veiligheidsagenda 2019-2022';
  - 2) the evaluation of the police-law;
  - 3) executing the police collective labour agreement;
  - 4) the development of the police corps.
- Three (3) principles are leading in these activities. Police work is done with care for each other, keeping an eye for the human scale, while continuously safeguarding the executional power of the organisation.

Managing Police real estate is critical to laying the path for the future, because the organization's goals cannot be accomplished without resources such as land and real estate (Ali, McGreal, Adair, & Webb, 2008). Real estate solutions, according to the police, serve as a facilitator for their organizational reform process. The five aspects of tomorrow's police are associated resource related actions to demonstrate the dependency of organizational development on resources. The five direction that the strategic agenda entail are:

#### 1. The connectedness with the web, the neighborhood and the world.

Developments in neighborhoods, the web and the world are closely intertwined. This manifests into complex problems, such as polarization, societal tensions and in new dynamic for the image of criminality. "Physical" criminality seems to be less present, while cybercrime emerges. The pace in which the cyber criminality emerges, exceeds the adaption speed of the societal institutions, structures and constitutional rules. The police need to cleverly adapt towards the online network (Staf korpsleiding, 2019). The link with the real estate product is that it is essential to find a balance between the physical, mobile and virtual working places that will be established. This is stimulated and accelerated through the pandemic.

## 2. New coalitions

The police are aware that they need to incur with the right security coalitions and that it is of great importance to effectively do their work. They will have to make use of the knowledge and skills of other parties. New connections need to be made to cleverly built up a network in which diverse partners, from citizens in neighborhoods and cities to companies and international experts (Staf korpsleiding, 2019). The link with the real estate product is to intensify collaboration with (chain) partners and that requires more spaces for various functions such as meeting rooms or places for innovation. This is linked with the connectivity, accessibility and mobility of the working environment and its quality.

## 3. Technology and intelligence

The society is further digitizing itself and the police have to take an active role in this. They need to be a pioneer in digital innovation and make clever use of the way data is gathered and how new technology could help them. Data intelligence is at this moment one of the core activities of the police (Staf korpsleiding, 2019). The link with the real estate is that the technological innovations need to be integrated into the real estate solutions from the beginning.

## 4. Active transparency

The police place itself in the middle of society and therefore needs to actively have a dialogue with its surrounding environment. They need to act transparent regarding their service and be open and honest about the choices that are made and the dilemmas that they have (Staf korpsleiding, 2019). The link with the real estate is that the police need to be active and transparent in a physical way (accessibility). The real estate can facilitate transparency or openness but as well closedness for operations that are being held secret.

## 5. Flexible and agile

In a continuously changing environment, the police need to be agile and flexible. Capacity and knowledge need to be deployed at moments and locations where needed. The police workforce is aware that need to be flexible and agile when it faces bigger and complex problems (Staf korpsleiding, 2019). The link with the real estate is that the organisation has to be healthy in a way to stimulate learning and increase its agility. In this way the police real estate will stimulate and enable its employees to enlarge their skills and capabilities.

What can be deducted from the five elements from the police of tomorrow, and particularly the link with real estate, is that strategic real estate portfolio improvements for tomorrow's police will necessitate new combinations of distant, mobile, and fixed/flexible workplaces, taking into account new mobility and human resource demands, which will be accelerated by technological advancements, innovations, sustainable development, and the COVID pandemic. To achieve these new combinations, the design and implementation of interventions necessitates the integration of several police knowledge areas, business operations, and business resources. Integrating the important features of the police without disrupting or weakening the process through which the police intend to offer their services might be difficult.

The more general strategic compass gives an indication what the police need to focus on in the near future and how to effectively and efficiently do its work regarding their real estate and mission. The accommodation strategy assignment police facts & figures from the bouwcampus Delft (2018) shows a main goal which is: *'A professional use of housing for the organization with an effective and efficient housing portfolio'*. The strategic compass could be combined with the strategic housing plan 2013-2025 of the national police corps (korps national politie, 2013). In the strategic accommodation plan, the ambitions for the national police corps are shown to realize a compact portfolio in which:

1. An efficient and effective implementation of the work processes of the operations of the police is important.
2. The intended cost savings that the new organizational structure will entail. Housing the police organizations is part of the operational management and, by designing a central housing organizational, a substantial contribution will be made towards saving money. The main focus is to save costs through making more efficient use of available space. The police strive for the new way of hybrid working. This means a balanced alignment between technological support for time and

location bounded work spots. Optimization of the use of space is achieved in the short term through the introduction of flexible working in existing buildings.

3. The connection of the housing plans towards the new concept service of the national police corps, the so called click-call-face method. This means that police employees are going to work more mobile and that the organizational will be more digitally accessible.
4. The administrative collaboration with the authorities and the main stakeholders (external).

Despite that this document is from 2013, it still gives insights, broadly speaking about the vision and direction that the police focus on.

## 4. What is important when implementing a campus?

This research will help to understand what a campus could offer for the location of Driebergen. To start with this research, a theoretical research will be done about the concept of a campus and its operationalization. First of all, the definition of a campus is explained from multiple researches. Furthermore, different operationalization possibilities for campus aspects will be shown so that it is clear what aspects of a campus can be operationalized, also concerning the visions and ambitions of the Landelijke Eenheid. The campus will be the starting point for the organization of the Landelijke Eenheid to support, strengthen and reorganize their operational processes. Within the Activity Theory, the campus model is considered the instrument. Before formulating an answer what the campus has to offer for the location of Driebergen, this literature study is done to define what a campus is, the added value of campuses, campus management and campus operationalization.

In this chapter, after discussing the relevant theories, a reflection is made about the police campus in Driebergen. The relevant aspects will be mentioned what is suitable for the organization of the Landelijke Eenheid and the campus real estate which the Landelijke Eenheid could use. Continuing with this research, it has been made clear that the police campus will be located. This will not be mentioned each time in the research unless it concerns a different location. This chapter will give an answer to the first sub question:

*How can a campus accommodate the needs of an organization and how can a campus be operationalized?*

### 4.1 Campus strategy

In this part, a theoretical explanation will be given to the subjects which are important when talking about campuses and its operationalization. The paragraphs about the campus are set out into the definitions of the campus, then the advantages and disadvantages and lastly the characteristics that fit with the campus. Furthermore, literature about operationalization is shown.

#### 4.1.1 What is a campus?

A campus could be seen as an overarching term that covers multiple typologies. A campus or science park is a commonly used term in the Netherlands and abroad for business parks where technology-driven activities become spatially facilitated, according to Buck Consultants International (2018). In this paragraph, it is set out what a campus is and what different types of campuses are present in literature.

Currently, the Netherlands has dozens of campuses and science parks throughout the country. Campuses are hubs where business, innovators, researchers and academics come together to form a hub. Den Heijer (2011) defines the "campus" as the (collection of) buildings and land, used for university or university related functions. Three different campus typologies are known. The first one is the campus as a greenfield outside the city. The second one is the campus as part of the city and lastly is the campus integrated with the city, see figure 10.

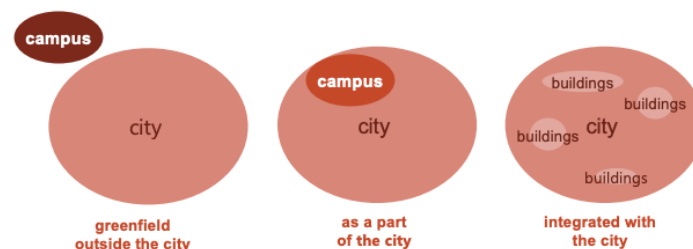


Figure 10: Three different typologies of campuses (Den Heijer, 2011, p.53)

These three typologies explain the relationship between the campus and the city. The greenfield does not have any relationship with the city itself, while the campus as part of the city and the campus integrated with the city do have a relation.

Curvelo Magdaniel (2016) gives two descriptions for physical relations of technology campuses that fit with the three typologies of den Heijer (2011). The first one is the relationship of the greenfield outside of the city, which are *disjoint* and *touches*. Curvelo Magdaniel describes the relationship of *disjoint* as the city shares nothing with the campus. The relationship of *touches* includes the areas that are bordering on the city. In most cases the campus and the city are tangent. The typology of campus part of the city has a relationship which is called *contains*. This includes the areas that are inside the urban fabric, but they are perceived as a distinct campus with borders. The last typology of the campus integrated into the city is described as the relationship *overlaps*. This includes areas integrated into the urban fabric, and in many cases the boundaries between the sites and the rest of the city are not clearly defined or perceived, see figure 11.

Setting	Peripheral		Inner-city	
Types of campus-city relation	Disjoint	Touches	Contains	Overlaps
Geographical scale	Region		City	

Figure 11: Location settings and relationship with the city. (Curvelo Magdaniel, 2016, p.114)

Out of the three different typologies described by Den Heijer (2016), the greenfield outside the city and the campus as part of the city complies the most with the police campus in Driebergen. The greenfield outside the city offers a closed and secured area in which the Landelijke Eenheid can operate without any relation to the city itself. The campus as part of the city also complies because the campus can make use of the urban fabric which is already existing. There will be a mix between newly built campus elements in Driebergen, as stated in the ambition documents from the LE. The campus integrated with the city is not possible because the buildings of the Landelijke Eenheid cannot be dispersed throughout the city because of the difficulty to secure the campus as a whole.

The research of Curvelo Magdaniel (2017) also mentions the differences between campuses. She shows that there are many different campuses and that many people use the term campus without exactly knowing to which characteristics they refer to. The campus could be divided into three component which tell something about:

- 1) the planning, economics, geography and business
- 2) the real estate management
- 3) the urban design of the campus.

Curvelo Magdaniel (2017) sets out the diversity of the built environment regarding (technology) campuses in figure 12. In her research she zooms into a variety of built environments that are entailed in technology campuses which are strategic resources of universities, firms and governments engaged in the accommodation of technology-based research activities. The knowledge economy is a dynamic environment in which the technology campus operates, and it is affecting their values and the management of their resources including the real estate. Universities and R&D companies have become big key actors because the research activities they do to develop and create new technologies, services and products follows from their core processes.

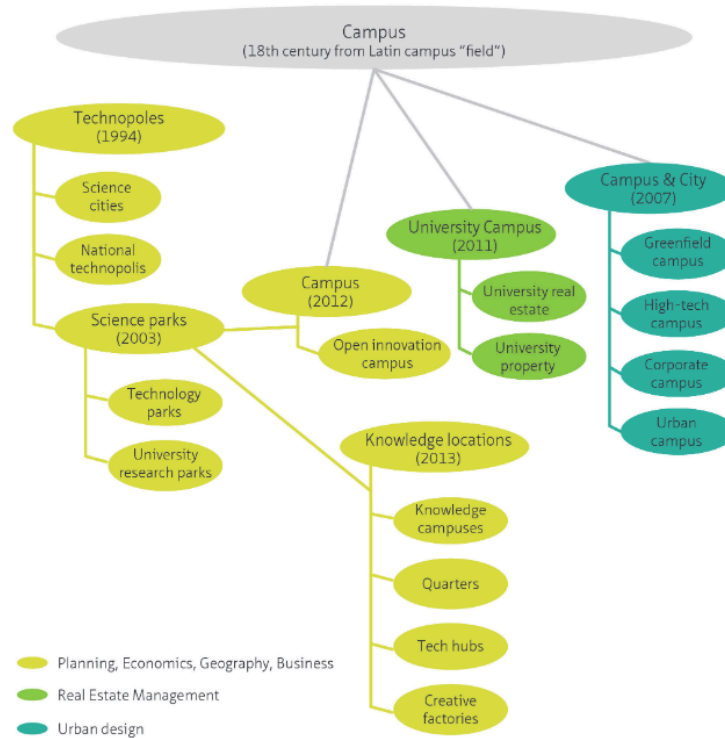


Figure 12: The diversity of built environments (Curvelo Magdaniel, 2016, p.27)

Other campus examples that are described in figure 12 are science parks that support the organizational objective of advancing knowledge and research. Also, campuses of technical universities which are there to educate students but also to stimulate innovation and knowledge creation and Research&Development parks which can generate, attract and retain research and development companies. A campus can stimulate innovation because it is critical for a competitive advantage of organizations. Furthermore, the campus can play a favorable role in the process of knowledge creation and the spatial perspectives could be considered critical as well for the stimulation of innovation. There is a body of knowledge in the Corporate Real Estate Management (CREM) discipline that investigates the relationship between the built environment and innovation as one of many dimensions of organizational performance. The campus is a physical mean to reach or create better organizational performance. Many resources are spent by universities, companies, and governments to develop these large and costly building environments to support their goals based on spatial models that have common characteristics. The campus enables to cluster the concentration of people, organizations and their activities. Many campuses are developed to stimulate innovation, and this has become a commonly accepted practice among organizations.

Den Heijer (2011), has also done a lot of research about campuses. As mentioned before, the term “campus” includes all buildings and land used by the university or for university-related functions, whether rented or not. The term can therefore also refer to collection of buildings scattered across the city. The term ‘university-related functions’ can also be interpreted broadly in the campus definition, as it increasingly includes research institutes, start-ups and hospitality businesses, student housing, leisure facilities and shops that are accommodated on the campus. This has been an objective for den Heijer (2011) to define the campus functionally in five function groups: academic, residential, retail & leisure, business related functions and infrastructure, see figure 13.



Figure 13: The five function groups (den Heijer, 2011, p.181)

The five function groups entail different functions per group.

- The academic function group with education and research entails classrooms, lecture halls, office spaces for staff and academic staff, laboratories, study places, library and/or special conference facilities.
- The residential function group entails student housing for short or long stay, faculty housing, housing for staff, hotel facilities and/or short stay apartments for visiting professors.
- The retail and leisure function group entails sport facilities, coffee bars, restaurants, bars, theaters, cultural centers and/or supermarkets.
- The related business function group entails incubators (academic spin-off), research and design facilities of large companies, related services (service spin-off) and/or businesses that combine learning and working.
- The infrastructure function group entails parking spaces, transport on campus, accessibility (by car), accessibility (by public transport) and/or public space (bicycles, pedestrians).

#### Reflection police campus

Den Heijer (2011) points out that the five functions groups are different space types on campus and how they relate to city's functions. It must be clear that those five functions are related to a university campus, but this is relevant for a police campus as well. However, the question could be asked if the residential function group is necessary. This will probably not be on the campus in Driebergen.

The campus practice also brings noticeable information about campuses. Buck Consultants International (2018) point out that companies, universities and research institutes have been involved in research & development for many years now. A new trend that has emerged in the recent years is that these parties increasingly visit each other in so-called hubs. The idea behind this is that together, by forming an ecosystem of talent, products, and services, take (open)innovation to the next and higher level. A result of this clustering is that parties can use shared research facilities and make research and development much more accessible, especially for start-ups or spin-offs. Finally, these areas provide a larger scope, as these hubs, campuses or science parks can operate more strongly at national or regional level, and by working together, they can have a bigger impact on, for example, policies or knowledge sharing (Buck Consultants International, 2018).

Buck Consultants International (2018) makes different categorization of campuses. They state that in 2018 thirty-five campuses are found in the Netherlands. Those thirty-five campuses are divided into twenty-three science parks, eight innovation campuses and four facility campuses. The campuses throughout the Netherlands show that the total amount of companies and workplaces in the adult phase, which is the phase when a campus is fully operating, has respectively grown with 22 percent compared to 2014. More than 2200 companies on seventeen campuses now have more than 47.000 people, of which mostly highly educated. Buck Consultants International (2018) describe the three different campuses as following:

Science parks: (park-like) industrial terrains related to a university/university medical center, where R&D takes place by universities, academic medical centers, research institutes and companies.

Innovation campus: (former) business campus where one or more 'corporate anchor tenant(s)' carry out R&D and where other companies can also be established and mutual interaction and cooperation in the field of research is actively stimulated.



Facility campus: innovation location where the magnet effect does not come from a 'manifest knowledge carrier' (e.g. university, university medical center, research institute, R&D center of a large internationally operating company), but from specific research facilities and/or pilot plants. Companies can establish themselves near these facilities and make use of them themselves and/or in cooperation with other companies.

#### Reflection police campus

When searching for a suitable campus, the facility campus matches the most with the police campus because the magnet effect does not mainly come from a 'manifest knowledge carrier'. The public organization of the Landelijke Eenheid is one organization that can select other chain partners or third partners onto the campus itself but is not depending on those other companies to facilitate cooperation with other companies. Facility campuses, instead of having a manifest knowledge carrier, have specific facilities that act as a location magnet. In this way the facility campus could comply most with the police organization and police campus.

Buck Consultants International mentions four facility campuses that are present in The Netherlands:

- 1) Pivot park – Oss
- 2) Technology Base Twente – Enschede
- 3) Brainport Industries Campus – Eindhoven
- 4) Gate2 Aeroparc – Gilze-Rijen

Each of the facility campuses offers a specific research facility of which other companies or third parties could benefit from:

- 1) The pivot park offers a research facility for innovative pharmaceutical companies. They offer spaces where companies can collaborate, innovate and make use of laboratories.
- 2) The technology Base Twente offers a research facility that gives the opportunity to develop and test products and systems in a protected environment. The 220-hectare site also provides ample space for pilot production and industrial research.
- 3) The Brainport Industries Campus offers a place where various companies in the high-tech manufacturing industry, educational and knowledge institutions are located. Smart Industry will literally and figuratively get off the ground here, in an entirely circular building with a modular design.
- 4) Gate2 is the Smart Industry hub in Central Brabant that focuses on the development and realization of innovation projects in the area of production techniques, simulation and digitalization.

Searching for other definitions of a campus, Buck Consultants International (2014) mention four core elements in which they state that a campus is defined.

- The first one is physical high quality business opportunities and research facilities. This means that the availability of physical space that offers high-quality business opportunities for knowledge-intensive and for (the joint use of) lab, cleanrooms and test facilities.
- The second one is the focus on research and development/innovative activities. To achieve innovation, joint product development and exchange of knowledge, the focus must be pointed at research development and/or knowledge intensive activities.
- Thirdly, it needs to incorporate a manifest knowledge carrier. A large manifest knowledge carrier is physically and substantially present with research activities and forms the 'anchor tenant' on the campus. Type of knowledge carriers are a research and developer center of a large (inter)nationally operating company, (technical) universities, university medical centers and large research institutions. Manifest means that the company/institution has a substantial size and has a strong reputation on a specific theme or technology.
- The fourth and last one is active open innovation. A 'dedicated' open-innovation organization focuses on collaborative relationships within and outside campus, knowledge valorization, knowledge transfer, networking, business development and acquisition of companies.

The comparison between den Heijer (2011) and Buck Consultants International (2014) shows that there still is a difference because den Heijer focuses on the university and Buck Consultants international tends to lean more towards a business/innovation campus. An important remark is that Buck Consultants International is more oriented towards the practice and not towards the academic field.

However, each core element of Buck Consultants international could be positioned against the five function groups of den Heijer to check for similarities. Table 2 shows where the overlap can be found.

Comparison between five function groups and the four core elements		Core elements (Buck Consultants International, 2014)			
		Physical high quality business opportunities and research facilities	Research and development/ innovative activities	A manifest knowledge carrier	Active open innovation
Five function groups (den Heijer, 2011)	Academic	X	X		
	Residential				
	Retail & Leisure				
	Business related functions		X		X
	Infrastructure				

Table 2: comparison between the five function groups and the four core elements (own table)

Table 2 shows that there are four similarities found:

- 1) The first element of high-quality business opportunities and research facilities shows similarities with the academic function for education and research and with the related business functions which are spaces for partners linked to the academic goals and supporting processes.
- 2) The second element of research and development or innovative activities is related to the related business functions as well as the academic function for education and research. This is for the same reason to support processes with internal or external partners.
- 3) The third core element talks about a manifest knowledge carrier. Den Heijer only talks about space types and not about a main tenant but more about physical means to attract a possible tenant to make use of the functional mix for the future university, so there is no overlap in this definition of Buck International Consultants with Den Heijer
- 4) The fourth element shows again similarities with the related business functions, however den Heijer focusses on the physical elements and Buck Consultants International points out the importance of relationships that come along with a campus.

A comparison is made between the elements of function groups and core elements. The decision to choose which function group or core element to continue with, is based on the fact that the practice, rather than the academic focus, has more correlation with the campus that the police strive for because it is not an academic institute such as an university. In this way the definition is more focused on the practice and the preference goes to the name of the core elements rather than the function groups. Based on both sources a campus has the following elements.

- 1) Physical high quality business opportunities and research facilities (core element, Buck Consultants International)
- 2) Research and development/innovative activities (core element, Buck Consultants International)
- 3) A manifest knowledge carrier (core element, Buck Consultants International)
- 4) Active open innovation (core element, Buck Consultants International)
- 5) Residential (function group, den Heijer)
- 6) Retail & Leisure (function group, den Heijer)
- 7) Infrastructure (function group, den Heijer)

#### Reflection police campus

The abovementioned elements are not all relevant for the police campus. Since there will not be residential buildings and only internal restaurants and sport facilities, the elements of Residential and Retail & Leisure are not seen as a main driver or ambition.

#### 4.1.2. Added values of campuses

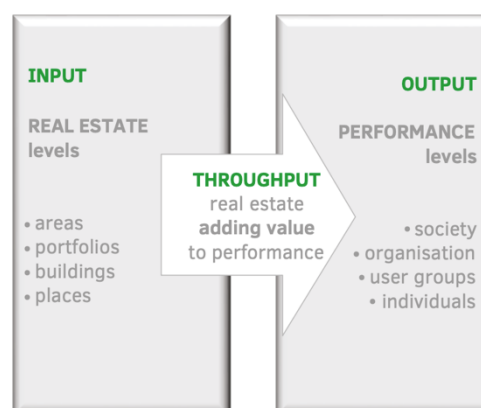
This next paragraph will set out why a campus can help the organization and bring add value. The police real estate managers have been searching for efforts to stimulate an integrative approach regarding their real estate. A mutual understanding of what campuses can offer is useful for the organization of the Landelijke Eenheid.

First of all, it is critical to get understanding of what added value is. Added values can be described as a variety of real-estate strategies aimed at achieving organizational objectives. Research that established knowledge on this concept specifically address it as real estate strategies (Lindholm et al., 2006; Nourse & Roulac, 1993), or as real estate added values (De Jonge, 1996; De Vries, 2007; Den Heijer, 2011). This concept and its contribution to organizational goals have been explored and categorized by many (Appel-Meulenbroek, 2014; De Vries, 2007; De Vries et al., 2008; Den Heijer, 2011; Jensen et al., 2012; Krumm, 1999; Lindholm et al., 2006; Lindholm & Leväinen, 2006; Scheffer et al., 2006; Van Der Zwart, 2014). Previous study that investigated campus concepts of added value showed that it can also bring advantages to other areas such as higher education, health care or offices (Curvelo Magdaniel, 2016). Added values have been researched by many researchers but in this research the added values from den Heijer (2011) are most suitable for the police because it concerns a campus.

Den Heijer (2011, p.91) explains that the (presumed) added value of real estate on the performance of a society, organization or individual is the basis of real estate management. The core goal of real estate alignment is to maximize added value of real estate solutions, or an intervention, to the organization (Den Heijer, 2011). The alignment of corporate real estate management (CREM) can also add value in asset value, marketing and sales, flexibility, productivity, cost reduction, innovation and sustainability and employee satisfaction (van den Assem, 2015).

Den Heijer (2011) emphasized the importance of real estate added values. The concept of added value is used to define campus projects and evaluate past campus decisions in her research of managing university campuses. The process of adding value is depicted in her descriptive model as "input – throughput – output" (i.e. real estate decisions – real estate goals – performance criteria, figure 14). As a result, her revised model of adding value is viewed as a tool that may be utilized "before making a real estate decision to develop a business case, or after making a real estate decision to come up with a post-occupancy evaluation." Every real estate intervention and decision should be justified in this context by its positive impact on specific performance criteria applicable to various organizations.

Figure 14: Real estate adding value to the performance of an organisation (Den Heijer, 2011, p.92).



In 2011 den Heijer created the four perspective model in her research about campus management (figure 11). Campus management is defined as the alignment of the campus with the changing context of the university, the requirements of the different groups of stakeholders and contributing to the performance of the university. The campus manager, in practice often the facilities director or the director of the accommodation department, is responsible for this alignment process (den Heijer, 2017). It is important to know how to manage a campus effectively. The campus management seeks not only to look at the technical and financial

aspects of real estate, but actively tries to include the functional and organizational aspects as well (Den Heijer, 2008). Den Heijer (2008) breaks down the strategic alignment model into four tangible stakeholder perspectives for the campus real estate: strategic, financial, functional and physical

Den Heijer (2011) merged the added value and insights from her previous research of campuses. In figure 15 she positioned those values and insights into the CREM model which is based on a campus strategy. The input (campus strategy) and output (performance) are shown and in the four perspectives. The table will give an insight in the added value through university real estate.

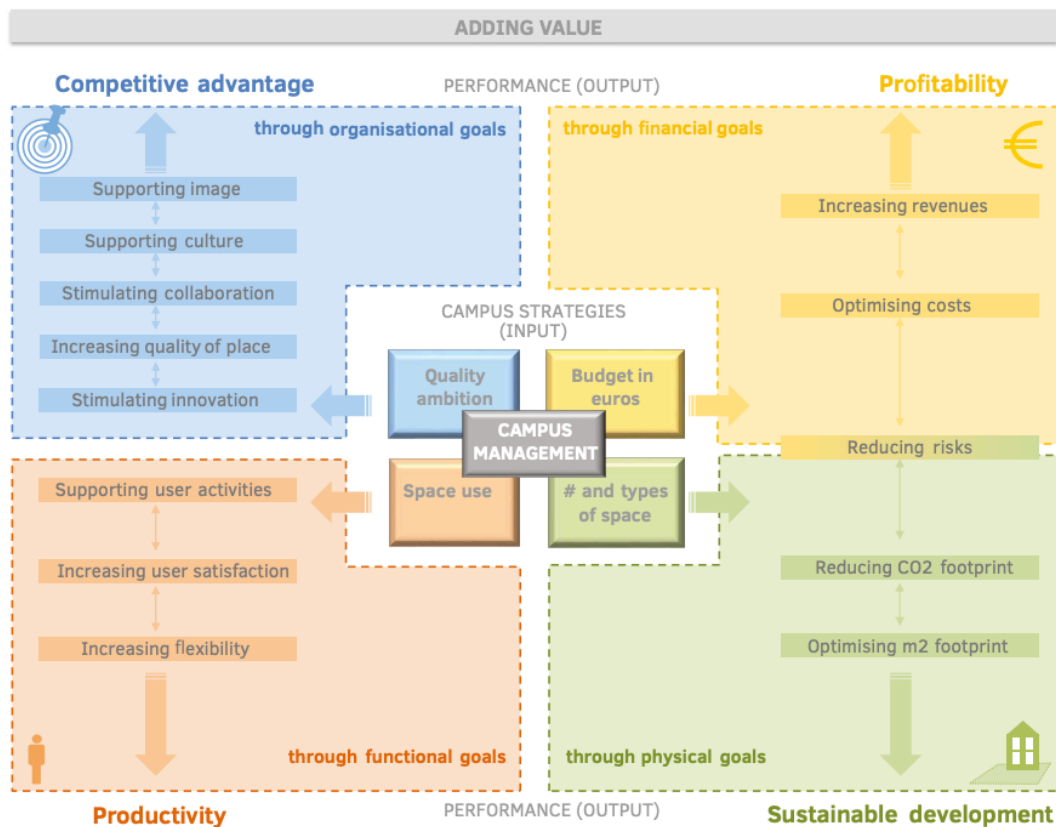


Figure 15: Adding value to the university through real estate (Den Heijer, 2011, p.179).

Figure 15 contains different added values per perspective:

- Strategic objectives: real estate interventions can support the image or support the culture of the organization to current users or external parties, for example, by implementing open, transparent spaces. It can stimulate collaboration between users, for example, by creating more meeting spaces where people can interact. It can stimulate innovation, for example, by designing spaces that allow for planned and unplanned encounters, and it can increase the quality of place through (architectural) design.
- Functional objectives: real estate interventions can support user activities, for example, by building functional spaces. It can raise user happiness, for example, by reacting to user needs, and it can increase the flexibility of facility usage, for example, by making facilities more available to more or different users.
- Financial objectives: real estate interventions can reduce the real estate portfolio's (operating) costs, such as by reducing floor area. It can increase revenues, such as by making buildings or spaces rentable or marketable for chain parties and it can reduce risks, such as by allowing easy adjustment of the building's size or characteristics to, for example, easily divest parts of the building.

- Physical objectives: real estate interventions can minimize CO2 emissions, for example, by installing double glazing, and it can optimize m2 footprints, for example, by accommodating more users on the same amount of square meters.

On the contrary, Buck & Draisma (2013) approach the added values from a practice point of view and within their approach they focused on the strategic/organizational goals as identified by den Heijer (see figure 15). They identify eight added values that a campus offers for businesses, with the focus on technology-oriented companies. The eight different added values are as following:

- 1) Knowledge exchange
- 2) More turnover
- 3) Employment growth in companies
- 4) Intensive relationships (with universities)
- 5) Adoption of new technologies
- 6) Increase the number of spin-off activities
- 7) Establishment of new international companies
- 8) Faster valorization of knowledge

What is noticeable is that den Heijer (2011) and Buck & Draisma (2013) have different approaches when looking at the added values of a campus. The added values from den Heijer (2011) are grouped into four perspectives, the functional, financial, strategic and physical perspectives. She interconnects the added values by making people aware of the relation between each perspective. Besides that, the focus is set on the university campus and those added values that den Heijer mentions, might not be applicable for every campus or organization. However, the added values that Buck & Draisma (2013) outline is solely focused on technology-oriented companies and therefore the added values differ from the university campus model.

Furthermore, Buck & Draisma (2013) point out some challenges that could occur when technology-oriented companies makes use of a campus. In terms of open innovation, they make use of specific technological knowledge institutes, universities and spin-offs. In doing so, they look for the right talents, technologies and partners around the world. Physical proximity to necessary functions, informal contacts and direct access to knowledge are important.

To investigate if there is overlap in the added values of den Heijer (2011) and Buck & Draisma (2013), a comparison table is made. In this way the similarities can be filtered out and a wider overview of added values are shown that could be used to strengthen the importance of a police campus.

Comparison between the added values of den Heijer (2011) and Buck & Draisma (2013)		Added values (Buck & Draisma, 2014)							
		Knowledge exchange	More turnover	Employment growth	Intensive relationships	Adoption of new technologies	Increase number spinn-off activities	Establishment new international companies	Faster valorization of knowledge
Added values (den Heijer, 2011)	Supporting image						X	X	
	Supporting culture								
	Stimulating collaboration	X			X				
	Increasing quality of space								
	Stimulating innovation					X			
	Supporting user activities						X		
	Increasing Flexibility								
	Increasing revenues		X	X			X		
	Optimising costs								
	Reducing risks								
	Reducing CO2 footprint								
	Optimising m2 footprint								

Table 3: comparison between added values (own table)

When the comparison is made in table 3, certain added values can be merged. The decision to choose with which added values to continue with, is based on the fact that the practice, rather than the academic focus,

has more correlation with the campus that would be suitable for a public organization. In this way the definition is more focused on the practice and the preference goes to the name of the added value of Buck & Draisma rather than added values of den Heijer. In this way, the added values that come along with a campus are:

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| 1) Supporting image             | 8) More turnover                     |
| 2) Supporting culture           | 9) Optimizing costs                  |
| 3) Knowledge exchange           | 10) Reducing risks                   |
| 4) Increase quality of space    | 11) Reducing CO2 footprint           |
| 5) Adoption of new technologies | 12) Optimizing m2 footprint          |
| 6) Supporting use activities    | 13) Faster valorization of knowledge |
| 7) Increasing flexibility       |                                      |

Now that the added values that a campus can deliver are known, the newly added values from Buck & Draisma (2013) can be positioned into the four perspective model and label each of them to the strategic, functional, financial and physical perspective.

- Knowledge exchange (3) fits in the strategic perspective
- Adoption of new technologies (5) fits in the strategic perspective
- More turnover (8) fits in the financial perspective
- Faster valorization of knowledge (13) fits in the strategic perspective

Curvelo Magdaniel (2016) explains that real estate added value has three characteristics which are that real estate added value is versatile, real estate added value is interdependent and real estate added value is intermediary. This is important to know because the added values are relevant throughout the process of creating a campus.

#### 1) Real estate added value is versatile

The contribution of diverse real estate strategies in achieving various organizational goals is referred to as the added value of real estate on organizational performance. Nourse and Roulec (1993) proposed that there is a connection between real estate strategy and the company's driving force(s), which might change over time, determine its strategy. Also, Nourse and Roulac (1993) concluded that a variety of real estate strategies and priorities are required to serve a variety of organizational goals. Corporations driven largely by 'technology,' for example, may place a greater focus on certain real estate strategies than companies driven primarily by 'return and profit'. Overall, they concluded that the right combination of real estate strategies depends on the company's strategic position in the market in which they operate.

#### 2) Real estate added value is interdependent

The combined effect of interdependent real estate strategies is viewed as the additional value of real estate on organizational performance. As previously stated, organizational performance is assessed using a variety of performance criteria and the opinions of various stakeholders. According to De Vries (2007), it is difficult to isolate the impact of real estate on performance because there is a link between added values inside and across categories, for example, improving flexibility can lower costs while simultaneously stimulating innovation (Curvelo Magdaniel, 2016).

#### 3) Real estate added value is intermediary

The strategic courses of action that guide real estate operational decisions are referred to as the added value of real estate on organizational performance. This characteristic is critical for corporate real estate managers and also other built-environment decision makers, because it clarifies paths to achieving organizational goals through real estate.

The argument that the added values from Buck & Draisma (2013) are more focused on practice and technology-oriented companies is supported when the added values are linked to the four perspective model of den Heijer (2011). Most added values are related to the strategic perspective which give businesses opportunities to compete with others. The mix with the added values of den Heijer (2011) gives a wider overview of added values that a campus can bring to an organization. The added values will be used as a guideline to check whether the campus could be a possible real estate strategy for the Landelijke Eenheid. Also, the added values could be seen as possible ambitions of visions of an organization. If an organization strives for most of the abovementioned thirteen added values, a campus could offer a solution. Added values

are versatile, interdependent and intermediary according to Curvelo Magdaniel (2016). In this way, added values have impact on the organizational level as well as on the real estate strategy.

## 4.2. Campus characteristics

This paragraph describes the characteristics of a campus. Now that it is shown what a campus definition is and what the added values are, the characteristics of a campus will be described.

### 4.2.1 Campus states of matter and management

The research on *Managing the University Campus and Campus Matters* of den Heijer (2021) shows the transition of the university and the campus in three generation models. She shows that there are three physical states of matter in which a public building can be. The first model is the traditional model and is referred to as solid. This state represents fixed structures, hierarchy, exclusiveness and need for territory. Positive associations are aspects like, loyalty, community feeling and ownership, but negative associations show that the campus costs are twenty percent higher, the footprint of the user is higher, the doors are closed and it's an old-fashioned way of working nowadays. The second model is the network model and is referred to as liquid. This state represents flexible structures, multidisciplinary, open and interconnected structures and has more shared spaces. Positive associations are the interdisciplinary way of working, serendipity and lower campus costs. However, the negative associations are that employees might feel anonymous in large organisations and that everyone's workplace is nobody's workplace. Also, there is more distraction and less privacy. The third model is the virtual model and is referred to as gas. This state represents individual autonomy, mobility, freedom and the possibility to work and study anytime and anywhere, online and off-campus. The gas state triggers positive associations such as accessibility for long-distance students, it is very flexible, the campus costs are less than 5 percent of the original costs and the work-life balance is your own responsibility. Negative associations are that users could feel lonely or end up in social isolation, the user has less loyalty to the university or the occurrence of lower course completion rates could be seen. The three different states of matter show the demonstration on how a portfolio of public real estate can be managed, used, and evolve in the future (den Heijer, 2021). The different characteristic of these three models is shown in figure 16. It shows how they apply to universities and campuses. Different states do have other organizational ways of working. However, for the police this will be useful as well because of the reason that they are thinking about the hybrid way of working. This will have an impact on the physical way of working of the future operational processes of the Landelijke Eenheid.

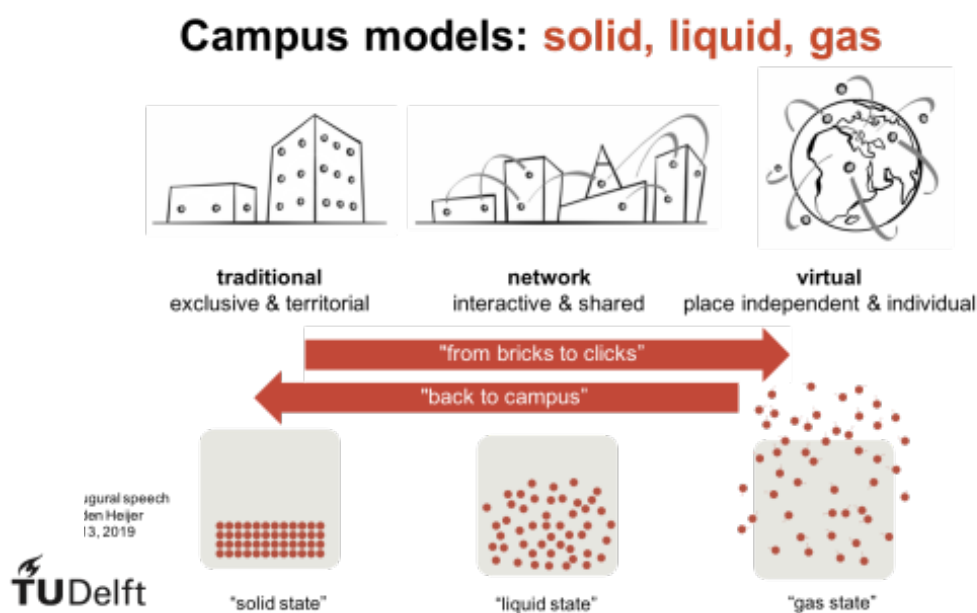


Figure 16: The three campus models (den Heijer, 2020)

Den Heijer (2011) developed the four perspectives to create alignment in the functional, strategic, physical and financial perspectives. It is important to know which person is mainly involved in which perspective.

The real estate manager plays as a core actor in finding an optimal balance between the different interests of the four main types of stakeholders. The first one is the policy maker who acts for the performance goals. The second one is the controller who acts for the financial performance goals. The third one is the manager of the technical and sustainable goals that act for physical performance. The fourth and last one is the user who stands for the functional performance goals.



Figure 17: Perspectives to real estate management, (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.59)

In figure 17, the four real estate management perspectives with their relevant themes are shown. Real estate managers are in practice often confronted with demands from all four perspectives such as goals set by policy makers, financial goals or limits, or sustainability goals. The real estate manager always wants to come to a maximal level of the value that can be added to the performance of the organization. However, prioritizing is essential for the real estate manager. The organization does not always have all the resources that are needed to create the optimal performance of the organization. Transparency could offer a smoother process in the decision-making process because stakeholders are aware of the needs of others (den Heijer, 2011)

#### 4.2.2 Campus characteristics explained

It is crucial to know more about the campus themes and campus typologies so that the organization can determine what theme or typology is important for the Landelijke Eenheid. The information about campuses will help proposing a solution for the implementation of organizations that tend to implement a campus. Den Heijer (2011) explains that there are characteristics that campuses should incorporate. The characteristics are used to create different campus themes and typologies which serve as background information what campus themes and what kind of campus typologies there are in practice. The following characteristics are:

- 1) less individual territory and should create more shared spaces.
- 2) an agreement between quantity and quality of less floor space and more intensive use of the real estate combined with better quality.
- 3) Independency of place, due to technological innovations, people can use their own workplace.
- 4) Reduce the carbon footprint.
- 5) The campus has the attributes of a city
- 6) Strategically: It can become a knowledge marketplace
- 7) Financially: high level of floor productivity
- 8) Physically: less private space and emphasis on shared public spaces
- 9) Functionally: spaces that are more multi-functional
- 10) The campus model can be used to brand
- 11) Partner institutions are interested in sharing space use.

These characteristics serve as a basis to develop campus themes and typologies.



### 4.2.3 Campus themes explained

One of the tasks in campus management is to provide campus managers with a course of action that can guide future possible campus interventions. Trends are shifting through time from solid to gas to liquid or the other way around. This shows that the organization continuously adapts to the internal and external developments. This means that the combination of solid liquid and changes along with those trends. Therefore, 12 themes are mentioned to make real estate managers aware and be prepared for new combinations. If they know what to change to attain the desired campus facilitates stakeholders involved in campus decisions to implement their strategic choices. Curvelo Magdaniel, Den Heijer & Arkesteijn (2019) describe campus strategies in 12 different themes to add value to the campus. The researchers from the TU Delft (2016) investigated a database of campus projects at Dutch universities with a list of themes that add value to different campus strategies. There are twelve themes to distinguish in campus strategies on a basis of campus visions, accommodation plans, project plans and investment programs. The campus themes make the organization of the Landelijke Eenheid aware of what different themes are related to a campus. This information will help to formulate a recommendation and configuration of what a police campus will look like or what it needs to incorporate.

#### Theme 1: Rethinking the academic workplace

Almost all universities are considering the traditional individual academic workplace. This is not only because the workforce becomes more dynamic, but also because the exchange of knowledge. This is a sensitive issue in all Dutch universities, as academics are strongly attached to individual territory and their job satisfaction is linked to it. However, the impression is that the end user often does not oversee the consequences of the choice of opting for individual workplaces. Not only does it increase the footprint - both in m<sup>2</sup> and in energy consumption and energy consumption - but it also involves financial resources that cannot be directly invested in education and research. A large footprint also means that colleagues are seated farther apart and are sometimes also separated (by moving to different locations). From one another (by being spread over different floors or even different buildings) or that growing faculties are or even different buildings) or that growing faculties no longer fit into their historic buildings and must move to expansion sites. The latter does not promote knowledge exchange and interaction, while the university which already must deal with users who are increasingly away from their workplaces - would benefit greatly from meeting the needs of both education and research. The university benefits greatly from the meeting of different types of target groups (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.93).

#### Theme 2: Creating a flexible learning environment with more study places

The trend of creating a flexible learning environment has been evident in the project database for a decade. Buildings with teaching space are increasingly being created for the whole university and not just for certain groups or faculties. What is noticeable is that flexible learning environments are mostly centrally located with central facilities. Statistics have shown that the urge for more study place is an ongoing problem. Clustering facilities and making use of more smart tools is helpful. Universities put emphasis on the physical study facilities because this creates more community building (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.93).

#### Theme 3: Replacing or renovating old faculty buildings as home base

The previous theme was more about creating central and flexible educational facilities. But this theme really focusses on new facility buildings. Traditionally, university buildings are part of the biggest buildings in the Netherlands. They have more than ten thousands of square meters and often more than 40.000 m<sup>2</sup>. Only government buildings or big multinationals are comparable in size. Because of the student growth, it is needed to construct more buildings in which educational purposes can be held (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 4: Investing in state-of-the-art laboratories

Laboratories are essential for research, but they also impose a considerably claim on the university accommodation resources. The last couple years, the costs are increasing as a result of the stricter safety measurements and the organization which is needed to guard the laboratories and lastly by the rapidly changing functional requirements. The realization that laboratories are expensive means of research, and that the construction or reconstruction of those laboratories carefully needs to be compared, is increasing. There is also increasing support for laboratories, given the relatively high investment costs and operating costs (maintenance, energy and water). It is important that the costs per m<sup>2</sup> could be gained back with sufficient

benefits per m<sup>2</sup>. These can be increased most easily through occupancy and utilization of the laboratories. This is possible through joint use, which is becoming increasingly common (to happen on campus) (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 5: Enriching the campus with non-academic functions

All universities changed their mono-functional character towards a multi-functional urban area. Many campuses added residential buildings for students, sport facilities, shops, pubs or companies that are related with the livability on the campus after openings hours of the universities. What is noticeable is that there are reasons to allow third parties on campus and those are linked to primary tasks of the university: better education, teaching, research and more opportunity for knowledge valorization. Renting or selling buildings or plots of land does not often bring big financial gains, but it does help for a better collaboration between knowledge valorization with partners in education and research (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 6: Give new life to old buildings, including heritage buildings

The research of Campus NL shows that most of the portfolio of Dutch campuses exist of old buildings instead of new ones. The old buildings are categorized into two different statuses; the monumental buildings and the non-monumental buildings. Universities are aware of the costs for energy and maintenance for the monumental buildings, but this has to do with emotional value of the heritage of the buildings. Monumental buildings can be used in different campus models that are related to the solid, liquid and gas state of the university (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 7: Extending opening hours (evenings, weekends, summer schools)

The extension of opening hours is a vision that is shared with most campuses. The extensions are implemented on a bigger scale, and it is more differentiated. It is all about making optimal use of the m<sup>2</sup> they have. If student want to study at night during the exam period, this should also be possible (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 8: Using circulation space – inside and outside – more effectively

Last decennia, the ‘in between’ space, such as hallways, stairs and exterior space have been used more efficiently. One of the reasons for this was the influx of new students, the ICT developments that stimulated a place independent work attitude and in the semi-public spaces, it was shown how the university (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 9: Implementing ‘smart tools’ for campus navigation

Currently, lots of universities are using ‘smart tools’ to optimize their space use and a higher satisfaction rate. The goal is to better allocate spaces by the means of the self-steering user. Smart tools can really help to see what users are doing in specific spaces and how they each room. Big data can eventually optimize the buildings as a whole and it can make sure that the user is more aware of what is possible inside the buildings. The use of ‘smart tools’ does not only make sure that spaces are used more efficiently and effectively, but can also increase or stimulate satisfaction for the user (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 10: Stimulating sustainable behavior and testing innovative technology

In most campus plans, sustainability is an explicit theme, in most campus plans it is an important criterium. Most newly built projects measure up to the highest sustainable requirements, what exists of new energy norms and BREAAM-norms. It is obvious that innovation plays a big role in technological development, on campus levels, as on building level in facades, installations, and equipment. A starting point at transformations of old buildings are that sustainable reinvestment will be earned back with lower exploitation costs. Sustainable development is also highly influenced by the behavior of the user itself and their willingness to make more efficient use of spaces etc (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

#### Theme 11: Clustering in one place for regional consolidation in the knowledge-based economy

A theme that helps campus development is clustering multiple different buildings in one place, so they are closely situated next to each other to stimulate knowledge exchange. In this way, buildings and workers can easily keep in contact with each other to stimulate the knowledge-based economy (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

## Theme 12: Rethinking the campus as a safe and healthy place to be

This theme deals with a health through users' tolerance and/or balance solitude and interaction. This theme stimulates the idea of healthy and safe living inside buildings. The implementation can be on different levels such as the study place, the public space or how the interaction between particular users' activities are (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019).

### 4.2.4 Eight different campus typologies

This paragraph will mention a part of the research of Curvelo Magdaniel, Den Heijer & Arkesteijn (2019) that presents different campus typologies with the aforementioned campus themes, the demand and supply drivers and the state-of-matter in which the typology is functioning. The examples of campuses can serve as references to better understand what the police campus could look like, what the Landelijke Eenheid strives for or which elements could be implemented. This will help with formulating a suitable configuration.

1) **Co-campus:** Co-campuses are campuses that are not only merging but also co-locate or move towards one location to consolidate their position in the knowledge-based economy. Physical proximity stimulates innovation and successful high-tech agglomerations in particular regions have promoted clustering as one of the key themes in campus strategies. Also, the development of co-campuses as large-scale interventions is frequently mixed up with the investments in state-of-the-art laboratories (theme 4). In cooperation among partnering higher educational institutions, large infrastructure is most of the time required for the development of those laboratories (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.93). Figure 18 shows the themes of the co-campus, its demand and supply side and the campus model in which the co-campus operates.



Figure 18: important themes of the co-campus and its demand and supply sides (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.96)

2) **Wow-campus:** A wow-campus exist of different heritage buildings that need to be renovated or made ready for adaptive re-use. Wow-campuses enhance the historical roots that are connected with their location, and they promote circular principles by enhancing sustainable development through new life of old buildings as a campus strategy (theme 6). Theme six mainly focusses on interventions that create and/or maintain a good balance between the old heritage buildings and the new buildings in the portfolio. Other themes that are featured in the wow-campus are themes 3 and 4. Theme three replaces old buildings with iconic facilities and/or state-of-the-art laboratories. By doing this, the expected attractiveness of the students and staff will increase and therefore it adds value to the competitiveness of the university. The wow-campus with the iconic buildings is used as a brand for the university and its faculties (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.97). Figure 19 shows the themes of the wow-campus, its demand and supply side and the campus model in which the wow-campus operates.



Figure 19: important themes of the wow-campus and its demand and supply sides. (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.97)

3) **Eco-campus**: eco-campuses are nowadays investing in efficient infrastructure for energy at building level, as well as for the portfolio level. Circular principles could be applied when campus interventions take place to stimulate sustainable behaviour and testing its innovative technologies (theme 10) to the universities' commitment to incorporate sustainable challenges in a campus strategy and therefore create an image as an eco- and environmentally responsible institution. Eco-campuses both focus on new facilities and existing buildings (theme 6) (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.99). Figure 20 shows the themes of the eco-campus, its demand and supply side and the campus model in which the eco-campus operates.



Figure 20: important themes of the eco-campus and its demand and supply sides. (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.99)

4) **Open-campus**: Lately, the open-plan designs have gained more popularity in universities and other institutes. One of the assumptions that are made is that wide corridors, atriums and ample halls where activities can be held, enables interaction that happens spontaneous between different building users and therefore creates the option of knowledge creation and dispersion (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.100).

Open campuses facilitate possible new ways of learning and working of mobile users increasingly. In many projects, interventions take place at the buildings level as well as the portfolio itself since many projects are based on open-plan designs and the extension of public space. This could be done by opening plinths of the buildings with transparent elements and add more supporting functions to invite external users and therefore create more urban integration, which finally increases the quality of place.

Open-campuses touch multiple themes like: rethinking of the academic workplace (theme 1), the creation of a flexible learning environment with more study places. (theme 2), enriching the campus with non-academic

functions (theme 5), and using circulation space, inside and outside, more effectively (theme 8). Figure 21 shows the themes of the open-campus, its demand and supply side and the campus model in which the open-campus operates.



Figure 21: important themes of the open-campus and its demand and supply sides. (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.100)

**5) Urban-campus:** Nowadays, many universities are rooted in a historical background with their hosting city. The visibility of those bonds is noticeable by their physical presence in historical city centres. The result of co-evolution of social, economic, and technological developments is that historic urban areas have declined. The experience shows that industrialized countries adopted therefore the knowledge-based economy. Oppositely, the research of Van Oort & Lambooy (2014) argued that these areas have been brought back to life precisely to accommodate, the new and knowledge-based economic activities. Innovation is considered as a new driver of urban regeneration in historical urban regions (including industrial sites and waterfront districts) (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.102).

In the literature on urban regeneration of historic urban environments, two major success criteria found are local community participation and multi-stakeholder governance (Curvelo Magdaniel et al., 2018). Unavoidably, universities are considered as key actors in these processes because they take part in the local community as users and governance as owners of large portfolios in these specific urban areas.

Focus points towards livability by distributing university functions in- and off-campus and strengthening the university presence in the city by its location, are large scale interventions that an urban-campus brings along. It is important to know that urban-campuses tend to go further on the integration of a campus and its urban development, since the accommodation of enough space is scarce and it is difficult to stimulate growth in these locations. Urban-campuses not only make sure to co-locate to strengthen their competitiveness (theme 11) but also exchange knowledge and resources to develop a distinctive campus. To realize this exchange, municipalities and third parties form a partnership. This stimulates the involved parties to share resources, risks and benefits that are related to the four drivers (organizational, financial, physical and functional). Urban-campuses not only focus on livability and location, but also tend to focus on branding. Branding plays an important role to attract students and researchers (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019). Figure 22 shows the themes of the urban-campus, its demand and supply side and the campus model in which the urban-campus operates.



Figure 22: important themes of the urban-campus and its demand and supply sides. (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.102)

6) **Home-campus:** A campus typology which is gaining more popularity is the home-campus. The home-campus incorporates residential concepts that combine aspects such as living, studying and relaxing. This campus typology stimulates new ways of learning and intensifies the sense of community in campus that positively affects students and researchers regarding their well-being (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.105).

To actually realize a home-campus, it is necessary to design with open building plinths and offering mixed-functions such as a restaurant or places where people can practice sports. This will influence the quality of place positively and makes sure that the surrounding urban context better integrates. The focus points of home-campuses are mainly about flexibility, livability and health.

Themes such as: rethinking the academic workplace (theme 1), creating a flexible learning environment with more study places (theme 2), enriching the campus with non-academic functions (theme 5), extending its opening hours (theme 7) and rethinking the campus as a safe and healthy place to be (theme 12), are covered in a home-campus. A key feature on the demand side of home-campuses is the reinforcement of new-ways-of-learning and the well-being of its users as functional drivers. A physical driver is the quality of place. Figure 23 shows the themes of the home-campus, its demand and supply side and the campus model in which the home-campus operates.



Figure 23: important themes of the home-campus and its demand and supply sides. (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.105)

7) **Smart-campus:** The rapid growth of universities is putting pressure on the amount of square meters on their campus. Campus users are increasing and this asks for more square meters (space) and the allocation to make various activities more efficient. Besides, territorialism is often present when it comes down to use of space. An example in which smart tools can help is to allocate users to spaces that are not in use most parts of the day. Valks, Arkesteijn, Den Heijer & Vande Putte (2016) show that students and researcher ask for more space on campus, while campus managers know that some spaces are not used in their full capacity.

Smart tools can tackle this problem and make sure that the scarcely used space will be used more (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.106).

Themes that are important for smart campuses are ofcourse the implementation of smart tools (theme 9) and the interrelation with rethinking the academic workplace (theme 1). Also, creating flexible learning environments with more study places is essential (theme 2). Smart-campus are characterized by a strong emphasis on technology and flexibility to intervene at the campus portfolio, building, and workplace level. Figure 24 shows the themes of the smart-campus, its demand and supply side and the campus model in which the smart-campus operates.



Figure 24: important themes of the smart-campus and its demand and supply sides. (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.106)

8) **Zen-campus:** Campus users are nowadays more prone to stress and other mental health issues and this is a risk for the well-being on campus and productivity of the university. Universities are more aware of these issues and they are searching for solutions to create a healthy and safe environment regarding programmes as well as the physical environment. Elements such as noise play important roles to create a comfortable environment (Curvelo Magdaniel, Den Heijer & Arkesteijn, 2019, p.107).

A zen- campus is characterized by three main elements. Firstly, it rethinks the campus as a safe and healthy place to be. Secondly, the implementation of ‘smart tools’ for campus navigation and lastly the enrichment of the campus with non-academic functions. The smart campus is mainly liquid, but can be a bit solid or gas as well. The zen-campus is focused on the aspect INWOL, productivity and the quality of place. See figure 21 for the characteristics. Figure 25 shows the themes of the zen-campus, its demand and supply side and the campus model in which the zen-campus operates.



Figure 25: important themes of the zen-campus and its demand and supply sides. (Curvelo Magdaniel, den Heijer, & Arkesteijn, 2019, p.107)

The twelve themes and eight different campus typologies give more insight in the possibilities of what a campus could look like and what the demand and supply drivers are. The Landelijke Eenheid can learn from the campus typologies to see what themes or which campus models (solid, liquid & gas) could be used for the police campus. By selecting important themes and referring to specific typologies, a suitable configuration can be recommended in the synthesis of this research.

#### 4.3 Operationalization of different campuses

To answer the sub question it is necessary to have a look at the operationalization of campuses. There are several scientific publications that explain how elements that can be operationalized. Firstly, the research from Curvelo Magdaniel (2016) shows a campus decision maker toolbox which has tools for decision makers to help them operationalizing campus elements. The second research from Ng, Appel-Meulenbroek, Cloodt and Arentze (2017) explains how physical and non-physical aspects in science parks can be operationalized. Lastly, there are key characteristics for an operational campus described by Curvelo Magdaniel (2016). The campus decision maker toolbox and the operationalized aspects from Ng et al. (2016) are useful for the operationalization of the police campus to give an elaborated answers how the Landelijke Eenheid should proceed in their process towards their new campus real estate.

##### 4.3.1 The campus decision maker toolbox

Curvelo Magdaniel (2016) developed a model to understand and manage the relationship between the built environment and innovation at the urban area level. Curvelo Magdaniel (2016) describes that her model makes use of the built environment as a catalyst for innovation in technology campuses. The 'campus decision maker Toolbox' lays out different instruments that guide designers, planners and managers of campuses and cities during the phases of campus development. These tools can play an important role of designing and managing the campus but operationalizing this specific toolbox with specific assessment criteria is still an unexplored area. The campus decision maker toolbox is seen as an instrument in the Activity Theory.

The campus decision maker toolbox is a mean to provide more insight towards stakeholders in making their decisions in the development process of different types of technology campuses. Those insights create a more optimal package of information to decision makers that are focused on creating campuses. The toolbox helps because most of the time, stakeholders are limited to the designated information, the amount of time and other workloads that they have. By making use of this toolbox, the knowledge about campuses and its management is gathered and converted into useful information for campus decision makers in planning, designing, and managing the built environment.

The so-called campus decision-maker toolbox is a collection of data organized into three tasks for different decision makers at different stages of the campus development process's accommodation cycle. Those three tasks are the planning task, the management task and the design task. As a result, this tool describes campus categories and exemplars of campus interventions that enable practitioners construct repertoires that they may apply to specific situations. These collections of exceptional decisions made by distinct experts are called repertoires. For example, the empirical knowledge gleaned from the instances appears to be beneficial to campus and city planners, designers, and managers. As a result, the data in this toolbox is presented in a way that is valuable to various campus decision-makers and their approaches to situations. Overall, the value of this toolkit is determined by the connections between context, outcome, and actions that define the road to achieving organizational goals (such as promoting creativity) through the built environment.

Curvelo Magdaniel (2016) proposes three tools for specific professionals in the practice of developing technology campuses (planners, designers and managers). For this research, the aim is on the tools which are needed for managers. However, is it helpful to explain the toolbox as a whole to show the integral concept. Similarly, a tool with precise information is provided to complete each of these tasks, with the goal of strengthening the link between the built environment and innovation through specific campus decisions such as campus vision, campus brief and campus strategy.

The first tool offers information that will be valuable to campus and city planners working on technology campuses. As recommended in this study, their main responsibility, which is planning tasks, is to imagine the ideal campus while considering the city's location alternatives. This activity is critical at the first stages



of the campus accommodation cycle, when ideas and development goals are being formulated. Indeed, the planner's know-how system is concerned with defining goals and picturing a desirable future, as well as recognizing various action plans and their repercussions (Curvelo Magdaniel, 2016). This tool is not of big importance because the location is already determined. However, it is smart to investigate in what way the campus will be connected to the city, its location characteristics and the city's connectivity

The second tool offers information that will be valuable to campus and urban designers working on technology campuses. As presented in this study, their main task, which is to design, is to explore accommodation alternatives based on end-user functional demands. This task is critical throughout the planning stage of the campus accommodation cycle, when concepts are transformed into physical forms. The designer's know-how system is iterative, involving the exploration, creation, and testing of new models of a situation based on previous experiences. As a result, this tool offers a library of experiences that designers may utilize to reinterpret comparable scenarios (Curvelo Magdaniel, 2016). This tool is useful for the Landelijk Eenheid because the design of the police campus has not been determined yet and this tool offers three aspects on how to design accommodation alternatives on the functional demands of the end-users.

Curvelo Magdaniel (2016) gives an example in her research about the physical campus. A mixed-use campus that supports diverse types of interactions by providing facilities that accommodate working and non-working activities appears to be a physical campus that stimulates innovation. Experiences from two types of technology campuses propose three design interventions that could help these activities. The first one is permitting encounter and meeting via flexible facilities. The second one is formal and functional transformation via flexible facilities and the third one is the physical connectors for access to functions. As a result, in the two technology campuses that Curvelo Magdaniel (2016) evaluated, these three treatments have shown to support the accommodation of working and non-working activities.

Curvelo Magdaniel's (2016) study demonstrates about different interventions to facilitate activities in technology campuses. The first aspects that she points out are the shared facilities. End-user activities (working and/or non-working) can be accommodated in shared facilities, allowing for the concentration of many different persons in one location. This enhances the odds of meeting and encountering people who are willing to offer their information and ideas. Shared facilities do, in fact, boost the prospects of intellectual and social interaction among various groups of individuals. However, not all campus activities necessitate the same level or type of interaction, therefore Curvelo Magdaniel's (2016) study does not recommend that every facility on campus should be developed as a shared one. Instead, this study presents a range of workplaces and amenities that might be considered as alternatives for developing shared facilities on technology campuses. This might differ from the location that the campus is located at. In table 4, Curvelo Magdaniel (2016) points out which alternative shared facilities with considerations per campus model could be. In this table, the campus as a city and the campus in a city show which the repertoire of spaces supporting end-users' activities related to innovation as a process.

CAMPUS MODELS		Campus as the city Tech-park		Campus in the city Tech-district			
SHARED FACILITIES		Location setting		Peripheral		Inner-city	
Repertoire of spaces supporting end-users' activities related to innovation as a process							
<b>WORK SPACE FOR MULTIPLE USERS</b> (e.g. Office and laboratory facilities for researchers)      	Open office for start-ups (1-3 people company)	<ul style="list-style-type: none"> <li>• Exclusive for internal campus users (magnet for tenants)</li> <li>• Possibility to work in collaboration with regional authorities to develop &amp; manage facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Open to external users besides campus users</li> <li>• Possibility to work in collaboration with municipalities and urban partners to develop &amp; manage facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Open office for start-ups (1-3 people company)</li> <li>• Flex &amp; ready to use multidisciplinary lab space</li> <li>• Flex Meeting-conference rooms</li> <li>• Flex Team rooms</li> <li>• Work lounges – coffee corners</li> <li>• Brainstorm rooms</li> <li>• Libraries – Study rooms</li> <li>• Break areas - Game rooms</li> <li>• Print / Copy areas</li> <li>• Waiting areas</li> </ul>	<ul style="list-style-type: none"> <li>• Open to external users besides campus users</li> <li>• Possibility to work in collaboration with municipalities and urban partners to develop &amp; manage facilities</li> </ul>		
	Restaurants, Cafés, Bars, student clubs					<ul style="list-style-type: none"> <li>• Central mixed-use facility with easy access by foot within campus area</li> <li>• Open to external users at regional and city levels</li> <li>• Use of green and open areas in public space -Possibility to work in collaboration with regional authorities to develop &amp; manage facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple mixed-use facilities spread in nodes across the campus network of buildings</li> <li>• Open to external users at city and neighborhood levels</li> <li>• Use of public space along campus urban axes</li> <li>• Possibility to work in collaboration with municipalities to develop &amp; manage facilities</li> </ul>
	Food- drink terraces at street level						
	Shops (book stores, services, supermarkets, banks, etc.)						
	Auditoriums – large halls for networking events						
	Mobile Food tracks						
	Fitness and sport courts						
	Open space for temporary events (squares for exhibitions, outdoor cinema, sports competitions)						
	Periodical markets (food, flea market, books, music, etc.)						

Table 4: Alternative shared facilities with considerations per campus model. (Curvelo Magdaniel, 2017, p.340)

The second aspect that is shown in the study of Curvelo Magdaniel (2016) is flexible facilities. Formal and functional flexibility are required to accommodate the various sorts of activities of campus users in a single facility. It is true that creating flexible facilities expands the options for adapting their shape and function to the diverse and evolving accommodation needs of campus end-users. Developing flexible facilities enhances the odds of having several users in one location, and hence the opportunities for them to meet and engage. Flexibility can be a route for designers to communicate with materials that stimulate innovation in this setting and is useful for the police campus. In table 5, Curvelo Magdaniel (2016) shows the alternative flexible facilities with considerations per campus model.





CAMPUS MODELS		Campus as the city Tech-park	Campus in the city Tech-district
FLEXIBLE FACILITIES		Location setting Peripheral	Inner-city
Repertoire of design concepts enabling change			
 <p><b>Functional buildings</b></p>	<p>Modular structure with standardized dimensions (e.g. framed system with light and non-structural partitions)</p> <p>Central and double-loaded corridors layout for efficient circulation</p> <p>Ample space in interior layout – high ceilings</p> <p>Unpretentious language – easy to tailor according to needs</p>	<ul style="list-style-type: none"> <li>Free setting for designers due to autonomy from immediate context.</li> </ul>	<ul style="list-style-type: none"> <li>Controlled setting for designers due to the relevance of immediate built environment in urban context</li> </ul>
 <p><b>Horizontal buildings</b></p>	<p>Large footprint for building density rather than tall buildings. For instance, four to six storey buildings for keeping the visual contact with ground floor and street life</p> <p>Long and continuous hallways interconnecting stances</p> <p>Linear and straight shaped building forming bounding spaces (e.g. Courtyards and patios) for natural light and ventilation.</p>	<ul style="list-style-type: none"> <li>Autonomy in land occupation due to loose regulations and low land prices in peripheral location</li> <li>Footprint becomes an environmental issue</li> </ul>	<ul style="list-style-type: none"> <li>Restriction in land occupation due to tight regulations and high land prices in urban location. Attention should be pay to mechanisms to cope with interaction in tall buildings. For instance, street life and events allowing people to move vertically.</li> </ul>

Table 5: Alternative flexible facilities with considerations per campus model. (Curvelo Magdaniel, 2016, p.347)

The third aspect are physical connectors. Multiple facilities are frequently required to accommodate the various types of activities that campus users engage in. Curvelo Magdaniel (2016) agrees that the physical campus of a classic technological campus is shaped by a cluster of facilities, each with its own architectural form and arrangement at different places. These facilities are elements of a larger campus, but they only function as a whole because of the space between them that defines connections. In some situations, these places are just the byproducts of reckless campus planning and poor urban architecture. However, her study has gathered empirical evidence that demonstrates the importance of physical infrastructure in connecting the many activities that are accommodated in several campus facilities as well as throughout the innovation region as defined in her study.

As a result, this infrastructure is critical because physical links allow campus users to access certain functions quickly and easily. Hence, they increase the likelihood of varied people encountering and perhaps interacting because of frequent and unplanned encounters. This occurs because physical connectors allow people to move within a facility, across facilities, and across and beyond campus. In this regard, her study defines two physical infrastructure systems that connect functions and primarily promote walkability. These are mentioned as pedestrian-oriented systems and transit-oriented systems, which differ in configuration and distribution between tech-parks and Tech-districts (Curvelo Magdaniel, 2016).

The pedestrian-oriented system could focus on the outdoor pathway system as direct routes that connect functions that are distributed across the campus. This works for inside and outside of buildings. This system focusses on open spaces and how to connect places for leisure or green areas. Another system is the indoor hallway systems which directs routes internally and it function related in different levels. However, this is more on building level than on campus level, but this system could be useful for the designers of the police campus.

The transit-oriented system focusses more on the campus in the peripheral or the inner city. Think about the bike pathways systems, public transportation systems or dedicated shuttle services that are targeted to the campus users. For the police campus, this scale is too big. However, elements like the bike pathways might become exclusive infrastructure for the internal campus users.

The third tool offers information that will be valuable to real estate developers working on technology campuses. As indicated in this study, their key role, which is the managing tasks, is to assess and change

campus selections in response to increasing need for innovation throughout time. This task is critical throughout the use stage of the campus accommodation cycle, when ideas have been realized and the campus' development goals need to be sustained and/or altered in line with organizations' strategic directions and the changing environment in which they operate. This tool gives information that adds to the collection of organizational knowledge that campus managers can draw on while leading campuses toward innovation. Curvelo Magdaniel's (2016) study found that encouraging innovation is a common organizational goal among technology universities, research institutes, research enterprises, and municipal/regional governments involved in the establishment of technology campuses.

In paragraph 4.1.2. the added values are mentioned. This third tool focusses on the added values and the three aspects that come along with the added values. The three aspects will be briefly explained again. The first aspect is to stimulate innovation in versatile real estate strategy. Many organizations are driven by technology but give priority to a different variety of values and culture influenced in the area in which they operate. As a result, to stay competitive, each company adapts its strategy to its core business and mission. However, in the knowledge economy, the production and use of new information to advance technology is a primary driving factor for these organisations. The second aspect is to stimulate innovation as an interdependent real estate strategy. The combined effect of interdependent strategies is how the impact of real estate on organizational performance is considered in theory. The findings of Curvelo Magdaniel's (2016) study show that in technology-driven organisations, innovation is linked to user satisfaction and image as important factors of organizational performance. Certainly, these organisations must be able to attract and retain high-skilled individuals and/or groups to carry out the process of the creation of knowledge and the application to advancing technology. The third aspect is to stimulate innovation as intermediary strategic level to guide real estate operational decisions and interventions. The focus on the campus strategy and how to make campus decisions is easier when you understand the combined effect of innovation, the satisfaction of the user and the image on organizational success.

This third tool identifies location and amenity provision per campus model as critical real estate decisions that encourage innovation. Similarly, this tool presents several potential interventions, at the area and object levels, for modifying the built environment of technology campuses, which can be viewed as options for putting these real estate decisions into action. Figure 26 shows the paths to link organizational performance and real estate through four hierarchical levels. The competitive advantage is shown at the top as organizational strategy. If we go down the hierarchical levels, the real estate strategy is found. Then we have the real estate decisions which are relevant choices to support strategic goals linked to innovation and at the bottom there is the real estate interventions to transform the built environment.

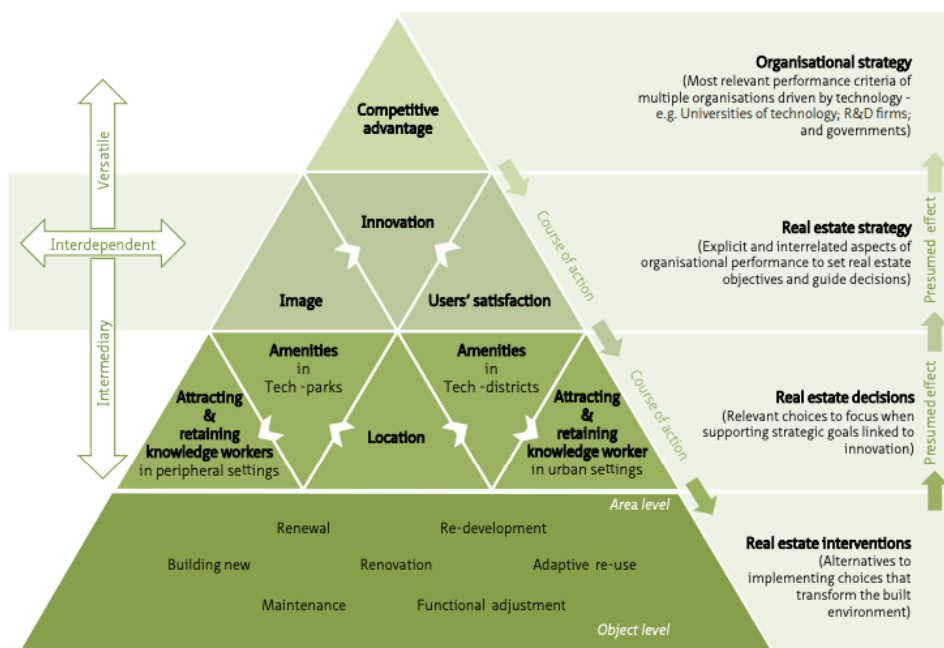


Figure 26: paths to link organizational performance and real estate through four hierarchical levels. (Curvelo Magdaniel, 2016, p.351)

The campus maker decision toolbox provides information for decision-makers at various stages of campus development. These insights are presented in the form of three different tools that provide useful information to for example technology campus planners, designers, managers or municipalities. The operationalized tool 2 with the 3 aspects of shared facilities, flexible spaces and the physical connectors are particularly useful, because of the explicit way of how to implement them in a campus and how to operationalize them. The third tool points out the importance of the added value but it is more based on organizational goals and how to get to an organizational strategy rather than specific operationalized tools. Nevertheless, it gives emphasis to added value that a campus strategy can bring.

#### 4.3.2. Science Parks

Ng, Appel-Meulenbroek, Cloudt and Arentze (2017) have done research on Science Parks in Europe and distinguished physical and non-physical aspects and how to operationalize them by making use of literature. The operationalized characteristics from science parks are a good approach towards the operationalization of the police campus. However, to do more research about a police campus, it is necessary to check what specific physical or non-physical elements the police campus has and how this eventually will be operationalized. In table 2 and 3, the physical and non-physical characteristics from science parks are operationalized. Those variables can be selected if the police campus incorporates the same variables. Variables such as, gross floor area, working facilities and ownership are easy to operationalize, but the changing organization and the high ambitions of the police asks for a proper research in what variables needs to be operationalized.

##### Non-physical characteristics

Science parks have been established for decades. Link and Link (2003) show that the age of the establishment of science parks has always been an indicator for comparison. However, it has always been managed differently throughout time. So, age could be seen in the creation of the establishment and its previously ongoing management and the impact of it. Also, science park objectives could be divided into three categories, namely economic development, local benefits and technology transfer. Science parks may develop functions such as, knowledge creation or respond to technologic incubators. Capello and Morrison (2009) and Van Winden and Carvalho (2015) show that it is also important how the network inside and outside the park is promoted. This will create a better community within the science park. Further physical characteristics which play a role are shown in table 6.

##### Physical characteristics

Science parks' facilities and services are a big component of what they have to offer. Meeting rooms, cleaning and security, and business plan support are examples of "low tech" facilities, whereas laboratories, display and piloting space, showrooms, and clean rooms are examples of "high tech" facilities (Van Winden and Carvalho, 2015). Other recreational and support facilities, such as sports places and restaurants, are also available at some science parks (EIB, 2010). According to Saublens (2007), low-tech facilities should also incorporate support services for example, administrative, managerial and technological support. Dettwiler, Lindelöf and Löfsten (2006); Van De Klundert and Van Winden (2008) show how facilities and services can be designed for shared usage to reduce costs for tenants while also contributing to knowledge transfer through interaction in the science parks. The paper of Ng et al. (2017) also shows that it is recommended to have at least one incubator or a research center in the science park itself. This could be a technological incubator or a technology-oriented company. Further physical characteristics which play a role are shown in table 7.

Variable	Measurement level	Values	Source
Age	Continuous	Years	Link and Link (2003)
Ownership	Categorical	- University - Public - Private - University-public - Triple helix - University-private - Public-private	Siegel et al (2003); Alhabari et al (2013); Dabrowska (2016)
Technology sector groups covered	Dichotomous	Presence group	WAINOVA (2009); Sanz and Monasterio (2012)
SP objectives	Constant sum among 6 variables [100]	- Creation and growth of new firms - Industrial rejuvenation - Knowledge creation - Local benefits - Regional development - Technology and knowledge transfer	Löfsten and Lindelöf (2005); Saublen (2007); Cappello and Morrison (2009); Link and Scott, (2015)
Management function	Categorical	- Single on-site manager - Informal teams - No management function	Westhead and Batstone (1999); Siegel et al (2003); IASP (2017)
Networking on-site	Categorical	- ... is actively promoted by site management - ... is not one of the core priority of site management, but is supported - ... is not explicitly promoted and supported by site management, residents network on own initiative	Capello and Morrison (2009); Van Winden and Carvalho (2015); IASP (2017)
Number of resident organisations	Categorical	- Between 50 and 100 - Between 100 and 200 - Between 200 and 400 - Between 400 and 600 - Between 600 and 1000	Link and Link (2003)
Different organisations	Dichotomous	Presence type - Focus on R&D	Hansson et al (2005)
Tenant selection criteria	Categorical	- Technological orientation - Commitment with academics - Quality of past research - Attract funding for research - No criteria	Link and Link (2003)






Table 6: Operationalization of non-physical Science Park characteristics (Ng, Appel-Meulenbroek, Clodt & Arentze, 2017, p.162)

Variable	Measurement level	Values	Source
Urban context	Categorical	city as the park city contains the park city overlaps with the park city touches the park city is disjointed from park	Curvelo Magdaniel (2016)
Number of buildings	Dichotomous	Single /multiple building	Zhang (2002)
Gross floor area	Continuous	m <sup>2</sup>	
Surface site area			
Laboratories Incubators Pilot rooms Clean rooms	Continuous	m <sup>2</sup>	Appold (2004); Van Winden and Carvalho (2015); Lamperti et al (2017)
Shared usage of R&D facilities	Dichotomous	Presence facility	Dettwiler et al (2006)
Working facilities Leisure facilities Other facilities Services	Dichotomous	Presence amenity	WAINOVA (2009); Sanz and Monasterio (2012)

Table 7: Operationalization of physical Science Parks characteristics (Ng, Appel-Meulenbroek, Clodt & Arentze, 2017, p.162)

#### 4.4 Operationalization table

To collect all the operationalization values, a table is made with characteristics and how to operationalize them. The table will be used for the combined assessment framework for the Landelijke Eenheid and will serve as an overview of relevant values. In this way, the Landelijke Eenheid can learn from campus operationalization literature how the new police campus possibly could be operationalized in Driebergen. In this way the tools and characteristics of Curvelo Magdaniel (2016) and Ng et al. (2017) clarify operationalization values. This is shown in table 8.

Curvelo Magdaniel (2016)		Campus as the city Tech-park	Campus in the city Tech-district	Operationalization values (Ng et al. 2017)	
Location Characteristics (city and peripheral scale)	Setting	Peripheral 	 Inner-city 	City as the campus City contains the campus City overlaps with the campus City touches the campus City is disjoint	
	Types of campus-city relation	Disjoint      Touches	Contains      Overlaps		
	Geographical scale	Region			City
Shared facilities	Repertoire of workspaces and amenities supporting end-users' activities and processes			Presence facility and/or m2	
	Amount	Single (for mixed-use facilities)	Multiple (for mixed-use facilities)		
	Use	Mostly exclusive	Non-Exclusive (for mixed-use facilities)		
	Distribution	Central / easy access within campus area	Spread / Along campus urban axis		
Work space for multiple users (e.g. office and labora- tory facilities for researchers)	Repertoire of spaces supporting end-users' activities related to innovation as a process			Presence facility and/or m2	
	Open office for start-up	- Exclusive for internal campus users (magnet for tenants) - Possibility to work in collaboration with regional authorities to develop & manage facilities	- Open to external users besides campus users - Possibility to work in collaboration with municipalities and urban partners to develop & manage facilities		
	Flex & ready to use multidisciplinary lab space				
	Flex Meeting-conference rooms				
	Flex-team rooms				
	Work/coffee-lounge				
	Brainstorm rooms				
	libraries/study rooms				
	Break area				
	Print/copy area				
Waiting area					
Amenities for multiple users (e.g. Mixed-use facilities, special facilities and open spaces for retail and leisure)	Restaurant, cafes, bars	- Central mixed-use facility with easy access by foot within campus area - open to external users at regional and city levels - use of green and open areas in public space. Possibility to work in collaboration with regional authorities to develop & manage facilities	- Multiple mixed-use facilities spread in nodes across the campus network of buildings - open to external users at city and neighborhood levels - use of public space along campus urban axes - Possibility to work in collaboration with municipalities to develop & manage facilities	Presence amenity and/or m2	
	Food- drink terraces (at street level)				
	Shops				
	Auditorium - large halls for networking events				
	Mobile food trucks				
	Fitness and sport courts				
Open space for temporary events (square for exhibitions or sports competitions)					
Flexible facilities	Repertoire of design languages/concepts enabling change in the accommodation of end-users' activities			Single/multiple buildings	
	Shape & Structure	Allowed by regulations in peripheral land (loose building)	Allowed by regulations in urban land (tight building density)		
Functional Buildings	Repertoire of design concepts enabling change			Single/multiple buildings	
		Modular structure with standardized dimensions (e.g. framed system with light and non-structural partitions)	- Free setting for designers due to autonomy from immediate context		- Controlled setting for designers due to the relevance of immediate built environment in urban context
		Central and double-loaded corridors layout for efficient circulation			
		Ample space in interior layout - high ceilings			
		Unpretentious language - easy to tailor according to needs			
Horizontal Buildings		Large footprint for building density rather than tall buildings. For instance, 4 to 6 storey building for visual contact with the ground floor	- Autonomy in land occupation due to loose regulations and low land prices in peripheral location - Footprint becomes an environmental issue	- Restriction in land occupation due to tight regulations and high land prices in urban location. Attention should be pay to mechanisms to cope with interaction in tall buildings. For instance, street life and events allowing people to move vertically.	
		Long and continuous hallways interconnecting stances			
		Linear and straight shaped building forming bounding spaces (e.g. courtyards and patios) for natural light and ventilation			

Physical connectors	Repertoire of physical infrastructure connecting functions (activities and end-users)			Surface site area in m2 (surface pedestrian or transit system)	
	Configuration	Centralised network (connecting campus parts to specific central nodes)	Distributed network (connecting multiple nodes distributed in campus & city)		
Distribution	Campus fabric (internal logic)	Campus-City fabric (internal/external logic)			
Pedestrian-Oriented systems	Outdoor pathway system	- A sounded balance between outdoor and indoor pathways system is required due to the suggested amount and distribution of functions in shared facilities (specific-central). Thus, the quality of the landscape design is essential to invite the use of public space (wide pedestrian paths with good quality of pavements and urban furniture, trees, and sufficient traffic signs).	The balance between outdoor and indoor pathway systems must respond to the logic of connecting functions distributed across the campus and the city. Attention should be paid to the quality of the outdoor-pathways that the campus shares with the city, as well as the open spaces crossing access points of indoor-pathways. Both pathway systems become an open infrastructure for citizens and campus users due to the integrated fabric between the campus and the city. For instance, the quality of the street life along campus-city axes (commerce in the ground floors of the buildings and etc.) might invite the use of public space. Attention should be paid to geographic features (roads with traffic, water, mountains, forests).		
	Indoor hallway systems	Both pathway systems become an exclusive infrastructure for internal campus users due to internal isolated logic of campus. For instance, gates and controlled entrances can be a barrier for external users of public space			
Transit-Oriented systems	Bike pathways system and bike sharing schemes	This system might become an exclusive infrastructure for internal campus users due to internal isolated logic of this campus model. For instance, gates and controlled entrances can be a barrier for external users of the bike system. Attention should be paid to the connection between internal and external bike pathways infrastructures, and the partnering of private bike-sharing scheme with public transportation.	There are plenty opportunities to integrate the campus pathways with urban system of bike pathways. Also, the location is an advantage for bike-sharing schemes provided in partnership with public transportation,		
	Carpooling system	Due to the availability of land in peripheral locations, this system can be supported by non-exclusive parking garages within campus buildings (shared facility for multiple users)	Due to scarcity of parking space in urban areas, this system can be supported Park + Ride for commuting with public transport between the campus and other locations in the city-region.		
Physical & non-physical characteristics by Ng et al. (2017)					Operationalization values (Ng et al. 2017)
Physical characteristics	Gross floor area Surface site area				m2
Non-physical characteristics	Ownership				- University - Public - Private - University-public - Triple helix - University-private - Public-private
	Management function			- On-site management company - Single on-site manager - Informal teams - No management function	
	Networking on-site			- ... is actively promoted by site management - ... is not one of the core priority of site management, but is supported - ... is not explicitly promoted and supported by site management, residents network on own initiative	

Table 8: Campus characteristics with the values to operationalize (own table)



#### 4.5 Conclusion first sub question

From the literature, an answer can be given to the first sub-question:

*How can a campus accommodate the needs of an organization and how can a campus be operationalized?*

A campus or science park is a commonly used term in the Netherlands and abroad for business parks where technology-driven activities become spatially facilitated. From the practice side, Buck Consultants International (2018) campuses are described as hubs where business, innovators, researchers and academics come together to form a hub. From the academic side, Den Heijer (2011) defines the “campus” as the (collection of) buildings and land, used for university or university related functions. A campus could be seen as an overarching term that covers multiple typologies such as the greenfield inside the campus, as part of the city and integrated with the city. When combining the practice and academic side the campus has the following definition: a campus includes all building that are used by a university, an institution or a company and often refers to its territory and it is not only a place for innovation or possibilities for (public or private, internal or external) collaborations, but also its distinctive capability to respond to physical or non-physical priorities which are feasible in different typologies with their own characteristics.

To help accommodating the needs of an organization, the campus framework of den Heijer (2011) is explained. This campus framework focusses on four perspectives: the organizational, functional, physical and financial. By combining the core elements of Buck & Draisma (2013) focused on the strategic and organizational goals (the practice side) and the added values of den Heijer (2011), thirteen added values are mentioned:

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| 1) Supporting image             | 8) More turnover                     |
| 2) Supporting culture           | 9) Optimizing costs                  |
| 3) Knowledge exchange           | 10) Reducing risks                   |
| 4) Increase quality of space    | 11) Reducing CO2 footprint           |
| 5) Adoption of new technologies | 12) Optimizing m2 footprint          |
| 6) Supporting use activities    | 13) Faster valorization of knowledge |
| 7) Increasing flexibility       |                                      |

Each goal of an organization can be aligned and therefore create added value to the organization with the focus on the practice and academic field. Also, by combining the function groups of den Heijer (2016) and the core elements of Buck Consultants International (2018) seven campus elements are present:

- 1) Physical high quality business opportunities and research facilities (Buck Consultants International, 2018)
- 2) Research and development/innovative activities (Buck Consultants International, 2018)
- 3) A manifest knowledge carrier (Buck Consultants International, 2018)
- 4) Active open innovation (Buck Consultants International, 2018)
- 5) Residential (den Heijer, 2016)
- 6) Retail & Leisure (den Heijer, 2016)
- 7) Infrastructure (den Heijer, 2016)

Considering the campus elements and the added values, the overall organizational performance increases when organizational goals are being fulfilled and the added values contribute to the organizational objectives. The campus strategy of den Heijer (2011) is in this way a possible solution to accommodate and align the needs and goals of an organization. Some of the added values that come along with a campus strategy are decrease in costs, support user activities, increase user satisfaction, supporting image and culture, stimulating innovation and reducing the footprint.

The literature has pointed out that there are different campus typologies regarding the needs of an organization. The campus and the real estate on campus can facilitate certain tasks for an organization and the vision that the organization strives for. Every organization has goals and visions and the campus is a mean to reach the desired outcomes. By investigating what typology suits what kind of organization (regarding demand and supply side) and what purpose, eight campus typologies and twelve campus themes

are mentioned by Curvelo Magdaniel, Den Heijer & Arkesteijn (2019). This shows the possibility to incorporate themes or typologies which could be incorporated in the campus and therefore accommodate certain needs, on the demand or supply side of an organization. The right state-of-matter of the campus is for that reason helpful. The three different states-of-matter show how a campus can be managed, used, and evolve in the future.

An answer on how to operationalize a campus is shown by Curvelo Magdaniel (2016) and Ng et al. (2017). Curvelo Magdaniel (2016) uses schematic operationalization tools and she mentions flexible spaces, shared facilities and the physical connectors. The flexible spaces come along with the operationalized forms that exist, such as modular constructions or long hallways. The shared facilities come along with visual schematic operationalization options, and she makes clear what spaces come along with, for example canteens or workspaces. Then she shows where each space should be operationalized. The research of Ng et al. (2017) gives examples of physical and non-physical characteristics that could be operationalized. This could later on play a role to check which criteria of the campus assessment framework are operationalizable and which ones are not. Lastly, table 8 gives an overview which is used to show all the combined operationalized values.

## 5. Empirical research towards defining a police campus

This chapter will start with the information from the workshop given by Arkesteijn, den Heijer and van Staveren (2021). Then, the major areas of expected impact will be investigated and the contradictions that were found in the workshop and in the interviews will be mentioned to continue with in this research. By using the Activity Theory, a holistic method of discovery is used to support interpretative research. Furthermore, the new campus assessment framework will be made for the Landelijke Eenheid. In that way the first sub question can be answered.

What are the major areas of (expected) impact of the Landelijke Eenheid regarding real estate?

### 5.1 What is a police campus according to the Landelijke Eenheid?

To make the Landelijke Eenheid more familiar with campuses, two workshops were held by Arkesteijn, den Heijer & van Staveren (2021) to investigate the opinion from employees within the Landelijke Eenheid and the representatives of the other involved departments (i.e. politiedienstencentrum, real estate developers). Two different workshops were held in order show what a campus entails, what kind of campuses exists and what works well for the police campus.

The first workshop introduced the ‘‘campus concept’’ in general. This means that the participants were submerged with campus information. Arkesteijn, den Heijer & van Staveren (2021a) asked the participants to give rankings to specific questions to deeper the understanding of what the participants want to be implemented in the police campus. Also, the negative and positive associations and campus characteristics were discussed. The different campus typologies bring specific characteristics. The participants were asked about their opinion and their associations and the results were discussed within the workshop. During the first workshop the focus remains on the development of the main location of the Landelijke Eenheid in Driebergen, but the driver is the collaboration between the TU Delft and the national police. Ultimately, the purpose of this workshop is to facilitate the primary process of the development.

The second workshop that was held by Arkesteijn, den Heijer & van Staveren (2021b), was mainly about the translation of campus ambitions into campus considerations. The ambition document of the Landelijke Eenheid with its eight main themes were used as a guide to start the workshop and discussion about what kind of typology could be applicable or serve as a reference for the police campus.

To keep in mind, the statements and questions that were asked in this workshop, had the intentions to generate discussion about the translation of visions and ambitions into different campus considerations. It is important to note that the outcomes of this workshop cannot be seen as generalized opinions or outcomes of the Landelijke Eenheid when it comes to the development of a police campus (Centrumlocatie Driebergen). However, it does give a general overview because many representatives attended the workshops. For this research, the data from the workshop has been collected to get more understanding of what the participants think about a police campus. By making use of this data, possible contradictions will be found.

#### 5.1.1 Workshop 1

In the first workshop the participants were asked to give their opinion about the different campus typologies and how they would rate them on a scale from 1 to 4 for the implementation of the police campus. The results are shown in table 9.

































Campus typologies + scores	Demand drivers	Strategic themes	Campus models
<b>Co-campus</b> 			
<b>Wow-campus</b> 			
<b>Eco-campus</b> 			
<b>Open-campus</b> 			
<b>Urban-campus</b> 			
<b>Home-campus</b> 			
<b>Smart-campus</b> 			
<b>Zen-campus</b> 			

Table 9: Scores for campus typologies with demand drivers, strategic themes and campus models (own table).

The conclusion can be made that the preferences from the participants of the workshop are the co-campus, the home-campus and the smart-campus. Those are ranked as the three highest in the workshop. To get more understanding of what themes those three campuses incorporate and what their drivers are, the literature part about campus themes, campus typologies and table 9 will outline that. To continue with the preferences of the participants, a deeper understanding of the three highest ranked campuses need to be explained.

The co-campus focuses on theme 11 (clustering in one place for regional consolidation in the knowledge-based economy) and 4 (investing in state-of-the-art laboratories), the demand drivers are competitiveness, identity and the supply driver is distinctiveness with the campus model being solid or liquid.

The home-campus focuses on the themes 1 (rethinking the academic workplace), theme 2 (creating a flexible learning environment with more study places), theme 5 (enriching the campus with non-academic functions), theme 7 (extending its opening hours) and theme 12 (rethinking the campus as a safe and healthy place to be). The demand drivers are the new ways of learning and the increase of productivity and on the supply side, the home-campus focuses on the quality of place. The campus model is mostly found in the liquid and gas state.

The smart-campus focuses on theme 1 (rethinking the academic workplace), theme 2 (creating flexible learning environments with more study places) and theme 9 (implementing smart tools). The demand drivers are the new ways of learning and the increase of productivity and on the supply side, the home-campus focuses on the quality of place. The campus model is mostly found in the liquid and gas state.

## Conclusion workshop 1

The participants tend to prefer themes 1,2,4,5,7,9,11 and 12. This comes along with the demand drivers of competitiveness, identity, the new ways of learning and productivity while the supply side show distinctiveness and quality of place. The campus model is preferably found in all three states-of-matter of 'solid', 'liquid' and 'gas'. This conclusion helps with defining what a police campus might require. In workshop 2, the preferences and importance of the themes from the Landelijke Eenheid are shown. This will be combined with the elements in this conclusion.

### 5.1.2 Workshop 2: from ambitions towards considerations

In 2020 the Landelijke Eenheid published an ambition document in which eight different themes are shown. Those themes are: Toegankelijkheid (accessibility), Aantrekkingkracht (attractiveness), Duurzaamheid (sustainability), Samenwerken (collaborate), Innovatie (innovation), Flexibiliteit (flexibility), Taakgericht (task-oriented) and Gezondheid & Comfort (health & comfort). The workshop starts with the question if all the participants agree on the question if all themes are evenly important. The result shows that the majority does not agree. This result implies that every department has his own possible preferences regarding those abovementioned themes and the impact on developing a police campus.

During the workshop of Arkesteijn, den Heijer & van Staveren (2021b), the participants were asked to prioritize the themes according to which theme has the most importance. In figure 27, the result is shown.

Collaboration is seen as one of the most important themes within the police for the next years, because they are one large organization in which different departments are increasingly working in multidisciplinary environments. This is both for internal and external parties and the collaboration is not self-evident yet. Because the police responsibilities are sometimes quite varied, flexibility is cited as a key theme. Departments must be prepared to deal with this, and it is something that departments must be able to anticipate to.



Figure 27: results from workshop (Arkesteijn, den Heijer & van Staveren (2021b))

This question is included in the workshop at the moment when considerations are made, some themes are more important than others. Arkesteijn, den Heijer & van Staveren (2021b) conclude there is no hierarchy in the objectives whereby some are of equal importance.

To get more understanding of what the participants of the workshop think about the eight themes, an explanation is given to describe each theme for the Landelijke Eenheid. This will be useful when implementing the eight different themes.

### Attractiveness

The theme attractiveness is mentioned as an important theme in the ambition document of the Landelijke Eenheid, but how do they want to achieve this in a police campus?

The majority of the participants would like to walk for 5 to 10 minutes to get a nice cup of coffee or tea. The movement could stimulate some extra movement during working hours, which is better for their health, and it stimulates more interaction with other colleagues. This could result in more creativity on the work floor. However, some participants do not agree because they are restricted to their work environment and cannot suddenly walk away from there. A campus can offer places where people can meet and interact with each other. Attractiveness could also be achieved by placing sport functions at a central place on campus. Some participants see sports as purely functional, but others agree that it also stimulates interaction and connection. The central sport location will most likely create a place where different departments will meet. Nowadays this happens less because within the buildings itself there is not much place for interaction between the different departments. The attractiveness is not attached to the emotional value of the buildings. It is rather created by modern buildings that fit the modern and organizational requirements.

The identity of the police must play an important role in the new police campus. A part of the campus is that there is a sense of identity, for example by placing a visible common logo, attributes that show what the police stands for or achieves so that employees can be proud of their work environment. This does not only count for the real estate itself, but also for the land around the campus. The campus needs to attract new (young) talent for the national police force as well as for the Landelijke Eenheid. This touches the themes as mobility, recognizability and health & comfort as well (Arkesteijn, den Heijer & van Staveren, 2021b).

### Collaboration

Collaboration is essential for the police. Most of the collaboration, according to the participants, still takes place within their own building, among colleagues in their own department. It is preferable to collaborate with other departments, chain partners and third parties outside in their own building. However, it is reported that the initial meetings are held on the premises of the chain partner to strengthen the relationship. This does not apply to all activities; some activities can only be carried out within their own structure (think about laboratories or departments that are highly specialized). Discussion wise, the topic of where the crossovers between the different zones are located is already being debated. The difference between collaborating with 'your own department' and 'with other chain partners' highly fluctuates between own building and outside own building (Arkesteijn, den Heijer & van Staveren, 2021b).

In addition to the interdepartmental collaboration which will be stimulated on the police campus, there also needs to be collaboration with chain partners, and even third parties. Depending on the intensity of the collaboration within the Landelijke Eenheid of together with the chain partners, they have a workplace on campus. The participants show that multidisciplinary teams are expected to work more in the 'liquid' zones and that zone will grow in the future. Third parties might give the new police campus an extra 'buzz' and new possibilities for inspiration and innovation.

### Health & Comfort

During the workshop, the topic mainly focusses on place where people can work in silence. Different participants give a reaction such as "What is enough?" or "What exactly does silence mean?". This implies that there are different views on what silence places are. During this discussion, the difference between the three different states of liquid, solid and gas are being mentioned. However, the topic about the work environment is being analyzed by the police itself, with the focus on the hybrid workplace. The outcomes of this research will be integrated in a later stadium of the police campus developments. Another statement that is made is that playing sports can be facilitated in a more visible way and therefore results in positive attractiveness (Arkesteijn, den Heijer & van Staveren, 2021b).

### Accessibility

This theme tends to trigger discussion between the participants that they want the police campus to be accessible, but it also needs to be clear where people can go regarding the safety and security requirements. Most of the participants point out that are not restricted to their workplace and is even often shared with other colleagues. However, as said before this differs per department. Moreover, the question if participants want to go to other place to meet and interact show that the participants are eager to go to another inspiring environment. If they go to a different location for meetings, it needs to bring added value to the experience.

An estimate of the future time expenditure shows that the various departments work least in the 'gas' zone. The 'solid' and 'liquid' zones are most likely to be used in the future concerning work related activities. In the discussion, it emerged that there is a need for a central building where people can work together but there is also a need to work together in their own building. An attention point is to think how to implement this zoning for the central location in Driebergen. Figure 28 shows the future time expenditure from the participants (Arkesteijn, den Heijer & van Staveren, 2021b).

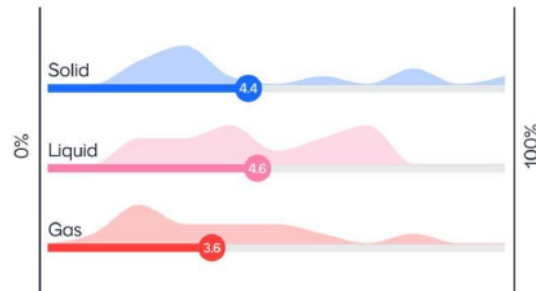


Figure 28: expectancy of future time expenditure (Arkesteijn, den Heijer & van Staveren, 2021b)

### Sustainability

To lower the footprint, most participants would diminish their mobility movements. This means that some days, employees can work from home if possible. All participants also rather have a shared workplace with high quality than an own low-quality workplace (Arkesteijn, den Heijer & van Staveren, 2021b).

### Innovation

Arkesteijn, den Heijer & van Staveren (2021b) show that the participants would like to see the display for innovation mostly can be seen in liquid zones, because many different employees from different departments come together in this zone. Despite the liquid zone, the gas zone is also pointed out to display innovation. This means making use of the internet to keep colleagues up to date with news in the virtual environment.

### Conclusion workshop 2

Workshop 2 gives a good overview of what exactly participants of the Landelijke Eenheid want to see in an operationalized campus. It is noticeable that they are aware of what their own department wants, but they tend to have struggles in understanding how different departments can collaborate better. The participants have shown that the theme of collaboration is most important, followed by flexibility and task-oriented. One of the overall conclusions was that it is preferable to collaborate with other departments, chain partners and third parties outside of their own building. How this will work out is unclear yet, because the concept of a police campus is still developing. It is undefined yet how many buildings, spaces or land will be used for collaboration and where the zones between solid, liquid and gas end or begin. The results from the workshop also show that the theme accessibility tends to trigger discussion between the participants because the police campus must be accessible, but it also needs to be clear where people can go regarding the safety and security requirements. This concept shows the importance of the concept openness and closedness of the police campus. There are no operationalized frameworks yet in which can be found what is open and what is closed and what kind of impact this will have on the way of collaborating with colleagues, chain partners or third parties. Moreover, the participants point out the importance of collaboration within the police for the next years, because of its big organizational size and the way of multidisciplinary work environments.

The conclusions from workshop 1 which show the demand and supply drivers of competitiveness, identity, the new ways of learning, productivity, distinctiveness and quality of place, can relate back to the theme of collaboration (which is about new ways of learning and working, productivity and what is open and closed), flexibility (in regard to the three different states: gas, liquid and solid but also comply with the safety and security requirements).

#### 5.1.3 Contradictions found in workshops

In this section the contradictions from the workshops by Arkesteijn, den Heijer and van Staveren (2021a, 2021b) are shown to give an answer what a possible solution could be in the new police campus later, because the contradictions obstruct the optimized implementation of the campus of the Landelijke Eenheid. This will be supported with the data collection from the interviews.

The first thing that is remarkable is the contradiction of accessibility and safety and security. This theme triggers discussion between the participants during the workshop because they want the police campus to be accessible, but it also needs to be clear where employees or stakeholders can go regarding the safety and security requirements. Most of the participants point out that they are not restricted to their workplace and

that the workplace is often shared with other colleagues. But what does this mean for safety and security? It would be useful for the Landelijke Eenheid to find the right tools to operationalize the aspect of accessibility to define this term. This is the first contradiction that is found. In this research, accessibility will be divided in the terms of openness and closedness.

The second contradiction is present in the term of collaboration and flexibility. The Landelijke Eenheid intends to work together in the solid, liquid and gas zones, but they do not know how the functions will be clustered on the police campus or which department could work more intensively together. Also, the hybrid way of working which might be implemented in future operational processes, plays a role. It is undefined and impossible to exactly predict what future operational processes need to incorporate, so that makes it more difficult to create spaces to collaborate or implement flexible spaces/rooms for this purpose. In addition to the interdepartmental collaboration which will be stimulated on the police campus, there also needs to be collaboration with chain partners, and even third parties. In the second workshop, the term of collaboration and flexibility are the number 1 and 2, but it seems that the LE not yet knows how to incorporate this in the campus because campus developments are new for the police and the Landelijke Eenheid. The aim is to collaborate more, but the reality is that the real estate is inflexible, which is shown in chapter 3. The second contradiction that is chosen is flexibility and collaboration. Flexibility is a mean to create more and better collaboration for the Landelijke Eenheid. Continuing this research, flexibility will have the focus when talking about contradictions. The interviews that are conducted focus on those contradictions to get more understanding of what the Landelijke Eenheid strive for and how they would like to see it operationalized.

## 5.2 Supporting the contradictions found in workshops by using the data from the interviews

The interviews were conducted after the workshops to get more understanding of the contradictions that were found. The first questions within the interview zoomed in on the definitions of the eight themes and if the interviewees understood the purpose of each theme. In this way, more insight is obtained to support the chosen contradictions. The reason to ask the interviewees about these themes again in more depth, is to get more information about the ways in how they would implement the eight themes in the police campus and how they see those contradictions solved. This will be helpful to create the campus assessment framework and formulate a possible solution to deal with the contradictions.

### 5.2.1 The contradictions found in interviews

The contradiction of accessibility and safety and what those two aspects mean, is pointed out by interviewee A3 and A6. They show the importance of these two aspects and do not know exactly how to deal with accessibility and safety and security yet.

*“I think accessibility is a tricky one because, on one hand, you want it to be accessible where people can easily and pleasantly go to and where they can be received hospitably. On the other hand, of course, we have to take security measures, so that people cannot just walk onto the campus.” [Interviewee A3, 2021]*

The results from the interviews show that collaboration and accessibility are terms that relate to each other as well. Interviewee A2 mentions that the Landelijke Eenheid has different functions that are difficult to position together on campus because it is unknown how this clustering could be done because it is the first time a campus is created for the police. The term accessibility is for interviewee A2, a term which is the least understandable.

*“If we look at the campus for the LE, I think it is the theme of accessibility and also in combination with collaboration. This is also due to the phase in which we are in the process. The two are related. We are with the LE with different functions that cannot be merged so quickly with other parts and that is still an unknown area. What should this be like? There is a lot of change going on within the Landelijke Eenheid. The organization is constantly being shuffled and that also means that it is still a bit of a search of how it will eventually work together. That in turn partly determines what accessibility will look like.” [Interviewee A2, 2021]*

Flexibility is ranked second highest out of the eight themes, but interviewee A3 is questioning what flexibility will mean in the future. The contradiction of being flexible but not knowing yet how to accomplish flexibility is arguable.



*“I think flexibility is also very important because we do not know what the Landelijke Eenheid will look like in five, ten or fifteen years, while the building is being constructed for fifty to sixty years. How can we ensure that it is adaptive to the work processes of the Landelijke Eenheid.” [Interviewee A3, 2021]*

The two contradictions to continue with are the contradiction of openness versus closedness (accessibility versus safety and security) and between collaboration and flexibility. Those contradictions have been found in the workshop and in the interviews. The next step in this empirical research is to use the Activity Theory to examine the outcome of the police campus according to the interviewees.

### 5.3 The Activity Theory: what outcome for the Landelijke Eenheid?

In this paragraph the data from the interviews is used to examine the outcome of the police campus by making use of the Activity Theory. To give an answer on what the impact is on the organization of the Landelijke Eenheid regarding real estate, the Activity Theory framework by Engeström (2001) will be used. As mentioned earlier in paragraph 3.5, Activity Theory offers a contextual and holistic method of discovery that can be used to support interpretative research and qualitative research. It is especially relevant in situations that have a significant historical and cultural context and where the participants, the tools they have, and their purposes are in a rapid process of constant change (Hashim & Jones, 2007). The Activity Theory is used to show more insight of the activity of developing a police campus. The same contradictions in the interviews are found but by acknowledging the issues and the actions, more understanding is given about the contradictions.

Activity Theory brings added value to the analysis of the individual in achievement with their activity and objectives through an examination of their tools and its conciliation through the community, a set of rules and history (Hashim & Jones, 2007). By making use of the Activity Theory, the outcome of the change of the Landelijke Eenheid will be examined. The focus is pointed at the aspects of flexibility, accessibility (openness and closedness) and safety & security and how this could be achieved. In the conducted interviews, a section of the questions was designated to obtain answers for the Activity Theory. In this part the contradictions, issues and actions will be mentioned, and it aims to further support the outcome of creating a police campus. The ambitions will be connected to the quotes that explain about the actions to solve the contradictions that are found. Each contradiction has an impact on the process of creating a police campus and this will be discussed in the next two paragraphs.

#### 5.3.1 Efficient and flexible real estate that supports the organizational processes

The Landelijke Eenheid is at the start of a complete transformation, organizationally as well as their real estate. It becomes clear that the way to get there is undefined because the process of developing a campus is completely new and aspects such as flexibility, openness, closedness, attractiveness and collaboration are prominent words that the LE itself often uses. According to interviewee A8, real estate attracts new talented employees and business processes can be better aligned to the existing functions and operations within the LE. Historically seen, the police have changed a lot, and this has an impact on the flexibility of the real estate. The buildings were not designed to be flexible, because most operations had their own spaces on the terrain. The new police campus will justify the importance of flexibility and the need for collaboration on its terrain. As mentioned in the theoretical part, campus real estate can facilitate added value to an organization and this sparked the Landelijke Eenheid to develop a campus. The real estate might have an impact whether or not keep the people that work at the location of Driebergen. Interviewee A9 responded to the question “what needs to change physically in Driebergen to create a new police campus?” The answer was: *“I think you can rather ask what we do not need to change”*. This really shows the urge of new real estate. Also, the operational processes are changing which gives a good incentive to develop suitable real estate. The new campus real estate tends to have contradictions when discussing the outcome of efficient and flexible real estate that fits the (future) operational processes. In table 10, the contradictions, issues and actions are pointed out in the activity system.

Contradictions	Issues	Actions
Within instruments	- No available documents how to design and operationalize a “police” campus	- Created a Landelijke Eenheid vision and ambition document on campus scale - Design adaptively

	<ul style="list-style-type: none"> <li>- Space configuration (current long shaped building)</li> <li>- Maintenance costs are high</li> <li>- Unattractive real estate</li> </ul>	<ul style="list-style-type: none"> <li>- Built new suitable buildings</li> <li>- Focus only on main location in Driebergen and not on two/three locations</li> <li>- Make real estate a commodity</li> <li>- Make assessment framework crucial instrument (guideline)</li> </ul>
Between instruments and subject	Little expertise in campus real estate and its development within the organization	Workshops to inform the Landelijke Eenheid about campuses
Within division of labour	<ul style="list-style-type: none"> <li>- Need for new flexible spaces for operational processes</li> <li>- Power dynamics between departments</li> </ul>	<ul style="list-style-type: none"> <li>- Create urge for new flexible real estate in the police campus and create teams that will define future requirements for its operations.</li> <li>- Deduplicate existing functions and spaces with Duplo brick session</li> <li>- Using m2 more efficiently</li> <li>- Politiebouwmeester creates guidelines for most (physical) flexibility</li> <li>- Leading document of the interests to be protected</li> <li>- talks/feedback sessions with younger generation within the LE</li> <li>- steer short cyclical</li> </ul>
Within community	<ul style="list-style-type: none"> <li>- Unclearity about future divestment of real estate (if necessary)</li> <li>- not fully aware of the advantages of a police campus</li> </ul>	<ul style="list-style-type: none"> <li>- search for potential companies within the security domain</li> </ul>

Table 10: Contradictions, Issues and Actions for efficient and flexible real estate

#### Outdated real estate (within instrument)

The outdated real estate of the Landelijke Eenheid obstructs the organizational changes that come along with time. Almost all interviewees explain that the current real estate does not fit the operational processes nowadays. Interviewee A6 explains: *“ This long shape construction [of the current building] does not stimulate collaboration, and it is also the case that the building has insufficient flexibility based on changes.”*

This is supported by interviewee A5: *“ The current building cannot be renovated, it will cost a lot, and you won't even get close to where it needs to go, so in my opinion you can only do new construction.”* Also, interviewee A9 states that the maintenance period will cause future disadvantages because the building is too old. This is one of the reasons to start investigating what a campus can offer to the Landelijke Eenheid.

*“ That buildings are no longer appropriate and that the maintenance period is becoming a thing.”*  
[Interviewee A9, 2021]

The urge to implement new real estate for the organization of the Landelijke Eenheid is something that has been present for years now. The current real estate obstructs the organization to change and become more flexible in space use. This sparked the real estate department to set up workshops to think about new real estate and what functions can be positioned into the new buildings.

*“ That longer construction does not invite collaboration and it is also the case that the building has insufficient flexibility in terms of changes. This is certainly a major challenge in Driebergen, as a number of things simply no longer fit in that building. This has actually been the case for the last six or seven years more than before.”* [Interviewee A6, 2021]

*“To be able to organize future developments in the same way, it also requires flexibility of the building and its elongated building of 13 by 60 meters wide, yes there is little flexibility in that.”* [interviewee A6, 2021]

The development of new fitting campus real estate has not been done yet for the Landelijke Eenheid and they do not know exactly how this process will go but the issues of the inflexible real estate give a huge incentive to participate in the process of developing the police campus by sorting out different configurations which

might be suitable for the police campus. The inspiration is mainly found by searching for campuses that show similarities with the police campus (i.e. security, design or flexibility). According to interviewee A2 (2021) the organization is still developing what a campus would look like: *‘no, we definitely do not know yet how to do this. It is certainly not clear. A working group has currently been set up to work out what a police campus should look like, not necessarily in terms of buildings or shapes, but in terms of functionalities, distribution of services, preconditions and merits. We do not know all of this yet.’*

The quote from interviewee A2 (2021) highlights that the process of developing a police campus is something new and the LE does not know how to operationalize this yet. This shows one of the first contradictions that is found and occurs in the instrument component. The LE does not have specified instruments or documents on how to design a campus (such as an assessment framework). Most of its real estate instruments are based on the scale of building level and not on campus level. The action that followed from this contradiction (within instruments) was to create the first campus ambitions document from the LE. This supports the communication between stakeholders and the ambition document shows that the real estate department is ready to start with (campus) development. By researching other organizations and campuses that have implemented a campus strategy, the organization is aware of the advantages that it will bring along when implemented in Driebergen. The contradiction is that the organization does not have the documents that will give more detailed insight in the advantages that it will bring. This is enhanced by interviewee A4: *‘I also think that the purpose of a police campus is that 1 plus 1 is 3. We will have to find out together what the extra is, and I do not know how far we can go’*.

The outdated real estate also influences the ambition of attractiveness. With the current real estate, it is difficult to attract new employees. Interview A3 mentions that a completely new real estate can incorporate aspect such as sustainability and the complete design will be new with modern workplaces and spaces where people can meet. *‘Sustainability is very important and attractiveness is also important because it is also about attracting talent, so an attractive environment where people want to work and where people are proud of.’* This driver is present by many interviewees and they are aware that a campus brings more attractiveness because of the added values. Interviewee A7 (2021) even thinks that the attractiveness will be bigger within the national organization of the police because it will have public attention since it is public real estate. Also, during the design process, the politiebouwmeester (police architect) is constantly designing and creating flexible buildings with the requirements that the organization has.

Interviewee A3 also points out the importance of attractiveness. *‘It [police campus] can have a lot of impact, it can also contribute to a cultural issue, by means of a beautiful new campus you can of course put this in another way in which the work environment will be attractive.’* To continue with the cultural issue, interviewee A7 (2021) explains that the campus should not only be attractive to internal users, but can immensely contribute to favorable relations with chain partners.

Societal cohesion is mentioned by interviewees A6 and A7 (2021) as ambition to strengthen attractiveness. The explanation is given that the campus needs to incorporate more societal functions, such as a child daycare or maybe a small supermarket. However, in this phase of the development of the police campus, it says abstract because the Landelijke Eenheid is focusing on campus level and not yet fully focused on building level and functionalities.

*‘My dream would be, but I think that is much more from an ambition. But that a police campus has much more to offer for/with surrounding social parties’ [Interviewee A7, 2021]*

Furthermore, interviewee A1 explains that real estate is used as an asset and by creating new real estate lots of ambitions can be incorporated as shown in the ambition document of the Landelijke Eenheid. Lastly, interviewee A5 emphasizes on the fact that the campus can be used as a tool to make an internal cultural change. This has been shown with many other campuses and therefore it would be useful for the Landelijke Eenheid as well.

*‘I do believe that the building can help or hinder how you work with each other. So I do believe that. I do believe that if you want to make some kind of culture change, that real estate, not the only thing, but also as a tool can help, so that real estate forces you to work differently and therefore be more appealing.’*  
[Interviewee A5, 2021]

The action to increase the attractiveness is simple, develop the new police campus with sustainable and multifunctional buildings.

#### No expertise in campus development (between instrument and subject)

To continue, a second contradiction is found, which is no expertise in campus real estate development because the police has never developed a campus. This contradiction occurs between instruments and the subject in the Activity Theory. There is little information about campus development within the real estate department in order to create suitable campus real estate, because this has never been done before within the police organization and therefore makes sense. Interviewee A1 tells that *“the campus developments are already an innovation for the police organization”*.

It is remarkable that all interviewees had different visions of what a campus exactly should incorporate or how it would look like. This puts emphasis on the little knowledge of the interviewees of how the campus will eventually be defined for the Landelijke Eenheid. When talking about a future campus or fitting real estate, many explanations are given. Some focus more on the outside area and mention a green oasis while others describe the positioning of the buildings or are more focused on places where employees can meet within buildings. By giving workshops (TU Delft, as well as internal workshops), a better understanding is created of what exactly a campus is. During the process of obtaining more knowledge about campuses, the workshop from the TU Delft held by Arkesteijn, den Heijer & van Staveren (2021) helped the participants to get more understanding of what a campus can offer and what this is about. The participants had to actively give answers to questions that were asked during the workshop. Later, the questions were answered and discussed to create an interactive discussion.

The LE eventually must come up with a proper definition of what the program of requirements will be and must inform the users and stakeholders of the campus characteristics and utility. The awareness of the campus characteristics and what it offers on all levels within the organization is essential to create fitting real estate. Different teams have been set up to figure out what the program of requirements needs to be. In this way, the involved stakeholders or departments are aligned in the concept of a campus. Within the process of developing a police campus, this research will also serve as a tool which the Landelijke Eenheid can use. The new campus assessment framework will add knowledge to what a campus can offer to the Landelijke Eenheid.

The real estate developers insist on making a campus assessment framework which acts as the major guiding framework. When other employees will make a remark why it will be a campus or why specific elements are not implemented in the campus, the real estate developer can refer to the strict and validated assessment framework. In this way future misconception will be avoided because at this moment in the process, the assessment framework will be a crucial instrument. Therefore, future risks will be reduced.

#### Flexibility for operational processes (division of labour)

Another contradiction that is found mentions that the operational processes are changing rapidly, and that the current real estate is dispersed over multiple locations (Driebergen, Zoetermeer and Woerden) and on campus in Driebergen, the buildings do not interact with each other. Also, it does not perfectly comply with current operations. This contradiction occurs within division of labour. The LE has set up teams that will investigate what, for example, hybrid working will look like and how those future operations can function in their new campus real estate. The issue is that momentarily the location of Driebergen does not have the adaptability it strives for when doing (national) investigations. One of the reasons for the outdated real estate is that in the past, the departments were responsible for their own real estate. When the fusion of the different police departments took place and the national police was created, from that moment on the newly created Landelijke Eenheid started thinking about flexibility and how that fits with the organization. However, the real estate was already developed and in use (interviewee A1, 2022)

Interviewee A4 puts emphasis on the semi urge for a campus and its flexibility.

*“ If a new task arises, the campus can then also accommodate it. Or if someone says that we want to make a larger room out of these small rooms, that you can just knock down a few walls, then you have a good campus. If you are adaptive, then you have succeeded.” [Interviewee A4, 2021]*

The action that has been taken to solve this problem is to make the organization aware of the change which is needed to adapt to future operations. The user also has pointed out that up to some extent, several operations are obstructed by the inflexibility of the real estate. This can be linked with the remark from interviewee A6 that the long shape of the existing building does not stimulate collaborations and has insufficient flexibility based on changes. What can be concluded here is that the space configuration is not suitable with the current organization needs. The action is to design adaptively and create larger rooms in which various operational processes can take place. This is supported by teams from different departments to check what functions can be moved to flexible spaces so that operations might function more efficiently. This argument has been given by interviewee A4 which is in the group of the real estate development team, and it puts emphasis on the urge of changing real estate. However, the workshops tend to focus more on the mindset of the participants of different departments to share functions within the organization (or beyond) than to actually concretely position functions already in buildings.

Interviewee A4: *“ Teams from all departments are involved in numerous workshops to get this clear and to answer the question of what can be done to create a flexible zone. That conversation is held with each other.”*

Also, the opinion from the user supports the action that there is an urge to change the real estate and make it more flexible. Interviewee A5: *“ I do believe that the building can help or hinder how you work with each other. So, I do believe that. I do believe that if you want to make some kind of cultural change, that housing, not the only thing, but housing as a tool can help, so that the way you accommodate your functions support you to work differently.”*

As an answer to what interviewee A5 said, interviewee A9 suggests that buildings need to think about the term commodity. If real estate is seen as a commodity, it has a big influence on the flexibility. This will also lower the costs and increase flexibility because multiple departments could make use of the real estate commodity. This action of creating a commodity is explained by interviewee A1 (2022). The politiebouwmeester (architect) is currently developing guidelines for the buildings. This happened as a response to the unclarity about flexibility within the Landelijke Eenheid. Guidelines for (physical) flexibility have never been defined.

*“For me, the flexibility lies in the margins within which we develop the buildings. So what is the building size, the height, depths, grid dimensions, that kind of aspect. These are now included in the campus model.” [interviewee A1, 2022]*

Interviewee A2 (2022) stands behind the point of interviewee A1 (2022): *“What I do see is that we are now thinking about what the most ideal forms are in terms of form, i.e. what floor areas offer the most flexibility for all kinds of different forms of working. So suppose we go back to office cubicles, that's possible. What does that mean then? What shape and surface is best for that?”*

Deducting information from the interviews shows that there is not a one specific action to be as flexible as possible, but interviewee A1 (2022) explains that the constant change of the LE is inevitable and that therefore only the most flexible real estate offers most guarantee to create a future-proof real estate portfolio. To reduce the risk of not making suitable real estate, the real estate developer is in constant discussion with the user. Interviewee A1 (2022) emphasizes that it is most important to talk to the younger generation within the LE that will still work in Driebergen till their sixties. Their opinion is key in how the organization is going to change and therefore their opinions are most interesting. This is done by organizing workshops or one-on-one talks/feedback sessions.

*“ 40 year old employees who determine what the LE will look like in the future, is interesting for me. This connection between new and old. The generation below the 40 year olds are more useful because they look more to the modern approach and the modern way of working what in a few years just will be the standard.” [interviewee A1, 2022]*

Another action that interviewee A7 (2022) points out is that the organization wants to steer short-cyclical. In this way, the real estate portfolio can adapt faster to operational processes and is therefore more flexible. Interviewee A7 (2022) explains that short-cyclical steering does not imply that everything should be hundred

percent captured in (real estate or policy) documents, but that there is space to react to different processes within the organization so that it is possible to quickly adapt and give a solution to the demand.

*“We see that the developments of the organizations are going so fast that it is becoming increasingly important to be able to manage your real estate portfolio in a short-cyclical manner.”  
[interviewee A7, 2022]*

This action is beneficial from two side of the organization: for the real estate owner and for the real estate user.

#### De-duplication (within division of labour)

Another action that has been done to is to check for each department what kind of functions are used double. The contradiction within the division of labor shows that the Landelijk Eenheid wants to be efficient but does not completely know how. De-duplication plays a role towards an efficient work environment and space reduction. Interviewee A6 explains that this helps to come to more efficient real estate in the end: *“ These [functional spaces] are things that can really be used together more often, and that is what I mean by de-duplication: simply seeing what you are doing or what am I doing twice, de-duplication. That is also where a large part of the efficiency lies.”*

The deduplication of functions will stimulate the organization to become more efficient and flexible. This ambition is shared by interviewee A4, A1 (2022), A2 (2022), A7 (2022).

*“ That you both say 'okay, we need office spaces, let's just share it with each other'. That is where the profit really lies.” [interviewee A4]*

Deduplication is an action towards more efficient and flexible real estate. However, this results in what department has the most influence to decide what functions will be deduplicated. The power dynamics between the different departments are crucial. Each department will come up with a list of functions that could be shared, however, the interests to be protected are the focus point and are strictly secured.

To make sure that functions are properly positioned and power dynamics is minimized, interviewee A1 (2022) explains that the real estate department organized a duplo session. This mean that every department gets duplo bricks with specific functions. During the duplo session, a possible plan of the campus is shown with six building. By putting their duplo bricks onto the building plan, functions will be place according to the needs of the department. Also, this stimulates the departments to think with whom they want to collaborate, because they can position their duplo bricks wherever they want. By doing this, the departments are actively involved, functions will be clustered and de-duplication occurs. This action also helps to create more awareness what needs to be secured and what kind of functions can be more accessible. The duplo session is an integral action that think about flexibility, accessibility, safety & security as well as collaboration.

*“The next step was to work with the campus model and the user in duplo sessions, in which the user's entire program was literally put into duplo blocks that they could move around. Those blocks were colored with reference to each department and within that context also certain functions, whereby the security level was also one of the most important issues in order make the departments aware. Then you see that you get clustering based on cooperation and not on the basis of I belong to that department and that department has its own building so we will sit there too. So really based on functionalities.” [Interviewee A1, 2022]*

Deduplication is stimulated with a different way of working as well. This action is seen as a process in which square meters are being used more efficiently and employees and the operation managers are aware that deduplication and a different way of working helps creating more flexibility and efficiency. This means fewer square meters but trying to do the same operational processes, with the help of flexible spaces.

During this process, each department was given information about what the campus functionalities and where on campus this would be positioned. By collaboratively positioning the Duplo blocks of the each function per department, the contradiction of flexibility and accessibility is more visible. The overview of the functionalities created an urge for each department to see what the needs are of other departments. In that way, departments could collectively share a restaurant, meeting room or a workplace. During the session the

goal is that departments gained insight into the overview of the functionalities that each department has regarding regulation, collaboration and shared use on the campus in relation to security and logistics. The second goal of the workshop is to create a feeling and understanding among the departments regarding accommodating functions on a campus.

*“Underneath it all, the safety and security aspects were referred to every time when positioning functionalities” [Interviewee A1, 2022]*

This workshop therefore helped to start with solving the contradiction of flexibility and accessibility, because each department is now more aware how accommodating specific functionalities could be positioned on a campus (by keeping in mind the strict safety & security protocols). In this way more consensus has been achieved toward creating an (efficient) police campus.

### Possible divestment of campus real estate (within community)

Between different interviewees it is unclear what happens with future real estate which might not be necessary anymore. In the past the police developed specific buildings that can only be used for the police. An example is a small police office in Alphen aan de Rijn. The police wanted to divest the police office but in the basement there was an enormous concrete basement with cells. There are very few organizations that can use this basement. It was nearly impossible to sell or divest the building which often results in high costs for the organization itself. The question that arises with the new police campus is that it must be flexible but also fit the needs of the Landelijke Eenheid.

The action is mentioned by interviewee A1: *“ We are selling it within the portfolio of the police force and are looking for another user. Or within the security domain what suits us. Military Police, FIOD, the Public Prosecution Service and Customs, because they also work together with the police. They would be perfectly accommodated in that area.”*

The action is supported by interviewee A7 (2022). The Landelijke Eenheid must create flexible real estate which also fits within the security domain by offering them the safe campus environment in which their operational processes also fit. This contradiction results within the component of community.

Figure 29 gives an overview where the contradictions arise in the activity system.

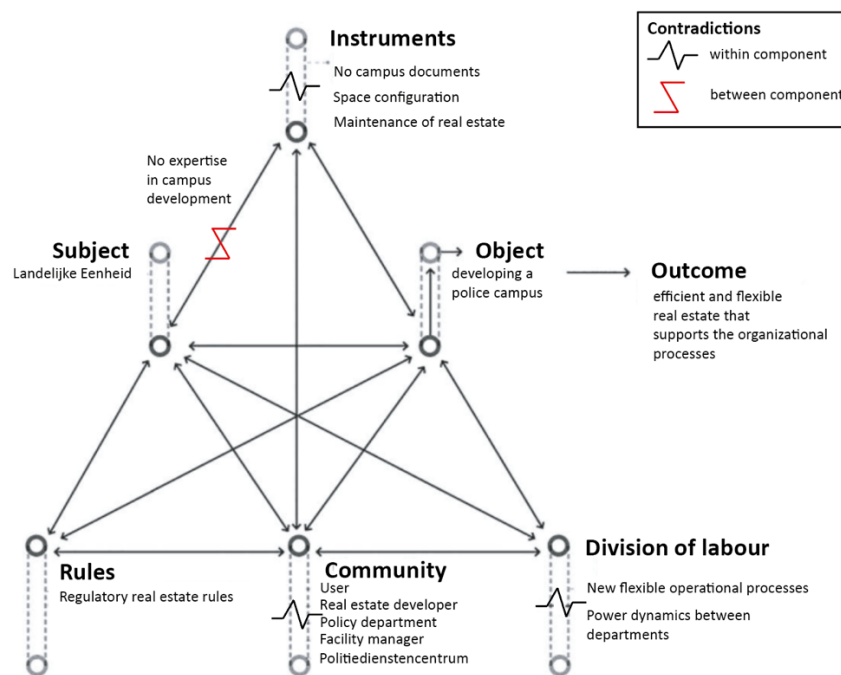


Figure 29: contradictions in creating efficient and flexible real estate

A clash occurs between communities when talking about efficient real estate that supports the organization. This clash is found between the group of users and the group of the real estate developers and policy makers. The users tend not to recognize the thirteen added values of campuses because it is still vague for the users what a campus exactly is. Another argument is that the process of developing a campus recently started, so not every user has been informed. Interviewee A4 underlines that the user is not very aware of, for example, the price that comes along with having your own spaces within the organization. *“Of course, everyone wants their own office or shooting range etc. when they feel the need, but it comes at a price. What are you prepared to pay or to relinquish to get that money together?”* This shows the point of view that differs from the policy makers and real estate developers and the users itself.

The users from the Landelijke Eenheid are territorial because of the precise work they do. The unmarketable real estate that the LE uses is mentioned as one of the reasons. The real estate developer and policymakers mention that they strive to satisfy the user with implementing a campus strategy and to make work processes more efficient. This is a clash between the community members and their value of change (the user wants an upgrade). The current issue is that it rather unknown what amount of each user or department could share in a flexible space or shared facilities. However, the action from the Landelijke Eenheid to set up an internal workshop with the duplo bricks will make the departments actively think about what facilities the user could share.

### 5.3.2 Accessibility (openness vs closedness) and Safety & Security

Other contradictions can be found when talking about safety & security and accessibility with the focus on the aspects openness and closedness. One of the outcomes is that the Landelijke Eenheid strives to be accessible towards civilians, employees and chain partners. However, the location of Driebergen must be highly secured to protect the operational processes that are being executed. The LE is aware that better accessibility can result in stronger collaboration, internally and externally. This discussion brings along contradictions between specific components in the activity system, see table 11.

Contradictions	Issues	Actions
Between community and division of labour	<ul style="list-style-type: none"> <li>- No full overview of shared facilities or interests to be protected</li> <li>- What needs to be accessible for members of the community?</li> </ul>	<ul style="list-style-type: none"> <li>- Create an overview of zones in which employees can work or where external partners could collaborate.</li> <li>- Add zoning to the police campus.</li> <li>- Interchangeable functions</li> </ul>
Between instruments and Object	The campus model is not yet properly defined for the Landelijke Eenheid	New assessment framework (with clearer position of functions)
Within division of labour	<ul style="list-style-type: none"> <li>- Unclear what parts of the tasks can be moved towards a more accessible zone</li> <li>- No integral approach</li> </ul>	<ul style="list-style-type: none"> <li>- Inventory of work processes</li> <li>- Duplo session</li> <li>- facilitating policies with integral approach</li> </ul>
Between the subject and the division of labour	<ul style="list-style-type: none"> <li>- Transparency</li> </ul>	<ul style="list-style-type: none"> <li>- Create the police campus in which work processes can be focused on collaboration with other parties from the security domain.</li> </ul>

Table 11: Contradictions, Issues and Actions for accessibility

#### Zoning (community and division of labour)

The first contradiction is between the community and the division of labour. First of all, the definition of accessibility or openness/closedness is also not defined properly yet. Some refer to openness on campus level while other interviewees refer to the building scale. This has an impact in the community component, because every department thinks differently about accessibility. Also, there is little overview what is accessible for each department or the interests to be protected in a comprehensive overview. The issue is that the questions arise what is accessible for who? Interviewee A2 (2021) states: *“The organization is constantly being shuffled and that also means that it is still a bit of a search to find out how it will eventually work together. That, in turn, partly determines what accessibility will look like.”* Interviewee A2 (2021) clearly shows the importance of the spaces that could be accessible to stimulate collaboration and in which accessibility plays a role. As mentioned, there is not yet a full overview of all the interest to be protected (physically and digitally). Interviewee A7 (2021) explains: *“That is what they call the interests to be protected, so from the*



*interest to be protected you look at what you want to do physically or digitally, but also what you need to do in terms of behaviour, and I think that is also relevant for campus developments. Because with the campus we mainly have physical security in mind, so it must be protected, and it must not be accessible to everyone everywhere.’’*

The actions they executed is to get one final overview in which employees know where they can work and which zones are accessible for them. Interviewee A4 strengthens the emphasis on zoning and its implementation: *‘I think that you will distinguish between buildings that are public, semi-public and buildings where no one is allowed to go, only people who belong there.’*

Another action that is expressed by interviewee A7 is that accessibility and therefore also the aspect safety and security should have an integral approach: *‘In policy development, you see that the theme of security is being approached in a different way, and not only that, but it is much more of an integral approach, they call it the interests to be protected, so that from the interest to be protected you look at what you want to do physically or digitally, but also what you need to do in terms of behaviour, and I find that relevant to campus developments as well.’*

This action is part of a process to develop an integral approach within the Landelijke Eenheid so that the new combination of functions in the different zones are optimally secured. In the past this has not been done yet. The police only had separate building in which those zones were present on not on a campus scale. The new campus put emphasis on the urge for an integral approach, otherwise a fully secured area might not be feasible and therefore the working environment is at risk. To create an integrap approach, the policy maker, the head of security, the user, architect and real estate developer are constantly discussing what could be positioned where on campus. This action helps to solve the contradiction accessibility and safety & security because the final solution of the zones has not been determined yet. The duplo workshop with functionalities also helped to check which functionalities fit in which zone.

The question that concerned the zoning plan on campus level, showed that the Landelijke Eenheid used to start with the accessibility of new buildings first and then involved other parties (security department) to think about the zoning around the building. The integral approach offers a solution in the process of zoning because it is not a sequential process anymore. In the past, police buildings were built and after that the security measurements were added, but it turned out to be inefficient. The action is to first prioritize the zoning and functions in each building and then try to look at how the outside spaces will be designed (regarding safety & security). During the process of investigated zones, a generic campus concept model was made with specialists to serve as a base. This concept model will be updated with more details along the process. This resulted in another action that relates to zoning and accessibility. The way the organization currently looks to accessibility is from a viewpoint of the interest to be. This shift in thinking is an action which is beneficial for accessibility, because it will result in better clustered functions and therefore the highly secured interest to be protected are focus points. The earlier mentioned duplo workshop also played in a role in this process. As a result of the integral approach, the investment that needs to be done to protect the interests to be, will decrease. Special secured functions will be situated in the center of buildings and not on the outer layers and for example the speeds in which you can go from the secured area to a different zone can be designed with obstacles (card system or routing). The Landelijke Eenheid is searching for innovative ways to execute the ambitions of accessibility and security elements, by focusing more on the safety side of the organization (interviewee A7, 2022).

*‘What you see in a general is that a shift is taking place in thinking; we used to look at the physical side of security, we now see a development that really focuses on the interests to be protected and that is actually a kind of mix of security measures that go beyond the physical shell.’ [Interviewee A7, 2022]*

The shift of thinking from the physical side in the past to the more integral approach of protect the interests to be protected shows that the Landelijke Eenheid strives to create a more suitable approach regarding safety and security and this process is ongoing. At the end of this process there will be a possible solution how to position the interests to be protected and the rest of the functionalities.

#### **No campus assessment framework (instrument and object)**

The second contradiction is found between the instruments and the object. The Landelijke Eenheid strives for an accessible and secured police campus, but does not know exactly how they will use the campus model

(instrument). The Landelijke Eenheid has never created a campus, so they do not know yet how to use the campus model as a tool in order to develop a police campus. Interviewee A6 states: *“You will have to develop good frameworks of what you think is why you are closed.”* This explains that the campus assessment framework that includes criteria such as accessibility has not been well-explain yet. The campus assessment framework can therefore not be used yet to develop a police campus. The action that has been executed is that the real estate development department created a new assessment framework on campus level to check if accessibility and safety & security are well-incorporated.

#### What functions are there? (division of labour)

The third contradiction is found within the division of labour. It is unclear what parts of the tasks can be moved into a more accessible zone. The reason is that each department does not have formulated which parts of their work can be done in shared or flexible zones. The real estate developers, architect and policy makers are not able to create a program of requirements with the number of square meters that can be shared. Making an inventory is the actions that will solve the problem about the unclarity of tasks into more accessible zones.

Interviewee A7: *“It is important that we create facilitating policies together, that we can weigh them up, that we can support them in our way of thinking. An inventory has already been made of various work processes. What impact would it have on different work processes, how do colleagues experience this. I don't think that at the end of next year there will be a blueprint of how the police will deal with flexible working.”*

This interview quote puts emphasis on the process of mapping the different work processes and what impact it has for the organization. However, it is difficult to map new ways of future operational processes and their needs. When the work processes are better defined, it will help to get more understanding of what is open and what is closed. For this process, teams have been set up to check what hybrid working will look like in the future. Those teams operate within the Landelijke Eenheid and are working on a document to get more understanding of future operational processes and hybrid working. This teams checks which processes can be done at home and which processes can only be executed in the office or on campus. There are many possibilities how to work and this input will serve as input in designing and developing the police campus.

Interviewee A8 emphasizes on the fact that centralizing functions will help to become more accessible. This goes hand in hand with flexibility because functions need to be centralized or exchangeable with other buildings on campus.

*“ Be interchangeable, be able to exchange functions and then there will be a kind of flexibility, apart from the specials that need to be accommodated separately, but I think you can greatly improve the flexibility and the communication between them. And that these are important advantages for the business process.” [Interviewee A8, 2021]*

This action is supported by interviewee A2 (2022): *“What you see is that the functions that have a link with the outside world, with cooperation partners, etc., go much more towards that main building or entrance building. Specific functions are all placed in a special building and all other functions are placed in office buildings around it and they are interchangeable.”*

During the process of investigating what functions are present within the Landelijke Eenheid, the mindset of the users, the real estate developers and the policy makers is shifting. It becomes more tangible for each department if they know what others within the organization need. The action to create facilitating policies together therefore contributes to a solution to solve the contradiction of accessibility and safety & security.

An additional contradiction is found between the subject and the division of labour, which is mentioned by interviewee A7 (2022). The Landelijke Eenheid strives to be transparent towards society and chain partners but safety & security are the main priority. This results in a contradiction between the subject (Landelijke Eenheid) and the division of labour. The work processes cannot be fully transparent, so the organization must find a right balance.

*“ It has to do with the development that we want to work on the basis of transparency and accessibility indicates where you are going as a government organization and it is very much focused on collaboration*

*with other security parties. Those two elements ultimately guide why we want to be accessible.’’*  
 [Interviewee A7, 2022]

The action is to facilitate collaboration with parties from the security domain or with chain partners. The operational processes therefore need to change. The police campus will facilitate those forms of collaboration to create shared spaces where visitors could go without being fully screened. They only apply upon entry and they are allowed to go into one specific zone which is assigned for collaboration.

In figure 30 all the contradictions are shown

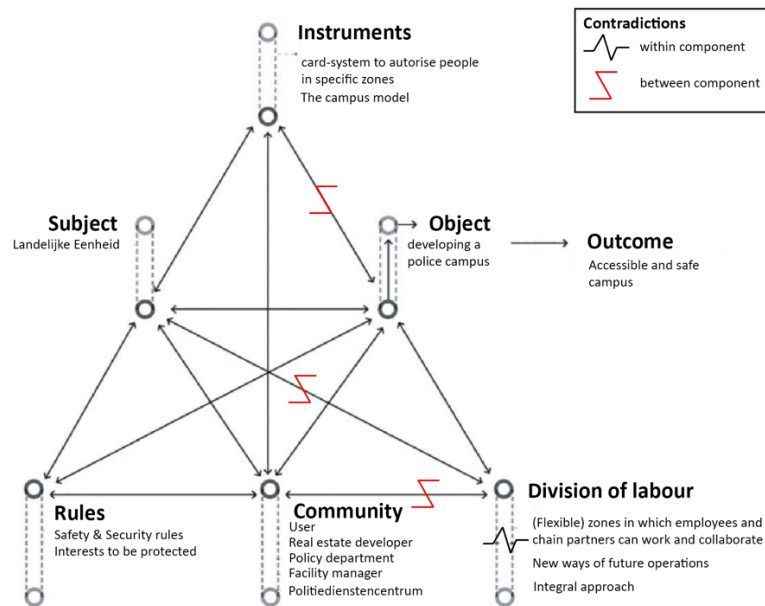


Figure 30: contradictions in creating an accessible and safe police campus

From the conducted interviews, a clash can be defined between the two users that participated, the two real estate developers and the policy makers. The user seems reluctant to define, or might find it hard to define, what parts of their ‘‘territory’’ could be open. However, interviewee A9 gives an explanation how real estate can be used more dynamically and how different user can still work in the same conditions with new real estate: ‘‘ From my perspective, of course, you offer a secure integrated collaboration environment that you can design dynamically or hybridly, so you can make buildings easier to accommodate temporary teams or investigations.’’ The interviewee does mention that the interest to be protected has the first priority to check what can be shared and be made accessible. This action has been made already and is available for the Landelijke Eenheid in a document.

## Conclusion

The workshops and the semi structured interviews have shown the need for different real estate and what the major areas of impact on the Landelijke Eenheid are. The sub question to be answered is:

What are the major areas of (expected) impact on the Landelijke Eenheid regarding real estate?

During the workshop with the Landelijke Eenheid, some contradictions were found. Accessibility, with the focus on what needs to be open and what needs to be closed and this in combination with safety & security because of the operational processes that the Landelijke Eenheid executes. The other area of impact is the area which involves flexibility and collaboration. Because the work processes are advanced and have many requirements regarding real estate, it is problematic to create flexible spaces. One of the reasons is the outdated, inefficient and inflexible current real estate that the Landelijke Eenheid uses. Also, the Landelijke Eenheid wants to attract and retain new employees, but the current real estate obstructs the innovative and modern environment that the Landelijke Eenheid strives for.

To get deeper understanding of how the Landelijke Eenheid wants to create a police campus, the contradictions of accessibility, safety & security and flexibility and were used to set up a semi-structured interview. The expected areas of impact regarding real estate explained the contradictions from different employees within the organization of the Landelijke Eenheid and is therefore interesting to investigate what they think about each contradiction and the actions that are necessary to solve this. The action will help to overcome the contradictions that the Landelijke Eenheid has. The activity theory incorporated the answers from the interviewees about the actions of creating a police campus and how this process evolves.

An often-reoccurring topic during the interviews to collect data for the Activity Theory is the current outdated real estate. It is not flexible at all, as mentioned in the workshops. It obstructs the growth and innovation of the organization. As a result, the maintenance costs are increasing and the current real estate has insufficient flexibility based on changes. Another issue that occurs is that the real estate department does not have specified campus assessment framework yet, because a campus has never been developed. There are no available documents or assessment frameworks on campus level yet, so this is the first step in the process of developing the campus. Flexibility is essential for current and future operational processes, but the Landelijke Eenheid does not have any guiding documents or requirements for the implementation. Many departments still need to make a document in which they explain what kind of functions they can share and how they want to collaborate. Once this document has been obtained, it is easier to guarantee that the ambitions of flexibility and collaboration are integrated in the real estate documents and therefore support efficient future operational processes with the new police campus. Another issue is that many of the same functions are dispersed in several buildings. The Landelijke Eenheid needs to de-duplicate to become more efficient in the use of functions and therefore need fewer financial resources, which can eventually be invested in the real estate. The last issue that relates to flexibility is the possibility for future divestment of the real estate. The portfolio could be developed beneficially to other parties within the security domain. Those parties might be able to adopt buildings that the Landelijke Eenheid will not use in the future.

The second expected area of impact is the accessibility versus the safety & security ambitions. It is unclear what parts of the operational processes can be moved towards more accessible zones or how future departments will collaborate on campus. One of the reasons is that the document with the interests to be protected is not available per department yet. The campus real estate will stimulate collaboration between departments as well as between chain partners, so the interest to be protected serve as guidelines where employees can enter or not. In addition, the security zones are determined by the interests to be protected. Clear zoning is therefore essential to implement on campus level. Accessibility is determined by the functions that have high interest to be protected. The Landelijke Eenheid is currently analyzing which functions fit best in which building or position on campus. However, the power dynamics of the different departments plays an issue as a result of territorial mindset of some departments.

In this chapter, the actions are related to the process and show how to solve the occurring contradictions of accessibility, safety & security and flexibility. By using the activity theory and looking at the contradictions, issues and actions, the process as a whole is being tracked, rather than focusing on the outcome.

## 5.4 The new campus assessment framework

The next step in this empirical research is to create a new campus assessment framework to check the criteria that describe the aspects of accessibility (openness vs closedness), Safety & Security and flexibility. By positioning all campus criteria into the four perspectives, a comprehensive overview will be generated. Furthermore, a possible solution from the new combined campus assessment framework could be derived and give an answer to the operationalization of the contradictions that are ascertained when developing and designing a police campus. The combined campus assessment framework will serve as an instrument in the Activity Theory. However, it also mentions the rules and subject. The rules are described by the criteria and the subject (the Landelijke Eenheid) does not have yet created a combined campus assessment framework. The following sub questions will be answered:

*What is a possible campus assessment framework that is suitable for the Landelijke Eenheid?*

### 5.4.1. The four documents

It is essential to know before creating the new campus assessment framework that four documents will be used to create a new framework. The four documents from the police organization that will be used are quite different from each other, but they all describe their goals, needs and criteria. An explanation is given about the documents:

- **7122 POL ambitiedocument Definitief-1december-2020**  
The general vision and ambition document from the Landelijke Eenheid which shows their future needs on campus and building level.
- **210309\_vastgoedkaders 1.1 def**  
The general real estate document for all national real estate of the police. This is the most detailed document and focusses on building level.
- **URKP Politiebouwmeester v3 (002)**  
This document describes the spatial qualities of the police. It offers starting points regarding the real estate and how it should look. It points out the overall thoughts about the real estate of the police.
- **Eerste afwegingskader CL-LE groot**  
The first assessment framework for the Landelijke Eenheid which is organized into the themes from the LE. This is the first document to define criteria on campus and building level.

The different police departments have multiple vision and ambition documents or real estate frameworks, which makes it hard to distinguish which ambitions are key or which are mentioned double. Some ambitions and vision, for instance the vastgoedkader (real estate framework), are highly detailed on building level and are divided into six main qualities: functional, spatial and visual, technical, durability/environmental, societal and lastly future robustness. On the other hand, The Politiebouwmeester only mentions broad terms like representativity, durability, innovation and spatial qualities. Those terms and ambitions are briefly explained with six to ten sentences, but it is not clear how those ambitions translate into a program of requirements or how this eventually could be operationalized. So, not all documents have the same stems and vary in purpose.

Crucial to know is that the real estate department of the police do not have experience yet with designing and developing a campus and this is shown in the different ambitions and vision documents that are available. The existing documents that were created before the documents of the Landelijke Eenheid only focus on building level and not on campus level. That makes sense because in the past, the police only designed buildings and not campuses. The first document of vastgoedkaders solely aims and describes different goals, means and criteriums on building level. The politiebouwmeester (police architect) made their own document but they are not that far yet to integrate this into a campus framework. One of the reasons might also be that the Politiebouwmeester is a function that is new within the organization. The document of the politiebouwmeester talks with overarching terms that entail many different aspects of the built environment.

However, the first campus ambition document that is created serves as a framework for the Landelijke Eenheid, as well as other campus projects which involve a campus-like structure. An example of this is Landforum in Eindhoven. The only difference is that the Landelijke Eenheid needs to accommodate one department which is the Landelijke Eenheid itself, but Landforum needs to include 4 different departments and it will add housing as well to its campus. The general campus ambition document from the LE is present but it still broadly described its ambitions and visions and shows criteria on building level as well as on

campus level. It contains criteria that still needs to be developed, such as hybrid working, or sustainability goals. Nonetheless, the four different document entail aspects on buildings level and on campus level. Those documents are considered useful tools to create a new campus assessment framework and align terminology. To create a new assessment framework three goals are set. The first goal is to filter out the overlap between goals, or similarities. Secondly, the goals and criteria need to be checked if they are essential on campus level or if they are part of the building level. The criteria for the buildings level are less dominant when creating a campus framework. What stands out is the use of term between the four documents. Some documents talk about accessibility as a main goal, while the other document uses it as a sub-goal. So, the third goal is to select which terms will be used for the new chosen goals. Those new terms will eventually contain the filtered criteria that fit with campus level. The new terms can serve as a basis for the newly created campus assessment framework and will make discussions or referencing to the terms easier when all departments understand the main terms for the criteria. In the next paragraphs the steps will be explained to fulfill the goals to come to the new campus assessment framework.

#### 5.4.2 Step by step translation into one common language

This paragraph will show each step that has been made to create the campus assessment framework.

#### 5.4.3 Step one

The first step that is made is the labeling and positioning of the existing goals per document (URKP Politiebouwmeester v3 (002), 7122 POL ambitiedocument Definitief-1december-2020, 210309\_vastgoedkaders 1.1 def and Eerste afwegingskader CL-LE groot) into the four perspectives by den Heijer (2011). This step will directly help to fit the goals into the campus framework, which exists out of the strategic, functional, financial and physical perspectives. The result of the positioning is shown in table 12.

	Strategic	Functional	Financial	Physical
<b>7122 POL ambitiedocument Definitief-1december-2020</b>	Innovation	Accessibility		Sustainability
	Attractiveness	Health & Comfort		Flexibility
	Collaboration	Task-oriented		
<b>210309_vastgoedkaders 1.1 def</b>	Spatial and visual qualities	Functional qualities	Future proof	Technical qualities
	Societal responsibilities	Future proof		Sustainability/environmental qualities
	Future proof			Future proof
<b>URKP Politiebouwmeester v3 (002)</b>	Experience value	Utility value		Future value
<b>Eerste afwegingskader CL-LE groot</b>				
<i>- Primair toetsingskader</i>		Degree of impact on primary process during realisation phase	Degree of redundancy during realization phase	Comply with workplace norm police
			Necessary temporary accommodation	Comply with parking norms
			Degree of mastery of the exploitation costs as framework	Degree of ownership in properties with a use span of less than 10 years
<i>- Safety &amp; Security</i>	Societal impact	Adaptive ability compared to threat assessment	Redundancy	

	Contribution to Stichtse Lustwarande	Area access		
<i>- Additional (from Safety &amp; Security)</i>		Degree of which scenario complies with agreements in accordance with ministerial decisions	Financial impact	Gain land
				Realizability

Table 12: positioning ambitions and visions into the four perspectives of den Heijer (own table)

As said above, the four different ambition and vision documents show many terms. Some terms contain many detailed information, and some are more ‘generic’ terms such as accessibility or user values, which includes a range of descriptions of what it entails. Continuing, it is helpful for the real estate developers to filter the double ambitions so that in the final assessment framework no similarities are found. This will directly give more insights of how the campus strategy could support the Landelijke Eenheid because it shows a clear overview of criteria on campus level. This process will be explained in the next steps.

#### 5.4.4. Step two

The second step is to add the four documents into one extensive excel next to each other to compare which ambitions or criteria are the same. The ambitions and visions need to be deduplicated within the four documents. In this way, the double mentioned elements will be filtered out to create a comprehensive campus assessment framework. The similarities will be shown in the excel in the colors of the perspective of den Heijer (2011), see figure 31. The reason to highlight the similarities into the colour of the perspective is to easily see where the criteria overlap. Furthermore, each criterion is checked if it can be measured on campus or building level. In this way the criteria which involve the building level will be filtered out.



Figure 31: section of the Excelsheet to highlight similarities between documents.

### 5.4.5 Step three

The third step is to filter out the double mentioned elements to make the next step towards a comprehensive assessment framework. This step focusses on the similar ambitions in the different documents. As said before, the Vastgoedkader and the ambitiedocument LE are quite specified because those documents need to cover all relevant aspects of the real estate in general and the new center location in Driebergen. Similarities can be found based on the four perspectives or on similar criteria. Table 13 shows how similar ambitions are selected and be given a new term for the similarly mentioned goal.

Gekozen doelstelling (chosen goal)	Gezondheid & Comfort			
Document	Vastgoedkader	Politiebouwmeester		Ambitiedocument LE
Doelstelling (goal)	Functionele kwaliteiten	Gebruikswaarde	Gebruikswaarde	Gezondheid & Comfort
Pijlers doelstelling (mean)	Sportfaciliteiten	Functionaliteit	Gezondheid & Comfort	<ul style="list-style-type: none"> <li>• De centrumlocatie bevordert de gezondheid van de medewerkers en zet aan tot gezond gedrag.</li> <li>• De centrumlocatie draagt bij aan een goede work-life-balance van de medewerkers.</li> </ul>
Meten doelstelling (expected outcome)	Het beleid rondom sportfaciliteiten binnen de politie is nog in ontwikkeling. Het MT huisvesting heeft daarom begin 2020 besloten dat her realiseren van sport-, vitaliteits- en/of fitnessruimten in politiepanden – in afwachting van het landelijk beleid – vooralsnog niet wordt toegestaan, anders dan bij IBT/OBTlocatie en specifieke doelgroepen (bijvoorbeeld AT's). Naar verwachting is hier in de loop van 2021 meer duidelijkheid over. Voor huisvestingsprojecten geldt dat de architect vergaderruimten e.d. wel zodanig kan situeren dat de ruimte op termijn alsnog omgebouwd kan worden tot en sportfaciliteit, maar dat het desbetreffende project daardoor niet groter of duurder mag worden.	De politie faciliteert de bedrijfsprocessen van de politieorganisatie optimaal. De politieorganisatie en werkprocessen zijn sterk in verandering. Dat vraagt om een robuuste, flexibele en efficiënte huisvesting die niet alleen de organisatie en processen van vandaag faciliteert, maar een werkomgeving die adaptief en flexibel is.	De politie is comfortabel en gezond om in te verblijven. Er zijn voldoende en aansprekende mogelijkheden om in beweging en tot rust te komen. Het thermisch, akoestisch en visueel comfort draagt in alle seizoenen bij aan het welzijn van de gebruikers.	Er wordt zo veel mogelijk samengewerkt met sport- en spelvoorzieningen in de directe omgeving van de centrumlocatie. Daarnaast biedt de centrumlocatie kleinschalige sport- en spelvoorzieningen zoals een fitnessruimte en tafelvotbal.

Table 13: similarities with the same goal (own table)

In the above table, different words for goals are used, but they describe the same thing, which is the topic of having a sport facility and creating a healthy and comfortable environment for employees. It can occur that many ambitions and criteria mention the same thing but with different vocabulary or with more profundity. The ambitiedocument LE shows the most comprehensive version of the four and the goal “Gezondheid & Comfort” describes the goal of the ambition in the broadest way. The other goals from the different documents will be merged into the newly chosen term to serve as guidance in aligned terminology. The interesting part is to see that the different documents use a variety of terms to mention the same criteria. However, the documents have been used for different purposes (i.e. buildings level and campus level) and therefore the same terms occur. It is noticeable that there are many similarities found in the criteria of the documents. Also, many criteria are undefined and still needs to be developed in terms of what is exactly meant with it. In the new campus assessment framework, those elements cannot be operationalized thus will be taken out of the campus assessment framework.

Another thing that occurs are the criteria from different document that match but the criteria have the viewpoint from another perspective in the campus model of den Heijer (2011). In table 14, three goals are mentioned, they all include flexibility, but the vastgoedkader and ambitiedocument LE point it out in a different section of ‘pijlers doelstelling’ or ‘meten doelstelling’. The goal flexibility in the ambition document of the LE is positioned in the physical perspective, while the future robustness is positioned in the functional perspective. Nevertheless, all three tell something about flexibility, so this term will be best to use as overarching term. The decision to position those expected outcomes (criteria) under the term flexibility is chosen because flexibility will be an overarching term that includes the other relevant criteria and will eventually fit better within the physical term of flexibility rather than the functional terms that has been created.



Gekozen doelstelling (chosen goal)	Flexibility		
Document	Vastgoedkader	Ambitiedocument LE	
Doelstelling (goal)	Future Robustness	Flexibility	Flexibility
Pijlers doelstelling (mean)	Facilities for extension and construction flexibility	The center location will be future-proof equipped to accommodate changes in formation, work processes and to facilitate forms of collaboration	The center location will be future-proof equipped to accommodate changes in formation, work processes and to facilitate forms of collaboration
Meten doelstelling (expected outcome)	Not making provisions for extension and construction flexibility, unless there is no solution elsewhere in the portfolio and the future scenario calls for it. - Making provisions for expansion possibilities in the form of extension and construction at an existing location is only permissible in specific future scenarios. - In the event of a significant future expansion at a location, preference is given to intensifying use in the existing building or another location in the portfolio or immediate vicinity. If this is not possible, it should be considered to make provisions in the hull and/or the building envelope at the start for the purpose of later expansion.	The center location offers space to enlarge or add buildings if the long-term housing need increases	In order to increase the flexibility of disposal, we cluster functions per building or building section.

Table 14: similarities within the same goal of flexibility (own table)

In this third step all the similarities are being compared and filtered out to give the criteria one newly chosen goal. In this case one big assessment framework will be developed with new chosen goals or assumed added values as overarching terms.

#### 5.4.6 Step four

The fourth step is to place the new chosen terms into the four perspectives of den Heijer. In this case a suitable overview is shown so that Landelijke Eenheid and its real estate developers, policy makers or other involved stakeholders can talk in same terms and cannot get confused about. A reason to do this, is that the authors of the different documents use different terms because of the purpose of the document on building or campus level. This does not help when the word accessibility in one document is a key term but, in another document, it is seen as a sub-goal. This could be interpreted as a container aspect. The involved stakeholders will not understand each other when the terminology is not at the same (campus) level. The different documents within the organization articulate the terms in different ways than other involved stakeholders. By creating more uniformity between the four documents, the campus assessment framework will play a guiding role with criteria for real estate developers. In figure 32, the 16 new chosen goals, also seen as assumed added values, are positioned in the four perspective model of den Heijer (2011). These added values contain all relevant campus criteria from the four documents.



Figure 32: the assumed added values of the new campus assessment framework for the Landelijke Eenheid. Adapted from den Heijer (2011)

### 5.4.7 Step five

The fifth step is to add the operationalization values in the excel behind every criterion. This step results in many criteria that are not operationalizable because of its detailed description. The real estate department of the police must have document or specific tools to check if the Landelijke Eenheid meets the goals in their own assessment frameworks or in their vision or ambition documents. However, this knowledge, document or tool is not available for this research so the criterion that could be operationalized will be checked according to table 8.

A	B	C	D	E	F	G	H	I
Functioneel				Bron visie-/ambitiedocument en paginanummer		De oude doelstelling wat hoort bij het criterium		de oorspronkelijke pijlers doelstelling
Gekozen nieuwe doelstelling	Criterium	bron operationalisatie en value	Vastgoedkader	Ambitiedocument LE	Politebouwmeester	Benaming Doelstelling uit oorspronkelijk document		Pijlers doelstelling uit oorspronkelijk document
Toegankelijkheid	De centrumlocatie ligt centraal in Nederland en is goed bereikbaar voor medewerkers van de Landelijke Eenheid, overige politiemedewerkers en ketenpartners	Curvelo Magdaniel (2016) location characteristics City as the campus City contains the campus City overlaps with the campus City touches the campus City is disjoint		p. 22		Toegankelijkheid		De Landelijke Eenheid is uitermate gastvrij voor al haar bezoekers, ketenpartners en medewerkers. • De centrumlocatie heeft een duidelijke en expliciete zonering, zowel technisch als visueel. Zo zijn gebouwen optimaal en veilig toegankelijk. • De centrumlocatie biedt plekken waar mensen en teams zich kunnen terugtrekken.
	De centrumlocatie ligt op een af te sluiten terrein, met duidelijk herkenbare toegangen.	Curvelo Magdaniel (2016) location characteristics City as the campus City contains the campus City overlaps with the campus City touches the campus City is disjoint		p. 22				
	• De centrumlocatie is 24/7 toegankelijk en heeft een gastvrije ambiance.			p. 22				
	• Beveiligingsvoorzieningen op terrein- en gebouwniveau zijn afhankelijk van het dreigingsniveau flexibel op- en af te schalen.			p. 22				
	• Bij de hoofdingang is een duidelijk herkenbare, uitnodigende entree waar we gasten actief welkom heten. We maken hen op een persoonlijke en discrete manier wegwijs. De ontvangthal/lobby heeft een elegante, informele sfeer.	Curvelo Magdaniel (2016) Flexible facilities. Functionaler horizontal building Single/multiple buildings		p. 22				

Figure 33: part of the final campus assessment framework.

Figure 33 shows an overview of a part of the final campus assessment framework for the Landelijke Eenheid. A description from left to right will be given about each column how to understand this campus assessment framework.

- Column A: The perspective of den Heijer in which the chosen goal and criteria are positioned.
- Column B: The newly chosen term for the goal. Also seen as the assumed added value.
- Column C: The criterion that fits with the chosen goal.
- Column D: The source of the operationalization value and the value itself derived from literature.
- Column E F G: The original source of the criteria and its page number.
- Column H: The goal that is used in the original source.
- Column I: The cornerstones from the original source. That is seen as the means to get to the goal. Note that column H & I are grouped in the Excel. Those two columns refer to the original sources so that employees can always see where the criteria came from. In this assessment framework it could be described as extra information.

### 5.4.8 Step six

The sixth step is to use the interviews that are being conducted to check if any other recommendations are being mentioned about operationalization. The last part of the interviews, see appendix A2, was focused on the outcomes and how specific aspects that are often mentioned in the workshop (flexibility and accessibility) could be operationalized in the police campus. The results from the interviews showed some operationalization values. This will be mentioned in the three main aspects within the interview.

#### Accessibility (openness)

The first aspect is openness. The interviewees were asked what a possible outcome would be when the aspect of openness is operationalized. In this way, aspects could be found that match with the police campus in terms of operationalization values. The first comment that is remarkable is that interviewee A1 explains that the definition of openness not yet is determined, which is essential to know.

*“This is a difficult question, because openness is not defined yet.” [interviewee A1, 2021]*

This is a consequence of the stage of the complete process towards the campus. The development and design have just begun, so many aspects still need to be defined. Interviewee A1 indicates that the organization clearly needs to formulate which areas can be open and which not. In this way there is a way of creating openness.

*‘‘I think you have to create openness in the spaces that are available for this, for example a meeting center or the catering area, places like that. Once you get through those hurdles, then you have a way of creating openness for the campus staff and perhaps also the chain partners who are allowed in in a certain way.’’*  
[interviewee A1, 2021]

Another tool to operationalize is the different area in which authorized employees or stakeholders can enter or collaborate. The areas of collaboration with its security zones are strictly formulated. However, it is not clear yet how this will work on campus level. Interviewee A7 ascertains that the integral approach to realize openness and safety is crucial in this stage. A focus point to create openness is to make sure that all interest that needs to be protected are correctly formulated in a document. Those interest to be protected cannot be in positioned in open zones.

*‘‘In the policy development, you see that the theme of security is being approached in a different way, and not only that, but it is much more of an integral approach, they call it the interests to be protected, so that from the interest to be protected you look at what you want to do physically or digitally, but also what you need to do in terms of behaviour, and I find that relevant to campus developments.’’* [interviewee A7, 2021]

This view is supported by interviewee A3. However, interviewee A3 adds that openness is possible in zones of collaboration. But just as what interviewee A7 says, the interest that needs to be protected need to be always taken into account during developing and designing the campus.

*‘‘There are, of course, areas where no one is allowed to go and where even policemen are not allowed to go. Or areas where policemen are allowed but must be properly secured, this will be with permission or supervision and you also have a kind of collaboration area where people can be registered etc.’’* [interviewee A3, 2021]

The last thing that has been mentioned about openness by interviewees A1, A2, A4, A5 and A8 is the positioning of functions and buildings. The literature from Curvelo Magdaniel (2016) about the location could help with this, but there is not yet a tool to position functions throughout the campus. The functions and interests to be protected of each department have not been defined yet. An operationalized tool for positioning functions or buildings would be helpful for the police campus. This is currently still difficult.

*‘‘We are now looking at a clustering of functions and where exactly this could be positioned at that location, and I can imagine that you just get a kind of stamps that you can put there. There must be something that will connect them all. It will take some time to figure out exactly how that can be worked out.’’* [interviewee A4, 2021]

The extra information about the operationalization possibilities focusses on the interest to be protected and the positioning of buildings and functions. However, how this exactly is done is not clear. The Landelijke Eenheid is working on a list with all the interests to be protected. Once this has been made, it will help to cluster functions and position buildings on the campus.

#### Accessibility (closedness)

The second aspect is closedness. The interviewees were asked what a possible outcome would be when the aspect of closedness is operationalized. The interviewees sometimes had difficulties to mention the difference between openness and closedness and its operationalization. In this phase of the development of a campus, that contradiction is not astonishing and mostly logical. The two aspects are closely related to, or define, the term accessibility. However, the interviewees were asked to provide operationalized aspects regarding closedness for the police campus to get more understanding of what the interviewees' perceptions are.

According to interviewees A1, A3 and A8, the interests to be protected play again a crucial role when operationalizing ambitions and vision. The interests to be protected must have a focus point in the police campus. Security is a top priority so the security zones must be precisely implemented. The security zones depend on what kind of work is done. This will be checked by the PDC (politiedienstencentrum) in the department of facility management if the zones comply with the levels of security.

*“You really have three or four different levels of security in the police force, so depending on the level you work in, your environment is secured in a certain way.” [interviewee A1, 2021]*

To add strength to the importance security, interviewee A2 states:

*“There are basically just parts of police work that shouldn't even be near a window.” [interviewee A2, 2021]*

There is an operationalized document which is made to check the security level for each zone and each interest to be protected. This is mentioned by interviewee A3.

*“We have rules for this. This is called interests to be protected. Teams have interests to be protected, for example information or persons that need to be protected, then a certain level of security is required. So in principle, that is fixed. You will have to establish for each team what interests need to be protected, so you will have to go through all of that later and check it against the policy points to see if it still complies.” [interviewee A3, 2021]*

The next aspect that explains how to operationalize closedness is the model of reference of secured police buildings. Although this reference document focusses on the building level rather than on campus level. Nevertheless, the new buildings on campus will be checked according to this reference model.

*“Of course, closedness complies with the basic principles of the police building security reference model. It is a combination of the user's wishes and the functional requirements, and nowhere is it described what exactly this must meet, because it is a reference model.” [interviewee A9, 2022]*

To summarize, the Landelijke Eenheid has two tools or documents to operationalize which are the interests to be protected and the police building security reference model. The final document of all the interests to be protected still needs to be created, but when this will be made, it will be an advantageous tool. What is noticeable is that this tool is useful for the aspect of openness, closedness as well as the aspect of flexibility. The interests to be protected have been secured according to the security standards from the Politiedienstencentrum, but other functions that are not included in the interests to be protected might be able to be positioned in more open or shared spaces which could result in more efficient operational processes.

### Flexibility

The third aspect is flexibility. Flexibility comes along with collaboration, task-oriented, as well as with sustainability. The interviewees had different ways how they see this aspect being operationalized. Some talk about the building or campus level, but other interviewees mention the financial or strategic aspects that flexibility also entails.

According to interviewee A3 flexibility is about adaptivity. The future campus real estate needs to adapt and be flexible according to the needs of the organization. Interviewee A3 states that flexibility has a long-term impact, and that this aspect is crucial when designing a campus for future operational processes.

*“This is one of the most important things, that the quality in 20 years' time is at least the same as on day one. Then you will have a good campus that can develop and grow with you [the organization]. I think that is the greatest challenge. Something that can grow and develop with you.” [interviewee A4, 2021]*

Interviewee A3 puts extra emphasis on the flexibility aspect because of the changes in future processes that unregardedly will occur. However, the question how to concretely operationalize this aspect seems unclear, but teams are set up to investigate this operationalization.

*“That you can facilitate the internal and external adaptability of the locations, not overnight of course, but over time, in line with the processes of the Landelijke Eenheid.” [interviewee A3, 2021]*

Interviewee A8 mentions that flexibility could also be technically described. The search for uniformity in buildings is what will make the real estate flexible in Driebergen.

*“I would look for a kind of uniformity, and that does not mean that they all have to be exactly the same, but that there is a system in terms of structure, width and also length and height, and the same kind of climate system. So the structure, but they can be filled in differently, then it is very flexible, then the implementation can easily be exchanged in buildings A and C. But in terms of dimensions, location, height, it is very important. But in terms of dimensions, location, height, climate system, cabling, the entire infrastructure, it has the same logic.” [interviewee A8, 2021]*

A rather ‘negative’ aspect that interviewee A6 mentions is that flexibility ensures that some spaces need over-dimensioning. This is the result of sudden operational processes that could happen. Driebergen will serve as the main location for big national operations. This means that extra space needs to be available on campus. The current real estate in Driebergen does not fully incorporate those extra flexible square meters.

*“You say, well, we actually have problematic spaces to allocate for projects, for flexibility, then you just have to solve it there [Driebergen]. Then you must take for granted that it might be vacant 50 to 60% of the time.” [interviewee A6, 2021]*

A remark is made that flexibility incorporates many aspects. Interviewee A7 points out that flexibility impact on the finances or the organization and is related to the scalability. If the campus could be seen as a product, or elements of a campus as a product, then the flexibility increases. Interviewee A7 suggest that other commodities that are known in the organization should be implemented in the campus. The more it is a commodity, the more flexible, the lower the costs. A commodity is in this way described as a ‘product’ which can easily be implemented on the location of Driebergen. A modular building would in this case be a commodity.

The interests to be protected appear prominently in this section again when asking about operationalization. According to A9, the interests to be protected tell a lot about flexibility and applicability of different zones. The interests to be protected serve as the base when developing real estate.

*“Flexibility is a theme that we try to introduce. In new buildings, you have to be able to apply zoning in a very flexible way; we work with an open area, which is zone 0, a public area, and zone 1, for instance, a reception hall. Then you enter and you are in zone 2 where every police colleague, authorized guest or chain partner is allowed to walk around and then you enter zone 3, which is a secure area. Then you also have zone 3a, 3b and 3c, depending on the degree and confidentiality.” [interviewee A9, 2022]*

To conclude this step, some new operationalization aspects and general data and opinions from the participants of the workshops regarding accessibility (openness and closedness), safety & security and flexibility are found by deducting interviews. The first one is the interests to be protected. This document or lists will serve as a basis for the campus assessment framework and will give more insight in what functions can be clustered together or what spaces could be shared. This has will clarify more about the aspect of openness and closedness because it will be made visible what zones are accessible and what needs to be secured. However, this document or list is not available yet but could be added to the combined assessment framework when created. The second operationalization aspect could be the authorization of different employees or stakeholders where they operate. This goes hand in hand with the assigned zones which will be implemented on campus. A remark that must be made is that the document with different zones and functions has not been finalized, but teams within the organization are working to finalize this document. The third aspect that will help is the police building security reference model. Nonetheless, the reference model does not describe what the exact requirements are. Another thing that could help is to check if physical elements are a commodity to reduce costs. The last aspect is to search for uniformity, which relates to structures and systems of the buildings. Despite the relevant tools or document that are found by conducting interviews, specific operationalization tools cannot be added to the assessment framework because they have not been developed yet.

#### 5.4.9 Feedback on the assessment framework

After the campus assessment framework had been finished, a meeting with the real estate developer and the policy maker has been scheduled to get feedback about the assessment framework. The first comment was that it is a useful step into the direction to select criteria based on campus level. Besides that, the positioning of the new added values into the four perspectives in the campus model results into a clear overview which is easy to understand. One of the questions that was asked to the real estate developer and the policy maker was why there are few added values and criteria into the financial perspective. The answer is that the police does not have a fixed budget and operates with exploitation costs. The real estate developer explained that they must propose a solid plan of what the campus will entail in all perspectives and as a result of that they will get the financial approval. The exact amount of euros that the police campus may cost are not given by the organization. The policy maker made a comment about the way of thinking with a campus model and that this actually provides a different approach how they see the formulated criteria. The real estate developer added that the overview of the new assumed added values offers a proper overview for the user. However, the interpretation and the chosen terms might confuse departments because their criteria have new overarching terms. Despite the new terms, the criteria on campus level can be easily found in the campus assessment framework. The overall feedback was that the new campus assessment framework is helpful within the current (starting) phase of the process to develop a police campus.

#### 5.4.10 Conclusion Step by step translation into one common language

*What is a possible combined campus assessment framework that is suitable for the Landelijke Eenheid?*

The new combined campus assessment framework can help the Landelijke Eenheid in several ways. The first helpful aspect is that the new campus assessment framework incorporates four main documents that are used within the organization of the Landelijke Eenheid. The conflict that arose was that the different documents were not on campus level but on building level, but some criteria from the real estate documents are useful on campus level as well. Screening the four real estate documents resulted in one campus assessment framework in which only the criteria on campus level are mentioned. This will establish a better understanding of the criteria that are relevant for Driebergen. The second aspect is the terminology. Now that the four documents are combined, a terminology needs to be chosen to entail the different terms throughout the four documents. By using sixteen new goals with each their own term, a clearer overview is created. The third aspect is the positioning of the chosen goals in the campus model of den Heijer (2011). In this way, an analysis is shown how many goals the Landelijke Eenheid has per perspective. A balance needs to be found between the four perspectives. It is challenging to fulfill the other goals in the other three perspectives, when the financial part is not properly defined, but first the campus documents need to be present to continue with the financial aspect of the campus. However, the feedback from the real estate developer and the policy maker explained that there is no financial document, but only guidelines for exploitation costs. The fourth aspect is that the campus assessment framework shows which criteria can be operationalized according to the literature or the answers from the interviews. However, the document of the interest to be protected and the document with possible shared functions is not available yet. When this is finished, it will be a convenient addition to the campus assessment framework, because it entails strict security requirements which possibly have impact on the campus development and design. Also, these documents will explain strict operationalized values. Nevertheless, the framework still provides operationalization values that are relevant for the police campus and therefore help the Landelijke Eenheid in their process of change.

The campus assessment framework that is created is suitable for the Landelijke Eenheid, because it incorporates all the criterion that the four documents indicate on campus level. In the workshop and interviews, the issue arose that there was no available campus document for the police campus. This issue is more or less solved by this campus assessment framework. The Landelijke Eenheid has this extra instrument to help with the development of the police campus.

## 6. Case study: Brightlands Chemelot Campus, Sittard-Geleen

This chapter outlines the empirical work of the case study. This empirical part consists of one case of a campus that is seen as a good representative for the police campus. The case study is carried out to gather information about overlapping ambitions (between the Landelijke Eenheid and Brightlands) and how the operationalization of some of those overlapping ambitions have been done. Also, the same contradictions that the Brightlands Chemelot campus has (being accessible, safe and flexible) when they created the campus and what the solution was to overcome those contradictions. The data will be used to operationalize the criteria in the campus assessment framework that is created in chapter 5. This will serve as a recommendation or possible solution to operationalize the criterion in the new campus assessment framework.

### 6.1 Preparing for the case study

Preparing for the case study is necessary to execute a structured examination. It starts with making selection criteria. Once the criteria are set, the selection was made to choose one case study to investigate to comply with the missing criteria from the combined assessment framework for the Landelijke Eenheid. Paragraph 2.7 described the selection criteria for the case:

1. The case is a campus
2. The case has at least three ambitions that overlap with the ambition document (2020) of the Landelijke Eenheid (collaboration, innovation, attractiveness, accessibility, health & comfort, task-oriented, sustainability and flexibility)
3. The case has strict safety & security requirements
4. The case needs to be accessible for employees as well as for chain partners
5. The case must be incorporated with multi-functional elements (leisure, flexible workspaces, collaboration with chain partners)

This resulted in the following case selection: Brightlands chemelot campus in Sittard-Geleen, see figure 34.



Figure 34: Brightlands Chemelot Campus in Sittard-Geleen (Brightlands, n.d.)

#### 6.1.1. Data collection

The data collection for the case study exists of two ways which are analyzing the campus (ambition) documents of the Brightlands Chemelot Campus in Geleen and a semi-structured interview that will gain data from the real estate project manager of the Brightlands campus. The campus analysis documents will clarify more about:

- The context of the campus; What kind of campus is it, when was it build and what is their purpose?
- The context of the organization; What are/were the ambitions and visions (in regard to real estate)?
- Physical characteristics that comply with the operationalization of ambitions; What does the campus look like, what physical elements are present and how does this relate to overlapping ambitions from the Landelijke Eenheid?

The second way to obtain data is by doing a semi-structured interview. This set-up is the same as the for the interviews to gain data from the Landelijke Eenheid regarding the Activity Theory and their ambitions concerning their real estate. Bryman (2016) points out that semi-structured interviews allow the interviewee to be more open about their questions. Nonetheless, the interview does need to have a direction with flexible boundaries to get useful answers. Therefore, the interview guide is created (appendix C).

## 6.2 The Brightlands Chemelot Campus in Sittard-Geleen



Figure 35: Modern buildings on the Brightlands Chemelot Campus (own picture)

The Brightlands Chemelot Campus is an industrial campus in the south of Limburg. For many of the companies that are settled on campus, the distinctive chemical and material community is of strategic importance. The Brightlands Chemelot campus is seen as an important engine of growth for the entire region. To guarantee the importance of the Chemelot campus for future generations, major companies such as SABIC, OCI Nitrogen, Arlanxeo, AnQore and DSM have positioned itself on campus. The ambition of Chemelot is clear. Between 2016 and 2025 they want to grow into the most competitive and sustainable materials and chemical site in Western Europe. After 2025 those ambitions remain because this is a long-term vision/ambition. The campus will do this by focusing on further cost reductions and a multiple sustainable transition, on the one hand aimed at their production processes and on the other hand aimed at the product that they manufacture. The industrial park excels in the field of energy and raw material consumption and the Brightlands Chemelot campus is internationally recognized as a leader in innovations, the application of innovative and sustainable materials and cell science. In this way the Chemelot campus is unique in Europe, where research & development and production have been successfully combined for over a hundred years. Existing and new companies (multinationals as well as start-ups), knowledge-based institutes (Maastricht University) and training establishments have joined forces to create an innovative community to attract entrepreneurs, researcher and students in the field. The campus exists of 107 companies that offer work to more than 3000 people and there are around 1000 students actively involved in processes that occur on the campus. The campus is constantly reinventing themselves to strengthen the leading position and compete with the world's best (Chemelot, 2016). If the comparison is made to the police campus, there is only one organization, but there are many departments within the Landelijke Eenheid and third parties which they collaborate with. In this way, the Brightlands Chemelot campus can be useful for the Landelijke Eenheid to see how a relatively big campus functions.

### 6.2.1 Brightlands real estate organization

Brightlands is an organization that manages, leases and builds on four different campuses throughout Limburg. This is often unclear, especially in the beginning, because most people who enter the campus think that Brightlands is a chemical/innovative company. Brightlands is a company that rents out real estate to all the companies that are situated on the Brightlands Chemelot campus (and the three other campuses they have which are the health, smart and food campus). The organization has the capacity to manage the real estate, provide services but also builds new buildings. Furthermore, the organization links companies together to create more collaboration (interviewee B1, 2022). New business developers that want to be part of the campus ask Brightlands to settle on campus and the organization links them with companies that already settled. Brightlands is actively involved in the whole process. Also, it helps start-ups to grow and attract sponsorships.

### 6.2.2 Ambitions of Brightlands



To become one of the world's most innovative campuses regarding chemical processes (and health, food and smart services) an ambition document was created with this slogan:

“Chemelot – The most competitive and sustainable chemical and materials site in Western Europe”  
(Chemelot, 2016)

To achieve the main ambition, several “sub” ambitions were created in the Chemelot ambition documents to specify the huge ambition they have. Important to know is that Brightlands facilitates the real estate for Chemelot, which is a chemical innovation community.

“ The ambition of the Brightland campus is that we want a knowledge institute in Limburg in which we develop both educational and business purposes and the knowledge economy. And where we eventually merge those three.” [Interviewee B1, 2022]

### Sustainability

The Brightlands Chemelot campus is as an energy-intensive campus undebatably connected with one of the biggest challenges of the 21st century: fighting climate change. The brightlands campus can make a substantial contribution to the necessary transition to a circular economy. Raw materials and fuels will be efficiently used and they want to increase processes with renewable alternatives and maximize the reusability of product and raw materials. Not only the processes need to be sustainable, the buildings that will be developed also need to be sustainable and/or circular. (Chemelot, 2016; Brightlands, 2019)

### Attractive environment for talent

Brightlands provides fertile ground for talent to flourish as well as countless chances for scientist, entrepreneurs, students and employees. They benefit the most from the knowledge, location, shared ambitions, the exceptional facilities and the ecosystem of a campus. This setting, in which everyone can connect to innovation, development and creativity to willpower. Therefore, Brightlands is attracting more talent (Brightlands, 2019)

### Community & Cooperation

Brightlands is a thriving international community of over 21,000 talented individuals who work for start-ups, SMEs, global corporations, and research institutes. Scientific knowledge crosses all boundaries and borders to create new goods in this open environment, and experience from entrepreneurs motivate others to create new kinds of research and education.

Brightlands enables meetings between researchers, businesses and students to boost the effective and rapid exchange of information and the potential to inspire one another. Brightlands hosts numerous events that are related to the purpose of the chemical companies. Think about Brightlands Rolduc Polymer Conferences or the Brightlands Chemelot Talent Day. Those events trigger more interaction and therefore stimulate cooperation (Brightlands, 2019).

### Innovation

Brightlands facilitates state-of-the-art research & design facilities, meetings rooms and workspaces that are indispensable to the innovations of Brightlands. External partners can also benefit from these diverse facilities, in addition to companies and institutes on campus. Some new ideas are the workspaces for start-ups and venues for events. Brightlands offers world-class MRI scanners, analytical instruments, flexible cleanrooms, efficient pilot plants and field labs. Innovation is therefore an ambition that is well-implemented (Brightlands, 2019).

### Safety

All processes that happen on the industrial site are prone to accidents, fires or other calamities. Safety is highly important around the industrial site or in real estate which is close to the industry or in which dangerous processes happen (Brightlands, 2019).

Other ambitions that are important: competitive, connection with the surroundings, potential to grow, in connection with societal developments and economically feasible.

### Reflection police campus

The overlap in ambitions is visible between the Landelijke Eenheid and the Brightlands Chemelot Campus. Sustainability, attractive environment, community and cooperation, innovation and safety fits with the ambitions from the LE.

## 6.3 Data from the Brightlands Chemelot Campus

The Brightland Chemelot campus complies with the requirements that are set for the selection of the case. In the previous paragraph it is shown that there are similar ambitions between the LE and the Brightlands campus. To continue, the missing data (how to operationalize a specific criterion within the accessibility, safety & security and flexibility ambition) from the combined assessment framework and the contradictions that are found within this research and therefore within the operationalization of a police campus, could be supported by looking at how the Brightlands campus has implemented those specific elements and criteria that contribute to the similar ambitions. In this way, a physical solution could be shown which will help to give a possible solution and recommendation what a police campus can look like and how those contradictions are (physically) operationalized.

### 6.3.1. The operationalized ambitions of accessibility and safety & security into the Brightlands campus

The complete chemical site in Sittard-Geleen is immense and exists of more than 800 hectares of which 25 hectares are used for the Brightlands Chemelot Campus. The other 775 hectares are used by industrial companies in the chemical field. Interviewee B1 explained that there are plans to extend the Brightlands Chemelot campus further up north and create possibilities for new companies to settle onto the campus (chemelot, 2019) In Figure 36, the masterplan for the campus and industrial site in 2030 is shown.

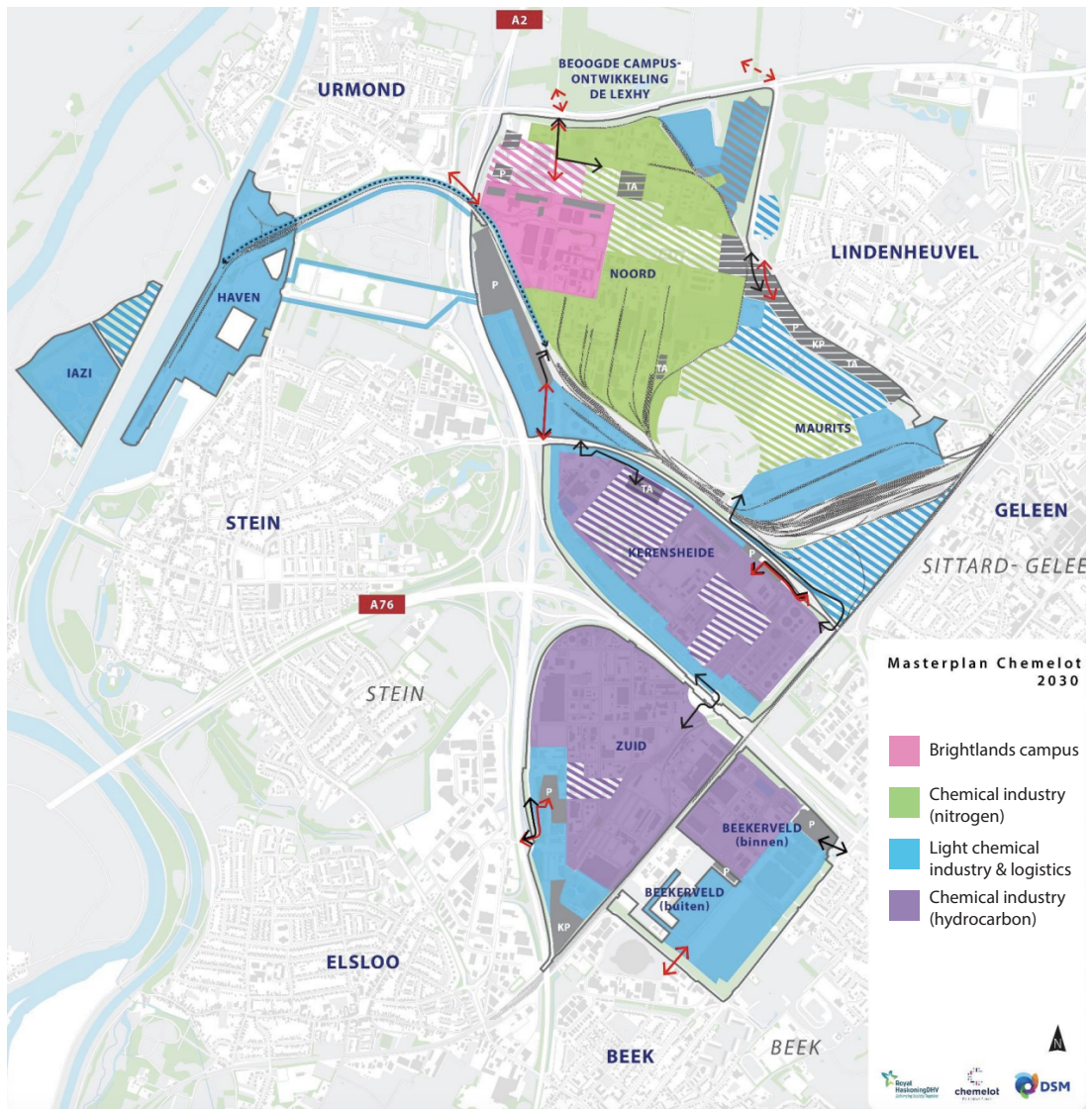


Figure 36: Masterplan Chemelot 2030 with adjusted legend (Chemelot, 2019, p.1)

To zoom in on the campus itself, figure 37 shows a plan of the Brightlands Chemelot campus.

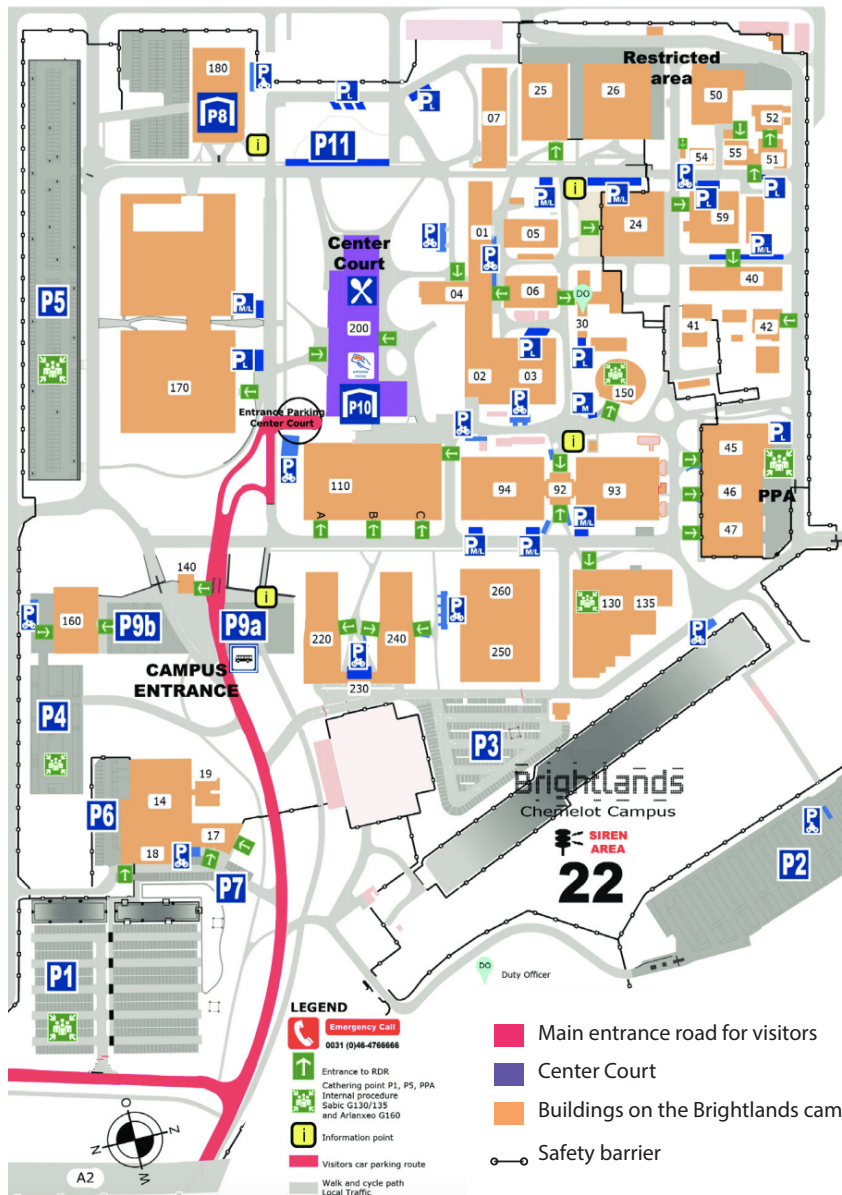


Figure 37: Plan of the Brightlands chemelot campus with adjusted legend (Brightlands, 2022)

The Brightlands campus is interesting when it comes to accessibility and safety and security. The industrial site and many chemical processes that happen on campus result in the fact that the campus needs to have an organized, yet strict overview of who can enter the campus and in what zones. As seen in figure 37, a fence is placed around the whole campus. When entering the campus, visitors need to be checked in online, then follow a safety guideline procedure and agree with the regulations on campus. The invitation can only be sent via someone that works at the campus or is related to the Brightlands campus. This approach makes sure that random visitors cannot enter the campus itself and will be stopped at the main entrance gate. The check-in procedure can only be done online and after agreeing with the regulations on campus, a QR-code is sent to your mail and contains the data upon which your arrival is. Figure 38 shows what needs to be agreed with and the instructions when there might be a chemical accident on campus.

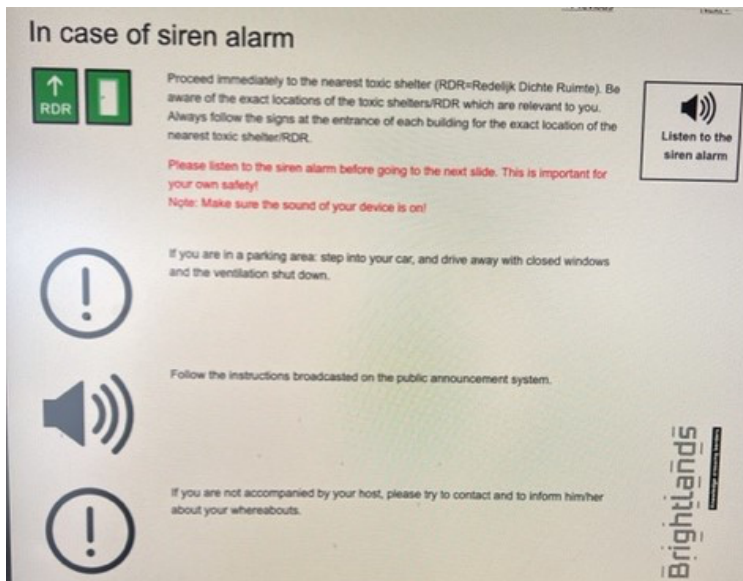


Figure 38: Instructions before visiting the Brightlands Chemelot campus (Brightlands, 2022)

When arriving at the campus, there is only one route that visitors can follow (the bold pink road in figure 37). This makes sure that visitors or chain partners park their car in the assigned parking garage and do not drive around the campus unnecessarily. Figure 39 shows the entrance gate for visitors and employees.



Figure 39: entrance gate at the Brightlands Chemelot campus (Sittard-Geleen nieuws, 2017)

*“ The outer shell is the zoning of the campus. Because it is part of the chemical plant, it is not accessible anyway, you can't just come in. You will have experienced this yourself, if you want to enter here or you have an appointment with me like today or with someone else, you get a link with a safety instruction you have to follow before you get a QR code to enter. That is actually quite strictly regulated.” [Interviewee B1, 2022]*

As mentioned by interviewee B1, the campus has different zones regarding safety. The first zone is the zone in which visitors, employees, students, professors can walk freely after having the QR-code (in figure 37 after the entrance building and until the second line of fencing). The arrival at the entrance gate is easy and fast, because the QR-code is scanned at the gate and then there is only one possible direction to drive towards the parking garage for visitors. The entrance gate does not obstruct the curiosity to enter the campus when authorized. This (guest) area contains the Center Court (purple on figure 37) which is an accessible building with diverse spaces to meet and interact. This 18.000 m<sup>2</sup> building contains a restaurant, grand café, conference center with auditorium, sport facilities and an underground parking garage. In this zone many companies are situated but all buildings can only be entered with an additional authorized card. The Center

Court is an exception because of its general functions. Interviewee B1 explain that the second zone is where the pilot plants and laboratories are located (figure 37 upper right in the restricted area). The reason for this is that the occupancy of those building is lower because of safety regulations. This terrain is surrounded with barriers and fences and authorization is obligatory, see figure 40. However, figure 40 shows that the security measurements are not always strictly managed because the gate is open. When asked to interviewee B1 why the gate is open, the interviewee mentioned that all people on campus are aware that you are not allowed to go there with extra authorization so visitors, employees and students do not go to this area. If an accident would occur and unauthorized people are there, they are in risk and everyone on campus is aware of this.



Figure 40: barrier to enter zone 2. (own picture)

As seen in figure 36, this zone is located close to the chemical industry. It forms some sort of buffer and the restricted area is shown on the plan. They located this specific zone thus with a reason. The last zone is highly secured because of the chemical and industrial processes. This is the area around the Brightlands Chemelot Campus, see figure 36 (purple, green and blue colour in the figure). Only authorized people that work at that specific factory or company are allowed to enter. Interviewee B1 emphasizes that zoning with security often play a role per tenant and could therefore vary on campus level, as well as on building level.

Interviewee B1 does mention a negative aspect when explaining the ambition of accessibility and safety & security. Because the Brightlands campus make use of a sign-up approach upon entree, many contractors do not want to work here on campus. They simple cannot send an available employee towards to campus to quickly fix something. Interviewee B1 explains that upon arrival, the right documents are necessary per person and the contractor cannot simply send a mechanic over. However, the interviewee does see a shift towards contractor that want to work there because of the innovative character of the campus. This is only possible when all the employees of the contractor have submitted the right documents.

#### Reflection police campus

The safety & security and accessibility aspects of the Brightlands campus have strict zoning plans based on the activities that take place in different buildings or locations. It is useful to examine what buildings and functions are positioned on the Brightlands campus and how the Brightlands Chemelot campus operationalized similar ambitions into a successful campus. The Landelijke Eenheid can especially learn from the positioning of the buildings that have high security or safety protocols. The attractively designed and secured entrance (figure 39) at the Brightlands campus does not feel like an obstruction when visiting the campus. This is helpful for the Landelijke Eenheid to warmly welcome visitors onto their future police campus while still being safe and secure.

#### 6.3.2. The operationalized ambition of flexibility into the Brightlands campus

As mentioned in the ambition document, collaboration is an important element on campus. Also, the accommodation of companies that want to settle on campus. Brightlands creates real estate that can be flexibly used in terms of functions or in terms of tenants. This specific type of real estate is called ‘a Brighthouse’, see figure 41. This refers to a flexible building. In this way tenants can easily and quickly rent

suitable real estate and Brightlands can easily facilitate it on campus. In figure 42, the concept is shown. It is easy to enter and tenants can split up the building in order to have private work/research places.

*“Brighthouses are modularly built and actually divided into grids, three quarters of which have lab functions, installations, lighting and everything that goes with it, etc. extra refrigerators, things like that, and a quarter of the floor is set up as offices. You can then easily divide up such a module on the basis of band grids.” [interviewee B1, 2022]*

Interviewee B1 further explains that the Brighthouses are not only created to adapt to the needs of the tenants, but also to create a business case. It is cheaper and more efficient to construct some Brighthouses that comply with the needs of many chemical and research companies, than to build specific types of real estate.

*“ It is actually developed as a flexible box that can be used in many places.” [Interviewee B1, 2022]*



Figure 41: A Brighthouse on the Brightland campus. (own picture)

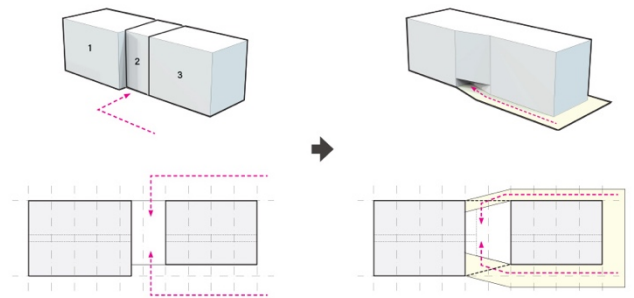


Figure 42: Concept of a Brighthouse. (Pauwert Architectuur, 2021)

The Brighthouses exist of five building layers which are flexible to use. Interviewee B1 explains that it is not innovative to constantly design a new building because this takes a lot of time. It is easier to create an adaptive building. Copying the Brighthouse and position this multiple times on campus means lower costs, less chances for imperfections and a faster way to realize the buildings because this has been done before. Brighthouses were built with scalability in mind and provides a welcoming environment that encourages quick expansion. The buildings may readily be customized to the individual demands and requirements of their tenants because flexibility is one of the major pillars of the overall design. It could be said that it flexible on multiple layers. The outside layer (circular), the floor plans (which are adaptable to the needs of the tenant) as well as the integrated systems. As seen in figure 41 and 42, the Brighthouse can be split into three parts but on the outside the Brighthouse is designed to look like one building. The exterior shows an adaptable building while in the interior, the flexible floor plans are present to support the needs of the tenant. Before tenants move in, they are asked what requirements they have. The Brightlands organization can therefore install conference rooms, workplaces or laboratories in various sizes. This can differ from a room of 4 people to a room of a full class.

#### Reflection police campus

Flexibility is incorporated in this campus by making use of flexible, modular and circular buildings. In this way, Brightlands provide a flexible space which tenants can rent. Laboratories, workplaces and offices are facilitated. The flexible design makes it a good business case because it complies with the needs of many tenants that are present on the Brightlands Chemelot campus. Those flexible

buildings could also be incorporated on the police campus. The Landelijke Eenheid also needs offices and laboratories. The difference would be that it cannot be rented out to third parties, but it can be used for departments within the Landelijke Eenheid. In this way flexibility is incorporated onto the campus. The size should also differ when the Landelijke Eenheid might implement a flexible building. The bright house is a 30 meter high building and suits fits the size of the Brightlands campus, however the police campus will be smaller in size, so the size of the building should therefore be taken into configuration.

### 6.3.3. The operationalized ambition of attractiveness into the Brightlands campus

The first thing when crossing the entrance gate is the incredibly modern Center Court. This building serves as the center point of the campus. Employees, visitors and students gather in this building, which purpose is to stimulate interaction and present itself as the pride of the campus. With its inviting architecture, you are attracted to go inside. The use of transparent materials, outside stairs and an open surrounding makes it properly visible upon entry, see figure 43.



Figure 43: Center Court as central building on the Brightlands Chemelot Campus (own picture)

Interviewee B1 explains that in the center court many functions are present. A lecture hall, rooms for meetings, a proper coffee bar and restaurant, but also innovations are shown, see figure 42. The first thing which is noticeable are the products that are displayed when entering the Center Court. This triggers the curiosity to read and see what companies do on the Brightlands campus. The display of innovation is important to create a solid campus ecosystem.

*“Everyone also comes here for a cup of coffee or a sandwich or whatever.” [Interviewee B1, 2022]*

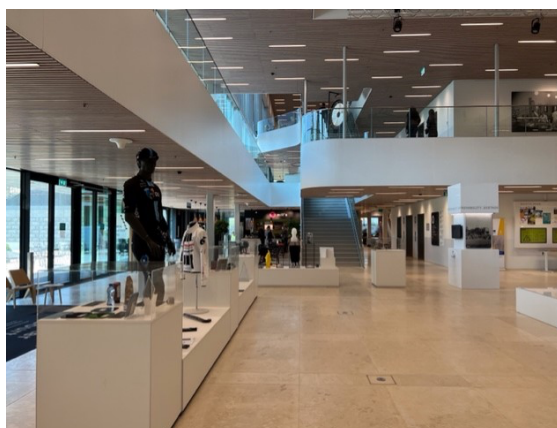


Figure 44: innovations are shown when arriving at the Center Court. (own picture)

During the interview, the question is asked if there are zones in the Center Court where companies can collaborate. Interviewee B1 explains that Brightlands sees the campus as a whole as a collaboration zone. Many network events are held to create interaction between the companies on campus. Because companies cannot simply just rent a building but have to do a strict screening if they fit on campus, the ecosystem that



is created, complies with the vision that Brightlands has. The Center Court is seen as the place to meet and interact and that is why the building is hypermodern and full of innovation.

*“What we do facilitate enormously is networking, so an enormous number of networking events are organized that are open to all companies” [Interviewee B1, 2022]*

Attractiveness is also created by the campus itself. The advantages of a campus, such as more knowledge sharing, more collaboration, closer to the operational processes and sustainable modular buildings makes the campus a popular place to settle for companies (interviewee B1, 2022).

Another aspect that comes along with attractiveness is the financial impact on the organization of Brightlands. When asked what the impact was on the organization by making use of a campus, interviewee B1 answered that the maintenance of the real estate on campus is easier to arrange. A reason is that Brightlands decided to lease, build and maintain the portfolio itself. However, be aware that the real estate portfolio is diverse and that brings along different maintenance processes. Interviewee B1 tells that when you develop the buildings as an organization yourself, make sure that you have a long-term vision regarding maintenance. This will result in lower costs and therefore be more attractive for an organization to schedule maintenance with one contractor for example. The newer and more durable the real estate, the lower the maintenance costs. Than it will be more attractive for the organization as well.

*“Because we have to rent out the property, on the one hand you have to set up the property under fixed conditions to keep the rent commercial but that does not always correspond to what the maintenance department wants.” [Interviewee B1, 2022]*

#### Reflection police campus

The Landelijke Eenheid could take the Center Court as an example how to create an accessible, modern, and attractive building in which the visitor or employees can interact with other departments, drink a coffee or go to meetings. In the workshops, the Landelijke Eenheid mentioned to display elements from each department so other departments or employees would see what is happening on campus. The Center Court is situated in the first security zone, so it is easily accessible when on campus. The modern façade and inside space look attractive and gives an impression what the campus stands for.

### 6.4 Lessons learned from the Brightlands Chemelot case

The case study helped to better understand how a representative of the future police campus could help to solve contradictions that might occur or that the Landelijke Eenheid struggles with. Many requirements that were set up for the case study comply with the police campus and therefore it is useful to investigate how the Brightlands campus has operationalized or solved the contradictions. The ambition to be accessible, safe and secured, flexible and attractive can be found back in the case study. By conducting an interview, examining case documents and walking around on the campus, many solutions were found how the Brightlands campus operationalized their ambitions and create an efficient ecosystem they strive for. The purpose of the campus is nevertheless different than from the police campus, but lessons are learned during the case study. A short summary is mentioned:

Accessibility and safety & security:

- Inviting and secured entrance where visitors need to sign up before entry
- One main road towards the assigned parking garage so visitors do not drive around the campus.
- Three different zones on campus, only accessible with an authorized card. Also on building level.
- Visitors need to agree with strict safety and security rules. Visitors are aware where they can go and where they cannot go.
- Clear fencing, but it does not obstruct the overall accessibility
- Center Court is well accessible for visitors, because the infrastructure is oriented towards this building

Flexibility:

- The modular, sustainable Brighthouse with flexible floor plans
- Easy for tenants to rent and adapt the real estate to their operational processes
- Integrated laboratories and workspaces (which most tenants need)

Attractiveness:

- Multifunctional, modern building where people can interact
- Position functions that can be shared (restaurant, meeting rooms and auditorium)
- Exposition of innovation at entry
- Stimulate interaction as much as possible by creating open spaces
- Sustainable real estate in portfolio

These abovementioned (operationalized) elements will help to generate a recommendation how a police campus can solve the contractions and ambitions that the Landelijke Eenheid has.

## 7. Synthesis (not in this publication because of confidentiality)

## 8. Discussion and limitations

This chapter mentions two points of discussion: the campus assessment framework and the literature review and empirical work. Secondly, the limitations during this research are mentioned.

### 8.1 Discussion: the assessment framework

This study has provided insight into how a campus assessment framework could help to support the Landelijke Eenheid. It became clear that many ambitions are broadly described without any detailed information of how the organization want to implement this in the future police campus because the process of developing a campus is new and has never been done. This research and the product of the campus assessment framework offers a more substantial overview of campus details and elements that are useful during the process of developing the police campus. The Landelijke Eenheid had in the beginning the problem that they did not have any campus assessment frameworks and thus this research proposes a tool that can help them in this process. Another aspect that has been applicable is the configuration of a highly secured campus and its action to develop the campus. The case study and the literature has been used to propose actions and a configuration that could be applicable to public organizations which have strict security measurements but still want to be flexible and accessible. From the interviews, a collection of data is gathered that is used to help creating the assessment framework and solve the contradictions. However, the campus assessment framework still needed to be operationalized with exact values. The operationalized values for each criterion have not been found because of the level of detail of each criterion. The literature served as a proper basis, but as said, the criteria in the final campus assessment framework have not been operationalized. The case study strengthens the configuration that is given to the police campus because the same contradictions have been operationalized and the Brightlands campus is functioning well.

A second remark could be made if the operationalization of an assessment framework and the combination of the Activity Theory gave an optimal result. The Activity Theory focusses on the organization while the operationalization of the assessment framework is about physical elements. However, the organization of the Landelijke Eenheid is changing and that has impact on the way the police campus will look like. So, the Activity Theory and the operationalization gave a proposal or insight in what comes along with the police campus that needs to be developed.

### 8.2 Discussion: literature review and empirical work

The literature review has shown that campuses bring along added values, with many campus typologies and campus themes. However, for the police the knowledge about campuses is diverse within the organization. Many stakeholders have other points of view which has been shown in the interview results. The four original documents did not include many detailed criteria which is understandable because the process of developing a police campus has not been done before. Therefore, this research was necessary and timely to help the Landelijke Eenheid in creating an assessment framework and proposing the Landelijke Eenheid a solution what a campus could look like for them with actions to undertake. A point of discussion is that the literature about operationalization was focused on specific types of campuses but for the police it is difficult to divide this into one campus typology. The starting point is the interests to be protected with the physical and digital security requirements, but it remains at that level because of the criteria that do not have specific details yet. The confidentiality of those documents is essential and that means that in this research, the exact details will not be present. However, a suitable configuration can be recommended and a set of actions is suggested. New goals with one campus terminology are created and according to the campus literature and case study this will create added values. The Landelijke Eenheid can use the new campus assessment framework to reach their goals. The newly created added values could be used to continue with the development of the police campus.

### 8.3 Limitations

Limitations are in every research, also in this one. The limitations have an impact on the conclusion and recommendations and should therefore be discussed.

The first limitation is the difficulty to obtain internal information about the processes that are ongoing regarding the police campus. In the phase of the process this is not astonishing because the campus developments are new for the Landelijke Eenheid. Additionally, the Landelijke Eenheid is a highly secured organization which does not share a lot of information. The interviews were helpful, but the interviewees noticeably could not mention many details about the problems that occur in Driebergen regarding their current real estate and the contradictions that occurred. The four documents that have been investigated and used in this research have helped to clarify criteria and helped to create new terminology.

In addition, the organization of the Landelijke Eenheid is immense and there are many departments. Talking about the organization makes employees hesitant to fully speak out what needs to be changed because of the confidentiality of the information that they could give me. It was difficult to get detailed information when questions were asked to the interviewees. Also, the different departments are not always aware of the needs of other stakeholders or departments. This is a huge limitation. It would be more useful if the interviewee would fully speak out about the other departments and what their opinion is about their needs or what they want to change. It makes sense because of the confidentiality but some answers on the interview questions were very short and generally described.

Another limitation is the completeness of the literature. The theoretical review is generated from various books, (scientific) publications, websites and academic papers to discuss the topic of the police campus. Important references to certain topics may be missing in the theoretical background since they were not found during the literature search.

The aim of the research was to define what a campus could offer to the Landelijke Eenheid. It was difficult to foresee when the campus assessment framework would be finished. All the terms that are used within the different departments of the Landelijke Eenheid made it chaotic. Therefore, it was hard to create a coherent structure within the framework. The campus assessment framework is not fully complete yet, because some operationalized values are still undefined. The lack of information could therefore weaken the recommendation.

The graduate internship has unfortunately not offered many possibilities to be part of the team that is working on the police campus. The reason of this has been the covid-19 pandemic. The organization of the Landelijke Eenheid needed to follow the strict government rules about working from home. Therefore, less interaction has been made with employees that are in the process of developing the police campus in Driebergen.

The last limitation is the reliability and validity of the interviews. Before the interview, a practice interview was conducted to ensure that all of the interview questions were correct and that no questions were missing or unnecessarily positioned in the interview. However, there are limitations to conducting interviews to acquire data, for example the demand characteristics and the bias of the observer. This first limitation happens when the interviewees become aware of the purpose of the study and, as a result, act differently. This occurs when the researcher has preconceived notions and is focused on the responses of the interviewees. The interviewees may detect a particular direction, and this could influence the interview in a specific direction. The interviewer should be devoted to ensuring that the outcome is objective. The second aspect is the bias of the observer. Some interviewees are more aware of the whole process than others and this might result significantly in influencing the outcome of the questions. The interview questions about the operationalized outcome were easier to answer for the asset manager and real estate developer than for the user. This is a limitation because if the user would give a more comprehensive answer than the result would have better argumentation. Another thing to mention is that the interviews were held in Dutch, and the interview quotes are translated into English. The translation might slightly deviate from the original statement.

## 9 Conclusion and recommendations

The purpose of this chapter is to show a solution to the problem which has been stated in the problem statement. This is done by answering the main research question. To begin, the six sub questions are shown with the answers that are derived from the literature review and the empirical study which has been done. Finally, the recommendations for practice and for future research are mentioned.

### 9.1 Sub conclusions

1. *How can the campus strategy accommodate the needs of an organization and how can a campus be operationalized?*

A campus or science park is a commonly used term in the Netherlands and abroad for business parks where technology-driven activities become spatially facilitated. From the practice side, Buck Consultants International (2018) campuses are described as hubs where business, innovators, researchers and academics come together to form a hub. From the academic side, Den Heijer (2011) defines the “campus” as the (collection of) buildings and land, used for university or university related functions. A campus could be seen as an overarching term that covers multiple typologies such as the greenfield inside the campus, as part of the city and integrated with the city. When combining the practice and academic side the campus has the following definition: a campus includes all building that are used by a university, an institution or a company and often refers to its territory and it is not only a place for innovation or possibilities for (public or private, internal or external) collaborations, but also its distinctive capability to respond to physical or non-physical priorities which are feasible in different typologies with their own characteristics.

To help accommodating the needs of an organization, the campus framework of den Heijer (2011) is explained. This campus framework focusses on four perspectives: the organizational, functional, physical and financial. By combining the core elements of Buck & Draisma (2013) focused on the strategic and organizational goals (the practice side) and the added values of den Heijer (2011), thirteen added values are mentioned:

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| 8) Supporting image              | 8) More turnover                     |
| 9) Supporting culture            | 9) Optimizing costs                  |
| 10) Knowledge exchange           | 10) Reducing risks                   |
| 11) Increase quality of space    | 11) Reducing CO2 footprint           |
| 12) Adoption of new technologies | 12) Optimizing m2 footprint          |
| 13) Supporting use activities    | 13) Faster valorization of knowledge |
| 14) Increasing flexibility       |                                      |

Each goal of an organization can be aligned and therefore create added value to the organization with the focus on the practice and academic field. Also, by combining the function groups of den Heijer (2016) and the core elements of Buck Consultants International (2018) seven campus elements are present:

- 8) Physical high quality business opportunities and research facilities (Buck Consultants International, 2018)
- 9) Research and development/innovative activities (Buck Consultants International, 2018)
- 10) A manifest knowledge carrier (Buck Consultants International, 2018)
- 11) Active open innovation (Buck Consultants International, 2018)
- 12) Residential (den Heijer, 2016)
- 13) Retail & Leisure (den Heijer, 2016)
- 14) Infrastructure (den Heijer, 2016)

Considering the campus elements and the added values, the overall organizational performance increases when organizational goals are being fulfilled and the added values contribute to the organizational objectives. The campus strategy of den Heijer (2011) is in this way a possible solution to accommodate and align the needs and goals of an organization. Some of the added values that come along with a campus strategy are decrease in costs, support user activities, increase user satisfaction, supporting image and culture, stimulating innovation and reducing the footprint.

The literature has pointed out that there are different campus typologies regarding the needs of an organization. The campus and the real estate on campus can facilitate certain tasks for an organization and the vision that the organization strives for. Every organization has goals and visions and the campus is a mean to reach the desired outcomes. By investigating what typology suits what kind of organization (regarding demand and supply side) and what purpose, eight campus typologies and twelve campus themes are mentioned by Curvelo Magdaniel, Den Heijer & Arkesteijn (2019). This shows the possibility to incorporate themes or typologies which could be incorporated in the campus and therefore accommodate certain needs, on the demand or supply side of an organization. The right state-of-matter of the campus is for that reason helpful. The three different states-of-matter show how a campus can be managed, used, and evolve in the future.

An answer on how to operationalize a campus is shown by Curvelo Magdaniel (2016) and Ng et al. (2017). Curvelo Magdaniel (2016) uses schematic operationalization tools and she mentions flexible spaces, shared facilities and the physical connectors. The flexible spaces come along with the operationalized forms that exist, such as modular constructions or long hallways. The shared facilities come along with visual schematic operationalization options, and she makes clear what spaces come along with, for example canteens or workspaces. Then she shows where each space should be operationalized. The research of Ng et al. (2017) gives examples of physical and non-physical characteristics that could be operationalized. This could later on play a role to check which criteria of the campus assessment framework are operationalizable and which ones are not. Lastly, table 8 gives an overview which is used to show all the combined operationalized values.

2. *What are the major areas of (expected) impact on the Landelijke Eenheid regarding real estate?*

During the workshop with the Landelijke Eenheid, some contradictions were found. Accessibility, with the focus on what needs to be open and what needs to be closed and this in combination with safety & security because of the operational processes that the Landelijke Eenheid executes. The other area of impact is the area which involves flexibility. Because the work processes are advanced and have many requirements regarding real estate, it is problematic to create flexible spaces. One of the reasons is the outdated, inefficient and inflexible current real estate that the Landelijke Eenheid uses. Also, the Landelijke Eenheid wants to attract and retain new employees, but the current real estate obstructs the innovative and modern environment that the Landelijke Eenheid strives for.

To get deeper understanding of how the Landelijke Eenheid wants to create a police campus, the contradictions of accessibility, safety & security and flexibility were used to set up a semi-structured interview. The expected areas of impact regarding real estate explained the contradictions from different employees within the organization of the Landelijke Eenheid and is therefore interesting to investigate what they think about each contradiction and the actions that are necessary to solve this. The action will help to overcome the contradictions that the Landelijke Eenheid has. The activity theory incorporated the answers from the interviewees about the actions of creating a police campus and how this process evolves.

An often-reoccurring topic during the interviews to collect data for the Activity Theory is the current outdated real estate. It is not flexible at all, as mentioned in the workshops. It obstructs the growth and innovation of the organization. As a result, the maintenance costs are increasing and the current real estate has insufficient flexibility based on changes. Another issue that occurs is that the real estate department does not have specified campus assessment framework yet, because a campus has never been developed. There are no available documents or assessment frameworks on campus level yet, so this is the first step in the process of developing the campus. Flexibility is essential for current and future operational processes, but the Landelijke Eenheid does not have any guiding documents or requirements for the implementation. Many departments still need to make a document in which they explain what kind of functions they can share and how they want to collaborate. Once this document has been obtained, it is easier to guarantee that the ambitions of flexibility and collaboration are integrated in the real estate documents and therefore support efficient future operational processes with the new police campus. Another issue is that many of the same functions are dispersed in several buildings. The Landelijke Eenheid needs to de-duplicate to become more efficient in the use of functions and therefore need fewer financial resources, which can eventually be invested in the real estate. The last issue that relates to flexibility is the possibility for future divestment of the real estate. The

portfolio could be developed beneficially to other parties within the security domain. Those parties might be able to adopt buildings that the Landelijke Eenheid will not use in the future.

The second expected area of impact is the accessibility versus the safety & security ambitions. It is unclear what parts of the operational processes can be moved towards more accessible zones or how future departments will collaborate on campus. One of the reasons is that the document with the interests to be protected is not available per department yet. The campus real estate will stimulate collaboration between departments as well as between chain partners, so the interest to be protected serve as guidelines where employees can enter or not. In addition, the security zones are determined by the interests to be protected. Clear zoning is therefore essential to implement on campus level. Accessibility is determined by the functions that have high interest to be protected. The Landelijke Eenheid is currently analyzing which functions fit best in which building or position on campus. However, the power dynamics of the different departments plays an issue as a result of territorial mindset of some departments.

In this chapter, the actions are related to the process and show how to solve the occurring contradictions of accessibility, safety & security and flexibility. By using the activity theory and looking at the contradictions, issues and actions, the process as a whole is being tracked, rather than focusing on the outcome.

### *3. What is a possible campus assessment framework that is suitable for the Landelijke Eenheid?*

The new combined campus assessment framework can help the Landelijke Eenheid in several ways. The first helpful aspect is that the new campus assessment framework incorporates four main documents that are used within the organization of the Landelijke Eenheid. The conflict that arose was that the different documents were not on campus level but on building level, but some criteria from the real estate documents are useful on campus level as well. Screening the four real estate documents resulted in one campus assessment framework in which only the criteria on campus level are mentioned. This will establish a better understanding of the criteria that are relevant for Driebergen. The second aspect is the terminology. Now that the four documents are combined, a terminology needs to be chosen to entail the different terms throughout the four documents. By using sixteen new goals with each their own term, a clearer overview is created. The third aspect is the positioning of the chosen goals in the campus model of den Heijer (2011). In this way, an analysis is shown how many goals the Landelijke Eenheid has per perspective. A balance needs to be found between the four perspectives. It is challenging to fulfill the other goals in the other three perspectives, when the financial part is not properly defined, but first the campus documents needs to be present to continue with the financial aspect of the campus. However, the feedback from the real estate developer and the policy maker explained that there is no financial document, but only guidelines for exploitation costs. The fourth aspect is that the campus assessment framework shows which criteria can be operationalized according to the literature or the answers from the interviews. However, the document of the interest to be protected and the document with possible shared functions is not available yet. When this is finished, it will be a convenient addition to the campus assessment framework, because it entails strict security requirements which possibly have impact on the campus development and design. Also, these documents will explain strict operationalized values. Nevertheless, the framework still provides operationalization values that are relevant for the police campus and therefore help the Landelijke Eenheid in their process of change.

The campus assessment framework that is created is suitable for the Landelijke Eenheid, because it incorporates all the criterion that the four documents indicate on campus level. In the workshop and interviews, the issue arose that there was no available campus document for the police campus. This issue is more or less solved by this campus assessment framework. The Landelijke Eenheid has this extra instrument to help with the development of the police campus.

### *4. What actions and campus configuration can the Landelijke Eenheid use and how does that relate to the contradictions of accessibility, safety & security and flexibility?*

It is complicated to give one answer to this question because there are many physical configurations that could deal with the contradictions of accessibility (openness and closedness), safety & security and flexibility. However, a possible configuration is given in figure 45. It has been checked whether the contradictions have been solved by means of the campus configuration.



The positioning of the building will have the most impact on the aspects of accessibility. The accessibility is determined by the security zones so when designing and developing the campus, the interests to be protected need to be clearly formulated. Once this has been done, a specific configuration with the functions of each building can be made. The configuration must consider that some buildings could be divested or changed into other functions, therefore modular and flexible buildings are recommended to develop. The Brighthouse from the case study is a good example of how to flexibly design and construct. Each building or zone should adapt to the needs of each department and clustering functions is a suitable option. By creating several dispersed buildings on the campus, it is easier to divest or change its function. What is found in the interviews is that the current long shape of the building is not flexible at all, so that is a lesson that is learned from the past.

The gradation of security zones should be implemented in a way in which employees and other stakeholders immediately can experience where they are and that the barriers are uncomplicated. An option is to have one main entrance for visitors and two extra entrances for employees. There is no final campus configuration yet but with considering the smaller buildings, the properly accommodated security zones, the physical connectors, and the positioning of the buildings is proposed. The police campus in Driebergen needs to incorporate all three states of matters described by den Heijer (2011) because the operational processes of the organization acquire each of those three states. When the criteria are more detailed and the criteria about the number of square meters per function and department is known, then the decision can be made what kind of physical states of matter can be developed and all three states are found in the police campus (solid, liquid or gas). The configuration takes into account the contradictions and the criteria that cause the contradictions and therefore proposes actions to take in table 16.

In the workshop different terms and typologies had preference, for example the co-campus or home campus. The specific themes that the Landelijke Eenheid want to incorporate are; rethinking the workplace, creating a flexible learning environment with more study places, investing in state-of-the-art laboratories, enriching the campus with non-academical functions, extending opening hours, implementing smart tools for campus navigation, clustering in one place for regional consolidation in the knowledge-based economy and rethinking the campus as a safe and healthy place to be. These themes all fit into the configuration. The possible actions are shown in table 16.

## 9.2 Main conclusion

This paragraph will answer the main research question:

### ***How can a campus support the Landelijke Eenheid in Driebergen?***

From the literature it can be concluded that a campus can have multiple definitions because of the different typologies that exist. When combining the practice and academic side, the campus has the following definition: A campus includes all building that are used by a university, an institution or a (public or private) company and often refers to its territory which exists of different typologies with their own campus characteristics. A campus can support organizational change and can accommodate to the needs and goals of an organization into a suitable configuration.

A campus can support the Landelijke Eenheid in two ways: by its management (and therefore contribute to organizational goals) and by physical real estate. To manage a campus and accommodate the needs of an organization, a campus framework is essential. In this research seven campus elements were found in the comparison of the function groups of den Heijer (2016) from the academic side and the core elements of Buck Consultants International (2018) from the practice side. The campus elements show what a campus needs to incorporate. The following campus elements are:

- 1) Physical high quality business opportunities and research facilities
- 2) Research and development/innovative activities
- 3) A manifest knowledge carrier
- 4) Active open innovation
- 5) Residential
- 6) Retail & Leisure
- 7) Infrastructure

In this research, the campus framework of den Heijer (2011) is used. This framework focusses on four different perspectives which are the functional, physical, strategic and financial perspective. By making use of the campus framework by den Heijer (2011), added values are important. Added values are interrelated and do not solely bound to one perspective. By combining the added values from the practice side of campuses (Buck & Draisma, 2013) and the added values from the academic side (den Heijer, 2011), thirteen added values are found which show overlap with the assumed added values from the Landelijke Eenheid. The thirteen added values from literature are as following:

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| 1) Supporting image             | 8) More turnover                     |
| 2) Supporting culture           | 9) Optimizing costs                  |
| 3) Knowledge exchange           | 10) Reducing risks                   |
| 4) Increase quality of space    | 11) Reducing CO2 footprint           |
| 5) Adoption of new technologies | 12) Optimizing m2 footprint          |
| 6) Supporting use activities    | 13) Faster valorization of knowledge |
| 7) Increasing flexibility       |                                      |

Campus management looks at the four perspectives and could bring thirteen added values which are beneficial for the Landelijke Eenheid. The thirteen added values that come along with a campus can be seen as multiple courses of action on real estate that attempts to fulfill organizational goals. As a result of implementing a campus framework, the overall performance of the Landelijke Eenheid will increase, which has been mentioned in their ambition documents.

The Landelijke Eenheid currently only has real estate documents or assessment frameworks on building level because they have no experience with developing a campus. Therefore, the different real estate documents were investigated to check which criteria are important on campus level. As a result of that, a new campus assessment framework has been created for the Landelijke Eenheid to serve as a tool for the development of the police campus in Driebergen. The process of developing a police campus takes time, but step by step adding more detail to each criterion in the campus assessment framework will help to operationalize a police campus. The development of the new campus assessment framework resulted in an overview of the assumed added values from the Landelijke Eenheid and shows sixteen relevant added values that show overlap with the added values suggested in literature. The new assumed added values show a structured overview which the (campus) managers can use to check if ambitions, visions or criteria from each stakeholder be shown to advantage. This campus assessment framework creates more understanding and awareness about a campus and the criteria that the Landelijke Eenheid has regarding the four perspectives of den Heijer (2011). Next to the campus assessment framework, operationalization tools are mentioned by Curvelo Magdaniel (2016) and Ng et al. (2017) and they propose physical flexible spaces, shared facilities on strategic places such as in entrance buildings or places where employees cross each other. It is important to think about physical and non-physical characteristics which the police campus will have to implement. Table 8 shows all the relevant operationalized values for the police campus.

The organization is obstructed to change internally because of the current real estate. The proposed campus configuration is a physical mean to give an answer on how to operationalize new suitable real estate for the Landelijke Eenheid and what actions need to be undertaken to implement the real estate. In addition, the new campus configuration boosts or triggers the process of change and could stimulate new operational processes. By creating a completely new configuration for the location in Driebergen, the assumed added values that the Landelijke Eenheid has, can be achieved. The buildings on the police campus are positioned closer to each other so collaboration and interaction is stimulated. The campus can increase the efficiency of the real estate and therefore lower the (exploitation) costs. Also, the campus increases the attractiveness of the work

environment and ameliorate the feeling of the community. This will result in higher user satisfaction and most likely more efficiency as well.

The contradictions that are currently perceptible within the Landelijke Eenheid can be (physically) solved with a campus. The contradictions of accessibility with safety & security and flexibility with collaboration that arose during the interviews and workshops can be accommodated within a campus. The Activity Theory has shown that within the theme of accessibility (openness vs closedness) and Safety & Security there are four contradictions and within the theme of collaboration and flexibility there are five contradictions shown. The Brightlands Chemelot campus in Sittard-Geleen and the literature in this research showed that it is possible to solve the contradictions that the Landelijke Eenheid has. A set of actions is proposed to create the suggested configuration for the police campus.

However, the Landelijke Eenheid is currently in the process of developing a police campus, but the organization must not forget that in the outside space around the buildings has potential to achieve, boost and strengthen their organizational goals such as attractiveness, collaboration and health and comfort. By creating more interaction between departments and between buildings and by making use of the outside terrain of the campus, all eight ambitions that are formulated in the ambition document of the Landelijke Eenheid can be achieved with a campus. Also, the assumed added values align terminology between the (real estate) departments within the organization. All the criteria can be assessed on the basis of the newly created assessment framework which incorporates all goals and ambitions set out in the four perspectives of the campus model by den Heijer. Thus, a campus can support the Landelijke Eenheid on an organizational level as well as on a physical level.

## 10 Recommendations

The aim of this chapter is to present recommendations for future research based on the theoretical review and the empirical study.

### 10.1 Recommendations for future research

The development of the police campus is at an early phase and this means that there are opportunities to conduct further research about specific topics.

#### More in-depth research of the police campus and its operationalization values in a later phase

The operationalized campus assessment framework still misses values to operationalize the police campus. It would be interesting to specifically investigate operationalized tools for the new assumed added values in a later stage when there is more clarity in the criteria and what exactly is needed.

#### Focus on the user

The user is important during the development of the police campus. However, in this research not many users were available or willing to help with the interviews. However, the user will determine if they are satisfied with the future police campus. A research from the users' perspective would be recommended, so that the user perspective is more present when talking about the police campus.

#### Change the scope of the research

The police campus is not only an ongoing project in Driebergen, but also in Eindhoven. The process of Landforum in Eindhoven is ahead of the process in Driebergen. It would be interesting to make a comparison what went wrong during the process in Eindhoven so that the Landelijke Eenheid is aware of the possible problems.

#### The financial perspective

It appears that the financial perspective has few documents that could be used in the campus model. A research about the financial perspective of the Landelijke Eenheid might create more awareness of what exactly can be operationalized and up to what extent. Many topics have been touched, but it is unknown what the costs will be to realize the police campus.

#### Early warning signs

Because this is a huge development project, it would be interesting to see how other big organizations went through the design or development phase and what the early warning signs were. This would be useful, because it is the first time that the Landelijke Eenheid develops a campus and might not know where risks could occur. A research that focusses on early warning signs in campus design would be helpful for the Landelijke Eenheid, because of the inexperience of the real estate department.

#### Smart tools

Nowadays smart tools could have huge advantages for organizations to measure how effective the real estate is being used. The police campus developments are starting but it would be interesting to investigate whether smart tools could be implemented into the police campus. In their ambition documents the organization states that they strive for innovation, but up to what extent is this possible within a highly secured organization? And how could they benefit from smart tools in the future?

## 10.2 Recommendations for practice

The development of the police campus is at an early phase, and this means that a lot of topics are under researched. However, this gives opportunities to conduct further research.

1. The first recommendation for practice for the Landelijke Eenheid is to continue with the campus assessment framework in which all the relevant themes and criteria of the Landelijke Eenheid are included. In this way, the interests to be protected, the amount of flexible space that is needed, the shared facilities, the needs per department and the expectancy of future operational processes can be incorporated into the campus assessment framework. What can be concluded is that the new campus assessment framework that was used in this research could be further extended. The process of the development of the new police campus has just started and many steps should still be made to create the actual police campus. Visions, ambitions and criteria are at the moment too extensively explained to operationalize. This means that concrete (operationalization) values are important.
2. Balance out the added values and get more understanding what they mean in the campus model of den Heijer (2011). This model shows that the four perspectives closely relate and depend on each other. The model focuses on the strategic, functional, physical and financial aspect that come along with campus management. What is noticeable is that the ambition documents or the existing real estate frameworks do not mention anything about the financial perspective. If the financial aspects were available, the goals could be checked on their feasibility. If the budget might not be as high as expected, the quality standards might be lowered. The strategic goals directly explain something about the physical perspectives. If the Landelijke Eenheid wants to be super innovative with high quality workspaces, the price per meter increases and the police campus must accommodate those expensive square meters. Without a budget, it is hard to tell what is possible and what not. The Landelijke Eenheid has many goals in the strategic and functional perspectives, but they should keep in mind that every decision has an impact on the other perspectives.
3. The current real estate documents show many criteria that are similarly formulated but are mentioned under different terms or goals. This causes confusion. The users speak a different ‘‘language’’ than the real estate developers. The third involved department is the policy department and they also have their own language. This is not helpful to align criteria. The process and management will be more efficient when the terminology is aligned. The Landelijke Eenheid should try to create an integral approach between and within departments. Dominant terms, like accessibility or flexibility are undefined yet and that results into a different perception of accessibility that the user has than for example the policy makers. It is important to know what those terms mean regarding the police campus. Once the aspects have been defined, an integral approach would result in a smoother development process. This touches with the component of rules in the Activity Theory, because the criteria must be properly formulated.
4. The development of a campus is something that has not been done before within the police. Normally, the real estate developers within the police organization are focused on building level. A recommendation is to connect more with colleges (from the user side but also within the real estate department) to exchange knowledge about the development of big (urban) projects. The Landelijke Eenheid is a big organization and it is hard to include all topics that come along with the campus development. Exchange of knowledge is recommended. Landforum is an option to exchange knowledge with because the real estate department in Eindhoven is also in the process of developing a campus.
5. On the campus in Driebergen, the security zones will have a big impact on how employees, guests and chain partners interact with each other. The developers should be aware that the campus also offers an outside area in which interaction can be stimulated. The security zones will determine where the operational processes take place, where people interact and what goals can be achieved in which zones. In the past the Landelijke Eenheid was only familiar with building scale, but the project in Driebergen is on campus scale. Do not forget the area around the buildings that could be the success of the campus itself.

6. The participants from the Landelijke Eenheid have shown during the workshops that there is a need for three different states-of-matter; the solid, liquid and gas zone. First the campus manager, asset manager and the real estate developers need to decide what typology fits with the needs of the organization. The question is, if the police campus has to facilitate solid or flexible structure or are they strive for mobility and individual autonomy where people can work anytime and anywhere. The configuration of the campus and its square meters will be based on the preferences of the states-of-matter.
7. Use the campus model as a strategic instrument to make sure that all involved stakeholder in the Landelijke Eenheid will be aware of the positive change that it will bring along. When implementing the campus strategy, the Landelijke Eenheid has a guiding instrument for its real estate on campus level.
8. The campus is a mean to solve the contradictions of openness, closedness and flexibility that have been mentioned in the interviews. The reason is that the new real estate can be designed according to the outcome from the Landelijke Eenheid on what exactly is understood by those aspects.
9. Another recommendation is that the campus strategy would be a perfect mean to deduplicate functions and create more flexible and efficient spaces because the development of a campus gives the opportunity to start with completely new real estate in the most suitable configuration for the Landelijke Eenheid.
10. The police campus does not only exist of buildings, but the strength of a campus is the outside space in which employees can interact. Think carefully about physical connectors or the positioning of amenities. If the quality of outside space increases, the users satisfaction will probably also increase. Prevent a green oasis.
11. Introduce more workshop for the employees of the Landelijke Eenheid. In this way, the employees will better understand what the police campus will look like and how it will function. The organization exists of thousands of employees and they will all be working on the future police campus. Make sure that the employees are aware of what is going to happen.
12. The police campus will be designed for the employees that have to physically work at the location of Driebergen. It is useful to include the opinion of the users during the development of the police campus. What do they expect? How do they see the campus? What kind of workplace do they want? Who are the representatives that will make use of the campus and what are their exact needs?

## 11 Reflection

### 11.1 The process

This research has used different methods to give answers to the sub questions and main research question. The qualitative research method was used to gather theoretical information about this research topic of campuses and campus strategies. Firstly, the theoretical review gave me more knowledge about this topic. After that, the empirical work started. The first semester I started with the theoretical reviews and made a plan how to continue the second semester. However, when I started in September with my graduation internship at the National Police, I heard that it was not possible to go to one of the offices of the Police. I was expecting to go there at least once every two weeks so I could speak to people about my research. I must admit that it was a huge disappointment for me, because graduating at the national police is a nice opportunity and to be involved in the process of a huge public development does not often happen. Within the 6 months of the internship, I also have not been to the main location of Driebergen to see what the real estate looks like. I fully had to operate behind my own desk which was hard because I get energy from meeting new people and visiting new projects, especially when it is my graduation project. This was one of the reasons why I started the empirical work before I finished my literature part. Looking back this was not smart, because you first need to gain all the possible knowledge and then you can implement it in your thesis. This is one of the causes why the graduation is first postponed with three months in agreement with my professors. The combination of sitting at home all day and going back and forth between the literature and empirical work, was not smart. The process therefore did not go as smoothly as thought. This resulted in not passing the go-moment for the P4 in March. The structure of the thesis was not well formulated and shown in the final version. This is one of the most important lessons that I have learned during this graduation process. Create a strict scheme of what you want to do and finish those tasks first. It is easy to start with the fun things, which for me was the empirical work, but if you do not exactly know what direction you are taking regarding the scope, the result will be messy and confusing. During my P4 presentation I noticed that some parts did not fit well in my research, it was either not of importance or not connected with the empirical work. Also, the research question was too broad and therefore I could not properly answer my main research question. Because the structure was not clear, the research (sub-)questions were also not coherent. After talking to the student advisor for some tips, I made a schedule with each chapter and what needed to be in there. This helped a lot. Also, after summer I constantly felt that I needed to work on my thesis. This was a result of studying at home. My student room became my office and therefore I constantly felt the mental pressure to work on the thesis. After the talk with the student advisor, I was more aware that you cannot always follow a schedule or days when you do not study, you do not have to feel guilty. The meeting with the student advisor helped me in getting more structure in my daily life as well but making a schedule every day what to do and what to do regarding the thesis. The more I followed this scheme, the easier it was to focus on part of the thesis because I was not constantly thinking about what to do for the university, but also allowed myself to relax and sometimes do nothing. In the end, I think the structure is now properly done.

Another aspect to reflect on is communication. Working on a thesis means studying a lot by yourself. One of the things that went wrong was that I did not always communicate with my professors. This resulted in different expectations from my side and from their side. When the interviews started, I did not finish a part of the literature that I had to finish but continued directly to conducting interviews. That eventually resulted in some questions that did not fit with my research question or were off topic or irrelevant. Better communication is therefore key. I thought I could conduct the interviews, but it would have been better to make my professors aware of this actions, two or three weeks before so I could listen to their opinion. From this I have definitely learned that communication is essential, especially during the covid-19 pandemic. Despite this, after my P4 in March, there was another miscommunication. I had contact with one of my professors about dropping a specific part of the research and adding a new part. However, the other professor did not agree on this, but I did not send them an e-mail with the steps I was going to make to improve the P4. Four weeks later when we all three came together, it turned out that I could not drop that specific part of the research and that caused a lot of extra stress. I now had to add some extra parts to my research with interviews, and I only had three weeks left. I already knew from the first interviews that it is quite hard to arrange interviews with people in a relatively short period of time. What I learned during this process, is to set up an email with the steps that you want to take during the process so your plan of action can be validated by both your professors, and they are both aware of the steps you are going to make.

To continue with conducting the interview, this was interesting and fun to do. The insights that you get from the employees of the Landelijke Eenheid or other involved stakeholders, gave a lot of energy to continue working on the thesis. Before starting, a test interview was done to check if the questions were properly formulated and understandable. Some questions were difficult to answer for the interviewees because they had never really thought about specific topics that are related to the police campus. However, it was difficult to reach the employees of the Landelijke Eenheid to ask them if they wanted to participate. One of the reasons might be the confidentiality. Sometimes, it was hard not to steer the interviewees when asked a specific question. After the interviews, a transcription was done. This took a lot of time to do, but every interview added to better understand the topic.

Graduating halfway the academic year is also not very motivation because there are not many students that are in the same stage of the graduation as me. Normally, you can work together and compare where you are in your report or thesis, but there were only 6 students in the same phase and physical meetings on campus did not happen a lot. What I learned during this process is to really search for a friend that also needs to study or finish things at the university. In that way, there is someone that tells you ‘hey, come on. Lets finish some stuff and go to the university or a study place together.’ When studying at home, I am quite easily distracted and that has a huge impact on the concentration span and therefore on the thesis result as well.

### 11.2 The product

I am confident with the result of the campus assessment framework and I believe that the topic of a police campus and the campus strategy is useful for the Landelijke Eenheid. Furthermore, any research that is executed with practical motivation and a scientific approach can be considered useful for gaining knowledge or doing further research. I do think that this research can make the stakeholders of the Landelijke Eenheid aware of the importance of a campus framework. Because the project of developing a police campus is still in an early phase, it is difficult to formulate very specific requirements. This is seen in the combined campus assessment framework as well as in the suggested configuration. It cannot go super detailed yet, but that is also the fun part of being involved in an early development phase. However, this product is useful for the Landelijke Eenheid because it points out where the contradictions are and what problems arise towards to outcome of a police campus.

### 11.3 Personal view

During the first couple weeks, the research question was changing every day and it evolved into more comprehensive sub-questions. However, during the first semester some electives still had to be done, but this forced me to work efficiently. When the electives were done, I noticed that there was a lot more free time, so I tried to plan things to make sure that I had a right amount of studying and a right amount of moments to relax. I completed my whole master during the covid-19 pandemic which was difficult sometimes. I am not a person to sit at home all day and study. Looking forward I knew that after my P2 there was a possibility to do an internship at the national police and that gave me a lot of energy. After the summer holidays I really had to adapt to studying again, after the first lockdown it was finally able to do a lot of nice things, so I also had time to recharge and do other things next to sitting at home and studying. When I heard in September that it was not possible to go to the police office to study/work there, I felt disappointed. From my point of view, this is an essential element when graduating, but no one knew beforehand that this would happen. I lost motivation because I knew I had to work the rest of the semester at home or at the university. However, conducting the interviews and attending the workshops gave me a lot of motivation. Half October some of the interviewees did not respond to me and the progress I made was slow. My supervisors and I decided to do the P3 on the P4 date in December which gave me extra time. When I did not pass the P4, I looked back at the process of what went wrong and decided to take a step back and analyze what went wrong. The structure was a problem, but also that I did not do any fun things anymore because I constantly had the idea that I had to study, This resulted in much stress and I could not concentrate for a long time. I decided to talk to the student advisor and he gave me useful tips. What I learned is that I need to better communicate in times when you cannot physically meet with each other. This relates to the contact with the professors, but also with my mentor from the police. The second one is to also allow yourself a day not to study and do fun things. I get a lot of energy doing sports and meeting with people, so I tried to do that again and that helped. It gave me more confidence and more structure. Looking back, I can say that I gained much knowledge about the process of developing a police campus for Landelijke Eenheid. Nevertheless, studying from home, I still gained a lot of information and experience which I will bring along in my next career.



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## 13 Appendices

### 13.1 A1 Semi gestructureerd informatieblad

Interviewer	Sebastiaan Mensonides
Onderwijs instelling	Technische Universiteit Delft
Contact	<a href="mailto:S.Mensonides@student.tudelft.nl">S.Mensonides@student.tudelft.nl</a>
Research topic	Deze MSc scriptie gaat over wat een campus strategie kan bijdragen aan de organisatorische verandering van de Landelijke Eenheid en daarvoor een beter hybride werkplek kan creëren voor de locatie Driebergen.

Geachte meneer/mevrouw,

De deelname aan dit interview is onderdeel van een afstudeerscriptie van de MSc track Management in the Built Environment aan de Technische Universiteit Delft. De deelname aan dit onderzoek zal een bijdrage leveren aan het beantwoorden hoe een politiecampus geoperationaliseerd kan worden en hoe een politiecampus de organisatorische veranderingen kan ondersteunen. Het vergaren van informatie gebeurt via verschillende methoden zoals een literatuuronderzoek, een praktijkcases om te kijken welke elementen van toepassen zouden kunnen zijn bij een politiecampus en dit semi-gestructureerde interview. Via dit interview wil ik graag meer te weten te komen over de politiecampus vanuit verschillende perspectieven binnen de organisatie of via andere belanghebbenden.

#### Het onderzoek

Recentelijk zijn campus strategieën erg populair geworden in het managen van vastgoedportfolios. Uit onderzoek blijkt dat er in Nederland rond de 35 ‘echte’ campussen bestaan. Deze campussen zijn echter weer te verdelen in verschillende typen campussen zoals een sciencepark, een innovatiecampus of bijvoorbeeld een faciliteitscampus. De ambitie is om op termijn een politiecampus te ontwikkelen, maar een politiecampus is nog ongedefinieerd. Campussen stimuleren meer interactie, betere samenwerking en flexibiliteit. Een campusstrategie houdt rekening met alle ambities en visies van verschillende stakeholders, met het resultaat dat het een meerwaarde creëert voor het vastgoedportfolio en dat het de organisatorische veranderingen ondersteunt. Vorig jaar heeft de politie de Technische Universiteit Delft om hulp gevraagd om hier mee te helpen, omdat het echter nog niet duidelijk is hoe een politiecampus er geoperationaliseerd uit gaat zien, aangezien er nog geen geoperationaliseerd politiecampuskader bestaat. Er zijn veel beschikbare ambitie- en visiedocumenten, maar dit sluit nog niet optimaal aan bij het operationaliseren van een politiecampuskader.

U werkt bij de politie en/of heeft iets te maken met campusontwikkelingen en daarom zou ik u graag interviewen om meer te weten te komen over de bovengenoemde aspecten over een politiecampus. Tijdens het onderzoek zullen er verschillende onderwerpen aangekaart worden:

1. Uw professionele achtergrond en de rol binnen de politieorganisatie.
2. Uw standpunt over een geoperationaliseerde politiecampus
3. Openheid/geslotenheid en flexibiliteit
4. Organisatorische verandering naar aanleiding van een politiecampus

Tijdens dit interview zal een opname plaatsvinden als dit mogelijk is, zodat de antwoorden verwerkt kunnen worden in de analyse. U bent niet verplicht alle vragen te beantwoorden. Bovendien zijn antwoorden niet goed of fout. Als u het niet eens bent, kunt u ten alle tijden het interview stoppen of na afloop het interview terugtrekken uit dit onderzoek. Als dit het geval is, dan gelieve mij zo snel mogelijk contacteren.

Na het interview, indien er een geluidsopname is geweest, zal van de geluidsopname een transcriptie gemaakt worden. Als ik uw woorden aanhaal, dan zal er worden beloofd om uw naam niet te gebruiken en er zal gezorgd worden dat het niet duidelijk is wie dit gezegd kan hebben. Uw naam en gegevens zullen geanonimiseerd worden.

Als u vragen heeft over dit onderzoek, kunt u contact met mij opnemen:

Sebastiaan Mensonides  
[S.Mensonides@student.tudelft.nl](mailto:S.Mensonides@student.tudelft.nl)  
Oosteinde 210  
2611 ST Delft  
+31652831581

Als u mee wilt doen aan dit interview, wilt u dan de onderstaande verklaring invullen en ondertekenen?

Bij voorbaat hartelijk dank voor uw medewerking en bedrage aan dit onderzoek.

Met vriendelijke groet,

Sebastiaan Mensonides

## Geinformeerde toestemming

### In te vullen door deelnemers & student

Ik verklaar op een voor mij duidelijke wijze te zijn ingelicht over de aard, methode, doel en belasting van het onderzoek.

Mijn vragen zijn naar tevredenheid beantwoord.

Ik begrijp dat het geluids- en/of beeldmateriaal (of de bewerking daarvan) en de overige verzamelde gegevens uitsluitend voor analyse en wetenschappelijke presentatie en de TU Delft publicatie zal worden gebruikt.

Ik behoud mij daarbij het recht voor om op elk moment zonder opgaaft van redenen mijn deelname aan dit onderzoek beëindigen.

Ik heb dit formulier gelezen of het formulier is mij voorgelezen en ik stem in met deelname aan het onderzoek.

- Graag ontvang ik aan het eind van het onderzoek een korte samenvatting van de resultaten van het onderzoek. Om deze reden verleen ik toestemming om mijn naam- en persoonsgegevens tot het eind van het onderzoek te bewaren.**

Plaats:

Datum:

-----  
(Volledige voor- en achternaam)

-----  
(Handtekening deelnemer)

‘Ik heb toelichting gegeven op het onderzoek. Ik verklaar bereid nog opkomende vragen over het onderzoek naar vermogen te beantwoorden.’

Sebastiaan Mensonides

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(Handtekening student)

## 13.2 A2 Interview guide eerste ronde

Interviewer	Sebastiaan Mensonides
Onderwijs instelling	Technische Universiteit Delft
Contact	<a href="mailto:S.Mensonides@student.tudelft.nl">S.Mensonides@student.tudelft.nl</a>
Research topic	Deze MSc scriptie gaat over wat een campus strategie kan bijdragen aan de te ontwikkelen politiecampus ten behoeve van de landelijke eenheid en hoe dit in de praktijk zal functioneren.

### Interview guide

De interview guide is een overzicht van het interview dat gaat plaatsvinden. De interview guide bestaat uit verschillende onderdelen. Als eerste wordt gestart met *1. Vooraf aan het interview*, hierin zal de interviewer zichzelf en het onderwerp voorstellen en wordt toestemming gevraagd voor de opname van het interview. Vervolgens zal het werkelijke interview starten waarin het interview is opgedeeld in categorieën 2 t/m 6, waar de laatste categorie bestaat uit de afronding van het interview. Wanneer het interview is afgelopen, zal nogmaals duidelijk gemaakt worden wat er met het interview gaat gebeuren en zal de geïnterviewde bedankt worden voor zijn/haar contributie aan het onderzoek.

#### 1.1 Introductie van mijzelf.

Goedendag, bedankt dat u deel wilt nemen aan dit onderzoek. Ik zal eerst mijzelf voorstellen en het onderwerp toelichten. Ik ben student aan de Technische Universiteit van Delft en volg de mastertrack Management in the Built Environment. Binnen deze master ligt de focus op vastgoed en dan voornamelijk het ontwikkelen en beheren van de gebouwde omgeving en gebouwen. Op het moment ben ik met mijn afstudeerscriptie bezig, en doe daarom ook dit onderzoek om de laatste fase van mijn master te kunnen afronden.

#### 1.2 Introductie van het onderwerp.

De ambitie van de Landelijke Eenheid is om op termijn een “politicampus” te ontwikkelen. Het woord politicampus valt regelmatig, maar het is nog niet precies duidelijk hoe een politicampus t.b.v. de Landelijke Eenheid er uit ziet en hoe dit in de praktijk zal functioneren. Een politicampus is daarmee nog een relatief ongedefinieerd begrip. Er bestaat nog geen afwegingskader voor een politicampus. Door middel van het combineren van literatuur over bestaande campussen en een empirisch onderzoek met semigestructureerde interviews zal er gezocht worden naar hoe een politicampus in de praktijk zou kunnen gaan functioneren en waar op gelet moet worden.

Definitie campus:

De campus is gedefinieerd als de collectie van gebouwen en land, dat wordt gebruikt voor de universiteit of voor universiteit gerelateerde functies.

#### 1.3 Video/geluids opname indien mogelijk.

Dat was de introductie, dan wil ik u nu vragen of u het goed vindt als dit interview opgenomen wordt? Ik zal dit nog een keer vragen als de opname aan staat.

### 2. Introductie geïnterviewde

- 2.1 Zou u een korte introductie kunnen geven van uzelf, wat betreft studieachtergrond, werkervaring.
- 2.2 Wat is uw huidige functie binnen de landelijke eenheid van de politie?
- 2.3 Sinds wanneer beoefent u uw huidige functie?

### 3. Uw standpunt over een geoperationaliseerde politiecampus

3.1 Bent u het eens met deze verdeling qua begrippen en hun positie?



3.2 Welke thema of begrip is voor u het minst duidelijk van een politiecampus? Hoe komt dit?

3.3 Wat zal er allemaal fysiek moeten gaan veranderen in Driebergen met het oog op het einddoel: de politiecampus?

3.4 Wat zullen de voordelen zijn van een politiecampus?

3.4a Zullen deze voordelen noodzakelijk zijn?

3.4b Wat voor kansen bieden deze voordelen de politiecampus?

3.5 Wat zullen de nadelen zijn van een politiecampus?

3.5a Waarom zijn dit nadelen voor een politiecampus?

3.5b Voor welk obstakel zullen deze nadelen zorgen?

3.6 Wat voor impact gaat de politiecampus hebben (op jullie eenheid)?

### 4. Openheid/geslotenheid en flexibiliteit

4.1 Hoe past het begrip openheid volgens u bij een politiecampus?

4.2 Zou u voorbeelden van het begrip openheid (met bijvoorbeeld betrekking tot het thema samenwerken) kunnen noemen hoe dit geoperationaliseerd terug zou kunnen komen in een politiecampus?

4.3 Hoe past het begrip geslotenheid volgens u bij een politiecampus?

4.4 Zou u voorbeelden van het begrip geslotenheid (met bijvoorbeeld betrekking tot het thema safety en security) kunnen noemen hoe dit geoperationaliseerd terug zou kunnen komen in een politiecampus?

4.5 Hoe past het begrip flexibiliteit volgens u bij een politiecampus?

4.6 Zou u voorbeelden van het begrip flexibiliteit kunnen noemen hoe dit geoperationaliseerd terug zou kunnen komen in een politiecampus?

4.7 Welke activiteiten kunnen zich verplaatsen naar flexibelere zones?

### 5. (Organisatorische) verandering naar aanleiding van een politiecampus

5.1 Wat is volgens u een concrete uitkomst van het begrip openheid, kijkende naar geoperationaliseerde politiecampus?

5.2 Wat is volgens u een concrete uitkomst van het begrip geslotenheid, kijkende naar geoperationaliseerde politiecampus?

5.3 Wat is volgens u een concrete uitkomst van het begrip flexibiliteit, kijkende naar geoperationaliseerde politiecampus?

5.4 Wat zal er allemaal fysiek moeten gaan veranderen met het oog op het einddoel: de politiecampus?

5.5 Wanneer voldoet volgens u de politiecampus als een volwaardige campus?

### 6. Conclusie

6.1 Is er iets dat u nog zou willen toevoegen aan het interview?



Bedankt!

Nogmaals bedankt dat u de tijd heeft kunnen nemen om deel te nemen aan mijn afstudeeronderzoek. Als u het wilt, kan ik mijn onderzoek met u delen zodat u de eindresultaten kunt bekijken.

## 13.3 A3 Interview guide tweede ronde

Interviewer	Sebastiaan Mensonides
Onderwijs instelling	Technische Universiteit Delft
Contact	<a href="mailto:S.Mensonides@student.tudelft.nl">S.Mensonides@student.tudelft.nl</a>
Research topic	Deze MSc scriptie gaat over wat een campus strategie kan bijdragen aan de te ontwikkelen politiecampus ten behoeve van de landelijke eenheid en hoe dit in de praktijk zal functioneren.

### Interview guide

De interview guide is een overzicht van het interview dat gaat plaatsvinden. De interview guide bestaat uit verschillende onderdelen. Als eerste wordt gestart met *1. Vooraf aan het interview*, hierin zal de interviewer zichzelf en het onderwerp voorstellen en wordt toestemming gevraagd voor de opname van het interview. Vervolgens zal het werkelijke interview starten waarin het interview is opgedeeld in categorieën 2 t/m 6, waar de laatste categorie bestaat uit de afronding van het interview. Wanneer het interview is afgelopen, zal nogmaals duidelijk gemaakt worden wat er met het interview gaat gebeuren en zal de geïnterviewde bedankt worden voor zijn/haar contributie aan het onderzoek.

#### 1.4 Introductie van mijzelf.

Goedendag, bedankt dat u deel wilt nemen aan dit onderzoek. Ik zal eerst mijzelf voorstellen en het onderwerp toelichten. Ik ben student aan de Technische Universiteit van Delft en volg de mastertrack Management in the Built Environment. Binnen deze master ligt de focus op vastgoed en dan voornamelijk het ontwikkelen en beheren van de gebouwde omgeving en gebouwen. Op het moment ben ik met mijn afstudeerscriptie bezig, en doe daarom ook dit onderzoek om de laatste fase van mijn master te kunnen afronden.

#### 1.5 Introductie van het onderwerp.

De ambitie van de Landelijke Eenheid is om op termijn een “politicampus” te ontwikkelen. Het woord politicampus valt regelmatig, maar het is nog niet precies duidelijk hoe een politicampus t.b.v. de Landelijke Eenheid er uit ziet en hoe dit in de praktijk zal functioneren. Een politicampus is daarmee nog een relatief ongedefinieerd begrip. Er bestaat nog geen afwegingskader voor een politicampus. Door middel van het combineren van literatuur over bestaande campussen en een empirisch onderzoek met semigestructureerde interviews zal er gezocht worden naar hoe een politicampus in de praktijk zou kunnen gaan functioneren en waar op gelet moet worden.

Definitie campus:

De campus is gedefinieerd als de collectie van gebouwen en land, dat wordt gebruikt voor de universiteit of voor universiteit gerelateerde functies.

#### 1.6 Video/geluids opname indien mogelijk.

Dat was de introductie, dan wil ik u nu vragen of u het goed vindt als dit interview opgenomen wordt? Ik zal dit nog een keer vragen als de opname aan staat.

### 2. Toegankelijkheid

- 2.1 Hoe is de ambitie toegankelijkheid verwerkt in de plannen van de politie campus en hoe wordt dit geoperationaliseerd?
- 2.2 Waarom is toegankelijkheid zo belangrijk? Waarom is dit een ambitie?
- 2.3 Wat zijn problemen waar jullie tegen aan lopen bij de ambitie toegankelijkheid? (Safety & Security?)
- 2.4 Hoe ging dit in het verleden? Waar hebben jullie van geleerd?

### 3 Flexibiliteit

- 3.1 Hoe is de ambitie flexibiliteit verwerkt in de plannen van de politie campus en hoe wordt dit geoperationaliseerd?
- 3.2 Waarom is flexibiliteit zo belangrijk? Waarom is dit een ambitie?
- 3.3 Wat zijn problemen waar jullie tegen aan lopen bij de ambitie flexibiliteit?
- 3.4 Hoe ging dit in het verleden? Waar hebben jullie van geleerd?

### 4. Overige ambities

- 4.1 Welke andere ambities zijn moeilijk om te operationaliseren? Tegen welke problemen lopen jullie aan? Hoe komt dit? Hoe gaan jullie dit oplossen?
- 4.2 Hoe gaan jullie ervoor zorgen dat alle 8 thema's goed geïntegreerd worden in de politie campus?
- 4.3 Hoe verloopt het huidige proces met betrekking tot het ontwikkelen van de politie campus? Samenwerking tussen de verschillende afdelingen of partijen? (power dynamics)

### Bedankt!

Nogmaals bedankt dat u de tijd heeft kunnen nemen om deel te nemen aan mijn afstudeeronderzoek. Als u het wilt, kan ik mijn onderzoek met u delen zodat u de eindresultaten kunt bekijken.

## 13.4 A4 Interview guide case study

Interviewer	Sebastiaan Mensonides
Onderwijs instelling	Technische Universiteit Delft
Contact	<a href="mailto:S.Mensonides@student.tudelft.nl">S.Mensonides@student.tudelft.nl</a>
Research topic	Deze MSc scriptie gaat over wat een campus strategie kan bijdragen aan de te ontwikkelen politiecampus ten behoeve van de landelijke eenheid en hoe dit in de praktijk zal functioneren.

### Interview guide

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#### 1.7 Introductie van mijzelf.

Goedendag, bedankt dat u deel wilt nemen aan dit onderzoek. Ik zal eerst mijzelf voorstellen en het onderwerp toelichten. Ik ben student aan de Technische Universiteit van Delft en volg de mastertrack Management in the Built Environment. Binnen deze master ligt de focus op vastgoed en dan voornamelijk het ontwikkelen en beheren van de gebouwde omgeving en gebouwen. Op het moment ben ik met mijn afstudeerscriptie bezig, en doe daarom ook dit onderzoek om de laatste fase van mijn master te kunnen afronden.

#### 1.8 Introductie van het onderwerp.

De ambitie van de Landelijke Eenheid is om op termijn een “politecampus” te ontwikkelen. Het woord politiecampus valt regelmatig, maar het is nog niet precies duidelijk hoe een politiecampus t.b.v. de Landelijke Eenheid er uit ziet en hoe dit in de praktijk zal functioneren. Een politiecampus is daarmee nog een relatief ongedefinieerd begrip. Er bestaat nog geen afwegingskader voor een politiecampus. Door middel van het combineren van literatuur over bestaande campussen en een empirisch onderzoek met semigestructureerde interviews zal er gezocht worden naar hoe een politiecampus in de praktijk zou kunnen gaan functioneren en waar op gelet moet worden.

Definitie campus:

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#### 1.9 Video/geluids opname indien mogelijk.

Dat was de introductie, dan wil ik u nu vragen of u het goed vindt als dit interview opgenomen wordt? Ik zal dit nog een keer vragen als de opname aan staat.

### Introductie geïnterviewde

- 2.1 Zou u een korte introductie kunnen geven van uzelf, wat betreft studieachtergrond, werkervaring.
- 2.2 Wat is uw huidige functie binnen de landelijke eenheid van de politie?
- 2.3 Sinds wanneer beoefent u uw huidige functie?

### De campus

- 3.1 Wat zijn volgens u de voordelen van de Brightlands chemelot campus?
- 3.2 Wat zijn volgens u de nadelen van de Brightlands chemelot campus?
- 3.3 Wat zijn/waren de ambities toen deze campus is ontworpen?
- 3.4 (Op welke manier is het begrip innovatie terug te zien op de huidige campus? (gericht op vastgoed))

- 3.5 Op welke manier hebben jullie de ambitie toegankelijkheid geoperationaliseerd?
- 3.6 Kunt u voorbeelden noemen hoe dit is geoperationaliseerd? Courtyard daarna zones?
- 3.7 Maken jullie gebruik van zonering/compartimentering en hoe is dit geoperationaliseerd op de campus? Strikte protocollen? Overgangszones?
- 3.8 Hoe hebben jullie flexibiliteit in de campus geoperationaliseerd? (tips)?
- 3.9 Kunt u hier voorbeelden van noemen?
- 3.10 Hoe hebben jullie interne samenwerking gestimuleerd op de campus? (samenwerkingsgebieden)(beveiligd)?
- 3.11 Wat zijn problemen waar jullie tegen aan zijn gelopen nu de campus is gerealiseerd met de focus op de begrippen toegankelijkheid, safety and security en flexibiliteit?
- 3.12 Hoe zijn jullie voorbereid op het uitbreiden of krimpen van de campus?

#### Organisatie

- 4.1 Wat voor impact heeft de campus gehad op de organisatie?
- 4.2 Op welke manier heeft de campus de operationele processen verbeterd?
- 4.3 Op wat voor manier heeft de campus een maatschappelijke impact?
- 4.4 Heeft u nog aanbevelingen voor de politie campus?

#### Bedankt!

Nogmaals bedankt dat u de tijd heeft kunnen nemen om deel te nemen aan mijn afstudeeronderzoek. Als u het wilt, kan ik mijn onderzoek met u delen zodat u de eindresultaten kunt bekijken.