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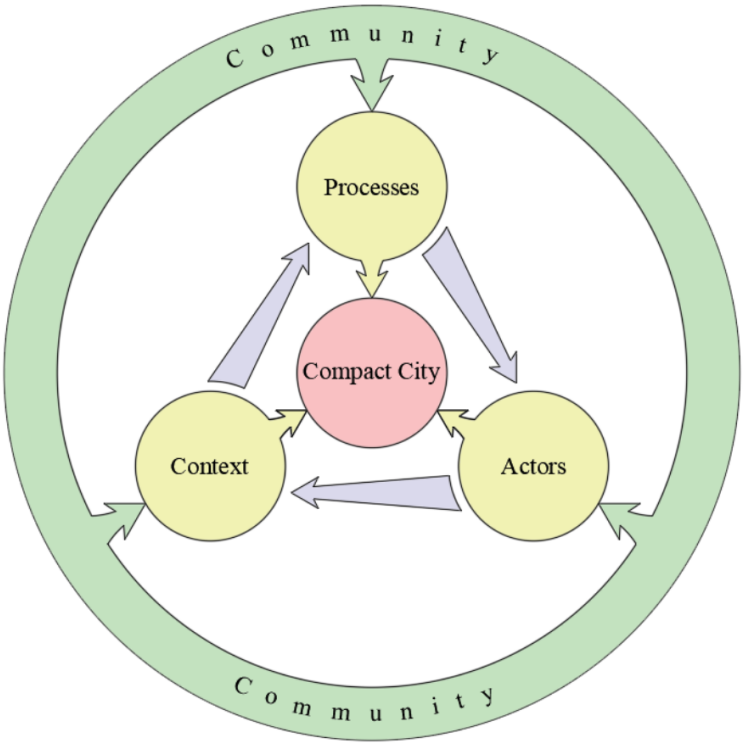

The Compact City: Forming a connected circles mapping of processes and actors in the urban design phase

A Case Study of Landvetter Södra

Master's thesis at the Challenge Lab

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Department of Earth, Space and Environment
CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2019

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Abstract

Human population is in constant increase which creates a huge demand for different resources, expanding infrastructure and transportation connectivity. Cities tend to become denser with the need for mobility of people and goods between different facilities and activity locations. Public transportation must be promoted within proper city design. One of the approaches to overcome this challenge is to promote the Compact City concept. However, it is unclear or ambiguous what qualities or benefits a compact city can deliver. Hence, this study explores the research question: How is Landvetter södra positioned within the contemporary debate towards the compact city as an ideal urban model? The aim is to set a framework to achieve compact cities based on analyzing a case study along with the literature research. The current situation of the compact city approach framework was mapped in accordance with a case study conducted at Landvetter södra in the Västra Götaland region. In order to achieve a framework, the study was carried out in two phases. Phase 1 includes the backcasting process embodied by the Challenge Lab in order to frame sustainability principles and to define a leverage point and research question, which provide guidance to change the current system. Phase 2 incorporates analyses of a case study and examining compact city from a literature point of view by interviewing relevant stakeholders involved in city planning and development. Furthermore, the study includes a comparison of case study project with other city development projects. This study shows that a compact city concept is an ideal approach to design a city with taking into consideration twelve urban qualities (population density, building and functions density and mix, connectivity and morphology, access and transport, nature, health and environment, quality of life, sociocultural, justice, economy, adaptability). The foundation of the framework should be based on collaboration and integration of different actors in the planning processes. The suggested framework will help to design and plan compact cities in different locations with taking into consideration the contextual surrounding. In addition, the framework will help to identify initial/relevant actors to achieve compact cities.

Keywords: Compact city, Backcasting, Urban Design, Poicy Matrix, Connected Circles, Compact City States & Impacts, Stakeholders

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Abdalrahman Alobeissi & Sourabha Bhat

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Introduction

1.1 Background

The earth will meet the threat of significant climate changes except severe steps are taken to optimize and rationalize the use of shared resources. Cities have been identified as a significant element of the challenge and a path for sustainable solutions. An approach toward cities sustainable development could be through a collaboration between the cities' various stakeholders in order to reach sustainable solutions in cities. Cities sustainable development means the creation of engaging urban design for attractive cities with good life quality and resource-efficient systems. In order to make use of the cities' potential, a more general view of organizations, working processes and tools are needed ("SUD – den skånska modellen för hållbar stadsutveckling på export", n.d.).

One of the concepts of designing sustainable urban development is the compact city or city of short distances. It is an urban planning and urban design concept, which promotes a relatively high residential density with mixed land uses. It is based on an efficient public transport system and has an urban layout which encourages walking and cycling, low energy consumption resulting in reduced pollution. An abundant resident population provides opportunity for social interaction and a safe environment. It is also arguably a more sustainable urban settlement type than urban sprawl because it is less dependent on car, requires less and cheap per capital infrastructure provision.

Mixed-use development or often Live\work space is a type of urban development strategy for living spaces that blends residential, commercial, cultural, institutional, or entertainment uses. In mixed land use, cities' functions are physically and functionally integrated including pedestrian connections. Mixed-use development can be in a form of a single building, a city block, or entire neighbourhoods.

1.2 Aim

This study aims to propose a context-adaptive framework to improve the collaboration between local actors and processes involved in the urban design phase. This can be achieved by identifying the principals involved in designing the compact city development and then analysing/comparing it with the Landvetter Södra as a case study. The study also aims to focus on identifying the role of local actors and

processes in achieving compact city- states & impacts.

1.3 Limitations

The limitations of the study are:

- This study focuses on one type of city development concept, i.e., "Compact City".
- This study does not include the integration of more quantitative data.
- The thesis research outcome will not provide any law regulations for designing a compact city.

1.4 Research Questions

To achieve the concept of live\work space & mixed-function city in sustainable urban development, compact city is considered to be the most suitable approach. Furthermore, the involvement of actors in the processes of urban design phase concerning the context can provide uniqueness to the compact city approach. To asses, this hypothesis, a case study with local actors, processes and context are explored. In this thesis paper, Landvetter Södra is chosen as a case study. According to the project's website description, it is evident that they are aiming for the high density and multidimensional city design. These qualities coincide with compact city attributes. However, there is also a current debate regarding compact city approach, which lead to our research question:

RQ: How is Landvetter Södra positioned within the contemporary debate towards the compact city as an ideal urban model?

The collaboration of local actors through urban design processes are essential to reshape an ideal model towards a more context-adaptive development. But, how can we achieve this? This led to our sub-research question.

Sub RQ: How can local actors and processes contribute to reshaping such an ideal model towards a more context-adaptive development?

Part I

Phase 1: Investigating & Developing Research Questions - Challenge Lab

2

Introduction to Challenge Lab

The United Nations Agenda 2030 for Sustainable Development have mentioned that "bold and transformative steps . . . are urgently needed to shift the world on to a sustainable and resilient path" (United Nations, 2015, p. 5). Here the transformative steps state that the 'traditional innovations' are not sufficient. Therefore, there is a need for 'system innovations' or 'transitions', involving fundamental processes of change on a level of systems in society, where more sustainable configurations are introduced, and unsustainable practices are slowly eliminated. To achieve these bold and transformative changes, there is a need for integration/collaboration between different firms, education for sustainable development and universities relevant to society. One of the arenas promoting sustainable transitions is the Challenge Lab. It is one such important arena where it provides a platform to enhance the collaboration and trust among different stakeholders and provide a space for students to bring the change (Holmberg & Larsson, 2018).

The challenge lab is one of an initiative at Chalmers University of Technology, located at a science park in Gothenburg, Sweden. It was launched in January 2014 by John Holmberg (then Vice president of Chalmers University of Technology) (Holmberg & Larsson, 2018). This lab, as mentioned above, acts as a missing link that has the potential to be an important 'bonding agent' for the various stakeholders and transformative learning, leadership and change. The motive of the challenge lab is to:

- Strengthen the educational dimension in the research-innovation-education triangle within the areas of advance (Figure 2.1)
- Provide a centre for the triple helix actors within the regional knowledge cluster (Figure 2.1) by gathering with students to build trust among the stakeholders. Here students are considered as the powerful change agents (Holmberg, 2014; Larsson & Holmberg, 2018).

Apart from providing a platform for stakeholder collaboration, Challenge Lab creates an arena where students from various background work together towards complex societal challenges through designing and implementing innovative solutions with industry, academia and society. This space for change aims to support leadership at three different levels, i.e., Humanity (Leading for humanity), Co-creation (leading together with others) and Self leadership. Therefore, the challenge lab can also be understood as a student-driven transition area (Holmberg, 2014).

Furthermore, Challenge Lab provides with the opportunities to develop the unique skills of students by an interdisciplinary approach and from a challenge-driven per-

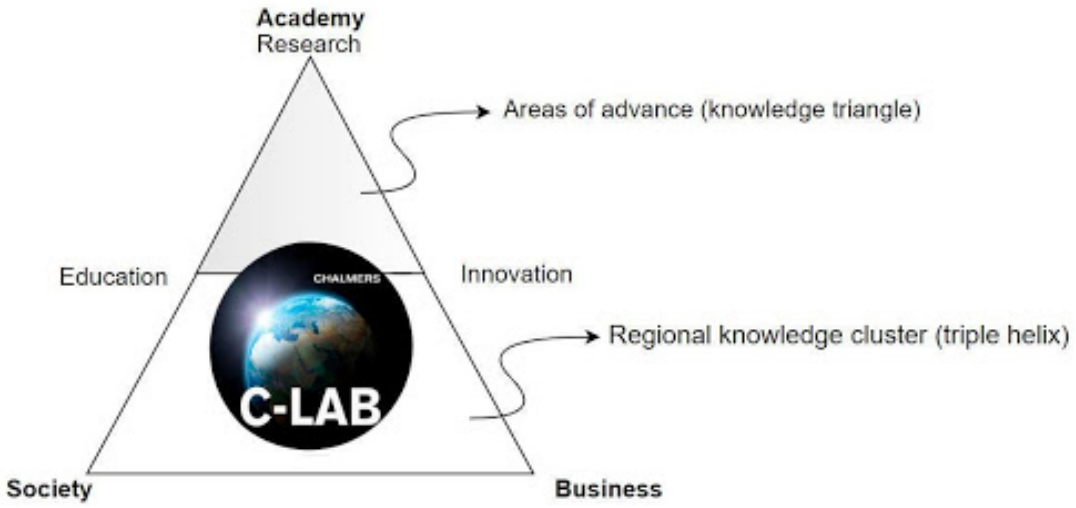


Figure 2.1: Challenge Lab as 'bonding agent' for triple helix actors, Based on (Holmberg, 2014)

spective. This preparatory work is evaluated and developed by the students over time. The preparatory work consists of two parts: Outside-in and Inside- out which are explained in detail in the next chapter. Challenge Lab follows the backcasting method throughout the process. Phase 1 of the thesis research process is based on the first three steps involved in the backcasting approach. Phase 2 follows the fourth step.

3

Theoretical Background of Phase 1

This section gives an introduction to the theoretical background of the backcasting method and more in-depth insight into one of the backcasting approaches that have been applied in the thesis research projects at challenge lab.

3.1 Introduction to Backcasting

Backcasting can be defined in short:*"creating a desirable future vision, followed by looking back at how this desirable future could be achieved"* (Quist & Vergragt, 2006, p. 2). Robinson introduced backcasting as a term and methodology in 1982 in "Energy Backcasting: A Proposed Method of Policy Analysis". According to Robinson, backcasting is defined as:

"The major distinguishing characteristic of backcasting analyses is the concern, not with likely energy futures, but with how desirable futures can be attained. It is thus explicitly normative, involving 'working backwards' from a particular future endpoint to the present to determine what policy measures would be required to reach that future." (Robinson, 1982, p. 1).

However, there is a need for backcasting (explicitly normative) for future planning because traditional methods which are forecasting (predictive) and scenario planning (explorative) are not functional to answer the question: "how to achieve certain goals?" (Höjer, Gullberg, & Pettersson, 2011). By reviewing the underlying assumptions for all the three methods and what they are about, Backcasting as an explicitly normative planning method is more suitable to achieve specific goals regarding sustainability (Höjer, Gullberg, & Pettersson, 2011).

For example, Forecasting is about prediction. The predictions are based on observation and experience. Forecasting depends on the mathematical approach, where differentiates are based on probability and uncertainty levels (Ravi, 2018). Hence, this method is suitable to answer for cases that deal with the question "what will happen?" (Höjer et al., 2011). As Forecasting is based on predictions, predictions may or may not happen or can happen but after a more extended period.

On the other hand, Scenario planning is based on assumptions and are not related to Forecasting. Those scenarios are alternative images about how things may develop within the research subject and environment surrounding it. Scenarios are based

on important events that may happen and the relevant parties involved with their motivations. The main aim is to gain flexibility for the future (Wienclaw, 2017). Which makes it a suitable tool for cases that deal with "what could happen?" (Höjer et al., 2011). Table 3.1 shows differences between different planning methods.

Based on the definition by Robinson, in its essence, backcasting seeks first to articulate the desired future and then as the question of how it could be achieved. This method is mostly implied for complex and long-term problems (Phdungsilp, 2011). Figure 3.1 demonstrate the differences between the three planning methods.

Backcasting is a methodology that aims for long-term goals and targets. Backcasting Methodology is suitable for cases which characterized below (Dreborg, 1996):

- When there is a demand for significant and major changes.
- When the time boundary is enough to consider a careful choice for a scope.
- When the external factors are part of the problem, and those factors can not be treated by the market adequately.
- Backcasting is suitable when the considered problem is complicated and affecting society.
- When the dominant events and trends are considered as parts of the case and problem.

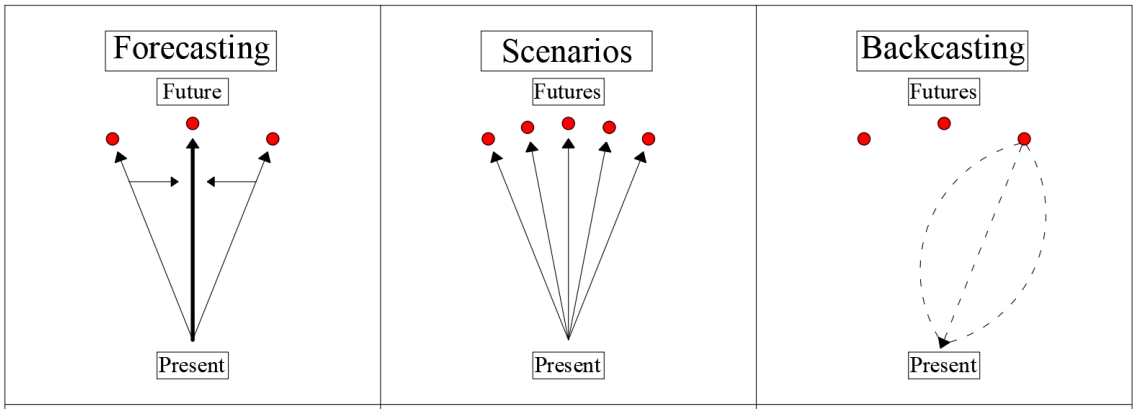


Figure 3.1: Main distinctive characteristics of forecasting, scenarios and backcasting (Robinson, 2011)

There are different approaches towards applying backcasting, as mentioned in the table 3.2. This table shows the differences between the four approaches, i.e. Robinson's, TNS, STD and the challenge lab backcasting approach. In the upcoming sections, the detailed theoretical description of the challenge lab backcasting process and two of four steps included in phase 1 of this study are mentioned. However, phase 1 is ended with the beginning of the third step of backcasting which is formulating the research question, but it is not described in details because it is also part of phase 2. so step 3 can be considered as a transitional step between phase 1 and 2. Figure 3.2 shows the challenge lab backcasting steps.

	Forecasting concept	**Scenario planning concept**	**Backcasting concept**
Philosophical views	Causality; determinism; the context of justification.	Multiple, from a once-off activity making sense of situations and developing strategy, to an ongoing activity associated with anticipation and adaptive organizational learning.	Causality & teleology; partial indeterminacy; context of discovery.
Perspective	dominant trends; likely futures; possible marginal adjustments; how to adapt to trends.	Descriptive or normative.	societal problem in need of a solution; desirable futures; scope for human choice; strategic decisions; retain freedom of action.
Approach	extrapolate trends into the future; sensitivity analysis.	Can be either broad or narrow scope ranging from global, regional, country, industry to an issue specific focus.	define interesting futures; analyze consequences, and conditions for these futures to materialize.
Methods	various econometric models.	Process orientation - inductive or deductive, essentially subjective and qualitative in approach relying on disciplined intuition.	partial & conditional extrapolations highlighting interesting polarities and technological limits.
Techniques	various mathematical algorithms.	Generic - brainstorming, STEEP analysis, clustering, matrices, system dynamics and stakeholder analysis	———

Table 3.1: Comparison between forecasting, scenario planning and backcasting Note: Forecasting concept & Backcasting concept are based on (Dreborg, 1996), Scenario planning concept is based on (Bradfield, Wright, Burt, Cairns, & van der Heijden, 2005)

3.2 Backcasting - Step 1

This step is about defining criteria for a sustainable future. In order to perform this step, challenge lab participant went through two approaches, i.e. inside-out and outside-in. Those two approaches are complementing each other to reach a common ground between researches about sustainability and personal value within the lab members.

Backcasting - Step 1: An Outside-In Approach

This approach is to understand what is the global sustainability requirement over different systems. In addition, the participants will understand the bigger picture about sustainability and build a connection between four dimensions of sustainability, i.e. ecologic, economic and social with well-being factors (Larsson & Holmberg,

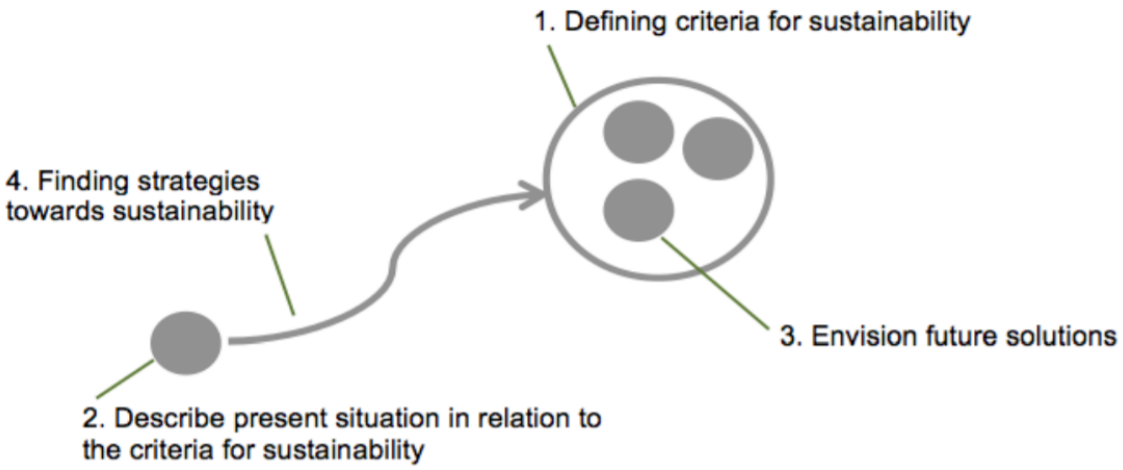


Figure 3.2: Backcasting Four steps (Holmberg, 1998)

2018). Which mean the outcomes of this step will be an answer for those questions, i.e. a brief description of what are the criteria of sustainability? Examples of those criteria. What is the transition? Why there must be a transition? How to achieve and make a transition in the innovation system? Methods to create collaboration between actors?

There are numerous studies and research about sustainable future and criteria to describe it. Based on Daly (1991), there are five criteria to reach a sustainable future:

- Human scale (throughput) should be limited to a level which is within carrying capacity.
- Technological progress for sustainable development should be efficiency-increasing rather than throughput-increasing.
- Harvesting rates should not exceed the regeneration rate.
- Waste emissions should not exceed the renewable assimilative capacity of the environment.
- Non-renewable resources should be exploited but at a rate equal to the creation of renewable substitutes.

Another example of sustainable future principles are mentioned by Holmberg & Robèrt (2000, p. 9). Such as:
"In order for a society to be sustainable, nature's functions and diversity must not be systematically:

- *Subject to increasing concentrations of substances extracted from the earth's crust.*
- *Subject to increasing concentrations of substances produced by society.*
- *Impoverished by over-harvesting or other forms of ecosystem manipulation.*
- *Resources must be used fairly and efficiently in order to meet basic human needs worldwide."*

The criteria toward sustainable future took quantitative measures also like (Rock-

ström et al., 2009) by defining nine safe human boundaries toward the environment should not be crossed, or it will be a risk for all humanity. The nine planetary boundaries they are the rate of biodiversity loss, nitrogen cycle and phosphorus cycle, stratospheric ozone depletion, the concentration of ozone, ocean acidification, global freshwater use, change in land use, atmospheric aerosol loading and chemical pollution.

Backcasting - Step 1: An Inside-Out Approach

The inside out approach is about values clarification for the Challenge lab participants. The values act as the participant's motivational force for their thesis research work. The reason for clarifying values by the Challenge lab participants is based on (Ryan & Deci, 2000) four levels of engagement and motivation. The first level is Incentives, consequences in the case of ('If – so'), the second is avoiding guilt, strengthen self-esteem in the case of ('I should'), the third is a sense of meaning in the case of ('I want to'), the forth and the deepest is values congruence in the case of ('I am'). The participants in the challenge lab must navigate through themselves to find out what is essential for them as values and how they can connect that to sustainability (Larsson & Holmberg, 2018).

3.3 Backcasting - Step 2

This step is about exploring current systems, defining problems and opportunities. This exploring will happen after finishing step 1 and with the same approaches, i.e. outside-in and inside-out. The reason behind exploring different systems is to give the challengers (students) the ability to address problems that can prevent reaching a sustainable future. The guiding principles in step one are going to be their compass and dialogues with different stakeholders will be their guides in practical life and researches. Furthermore, through this step challenge lab, participants will be working on working on socio-technical systems and transitions by (Geels, 2002).

Backcasting - Step 2: An Outside-In Approach

This approach is based on the theory of a multilevel perspective on system innovations. Innovations are the bases of creating transitions in the system (Geels, 2004). Based on figure 3.3, there is a relation between social trends and technology through three different levels. The first level forms the top is landscape which represents a global trend that is very difficult to influence. The second level is regime level which represents a society shape and direction influenced by landscape development and niches influences and that represent an opportunity to make a change in it. The third level is niches which represent new processes and attempts that carry the potential to change the regime however it needs support to be involved in the current system.

Geels research in 2004 showed the importance of concentrating on niches as the primary source of innovation and development. *"If tensions exist, a radical inno-*

vation may take advantage and breakthrough in mass markets. It then enters the competition with the existing system, and may eventually replace it. This will be accompanied by wider changes (e.g. policies, infrastructures, user practices). This is a period of flux, restructuring and Schumpeter's 'gales of creative destruction'. There may be entry and exit of new players in industry structures. Eventually, a new system and regime are formed, carried by a network of social groups who create and maintain ST-systems. The new regime may eventually also influence wider landscape developments." (Geels, 2004, p. 18 & 19)

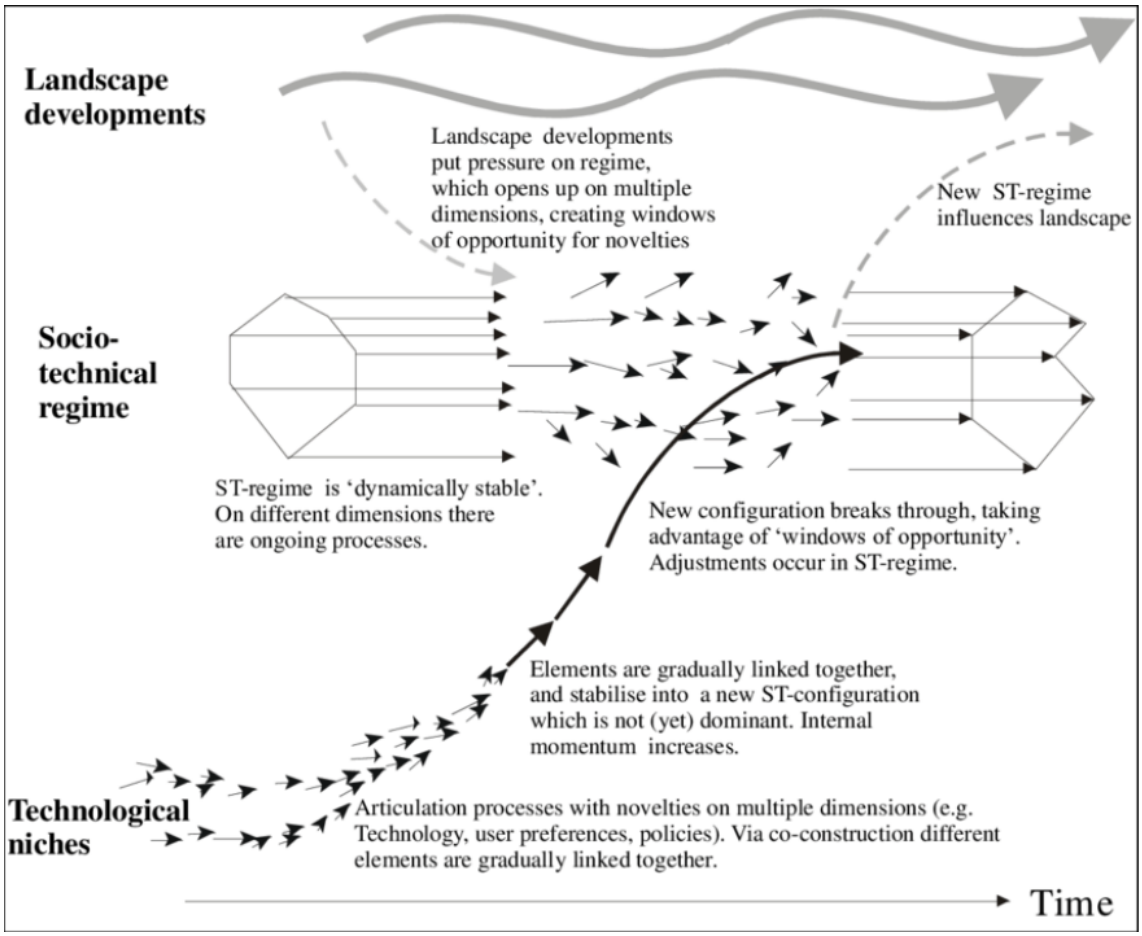


Figure 3.3: A dynamic multi-level perspective on system innovations (Geels, 2002b, p. 110)

Backcasting - Step 2: An Inside-Out Approach

This approach is for collaboration and understanding the social context from different perspectives. Active players from various organizations will provide diverse views of the social context. To build an accumulative picture of the social context, the different stakeholders must collaborate and share knowledge. However, to reach collaboration, there must be trust between different stakeholders. Trust is the primary key here; without it, there will not be collaboration and knowledge sharing. Trust can be reached by active listening and understanding. In this approach, dia-

logues are the tool to empower active listening and understanding because dialogues in challenge lab work as neutral land. Through meeting and active listing between different active actors within the society is going to lead to trust and collaboration eventually. Collaboration and trust are the bases of applying and promoting innovations into society. The left side of Figure 3.4 demonstrate the effect of trust to reach collaboration, and the right side of the same figure shows lack of trust result which will lead to a non-collaborative effort which will affect on the application of innovation.

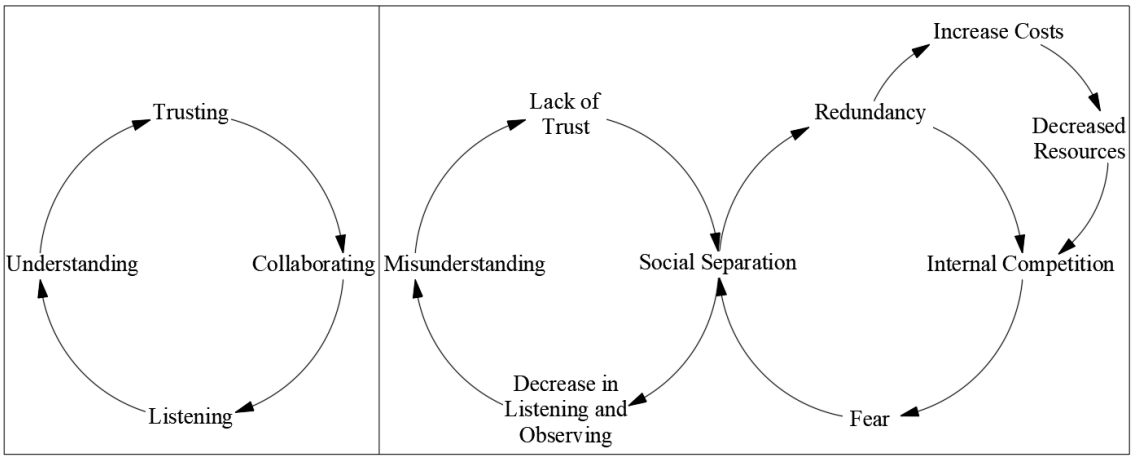


Figure 3.4: Cycle reinforcing trust & Cycle depleting resources, taken from (Sandow & Allen, 2005)

3.4 Backcasting - Step 3

Step 3 is about identifying leverage points and formulating a research question or as shown in figure 3.2, i.e. envision future solutions. This step is transitional between phases because identifying leverage points is at the end of phase 1; however, formulating research question belongs to phase two (Larsson & Holmberg, 2018).

In this step, the groups of students are divided into pairs and reach a supervisor, who will be their guide to address their research question. Figure 3.2 shows the sequence of all the steps taken in challenge lab, including step 1 and 2 during phase 1. Also, step 3 and 4 during phase 2.

	Robinson's backcasting approach	**TNS backcasting approach**	**STD backcasting approach**	**Challenge Lab backcasting approach**
Key assumptions	1.Criteria for social and environmental desirability are set externally to the analysis. 2.Goal-oriented. 3.Policy-oriented. 4.Design-oriented. 5.System-oriented.	1.Decreasing resource usage. 2.Decreasing emissions. 3.Safeguarding biodiversity and ecosystem. 4.Efficient utilization of resources in line with the equity principle.	1.Sustainable future needs fulfilment. 2.Factor 20. 3.The time horizon of 40–50 years. 4.Co-evolution of technology and society. 5.Stakeholder participation. 6.Focus on realizing a follow-up.	1.Understanding of lock-in of today's systems and requirements for a sustainable future. 2.Increased engagement aiming at bridging the gap between the present and future. 3.External / challenging influence on actors, organizations, and systems. 4.A fundamental change of systems/sustainability transition.
Methodology (steps)	1.Determine objectives. 2.Specify goals, constraints and targets, and describe the present system and specify exogenous variables. 3.Describe present system and its material flows. 4.Specify exogenous variables and inputs Undertake scenario construction. 5.Undertake scenario impact analysis.	1.Define a framework and criteria for sustainability. 2.Describe the current situation in relation to that framework. 3.Envisage a future sustainable situation. 4.Find strategies for sustainability.	1.Strategic problem orientation. 2.Develop a sustainable future vision. 3.Set out alternative solutions. 4.Explore options and identify bottlenecks. 5.Select among options and set up action plans. 6.Set up cooperation agreements. 7.Implement research agenda.	1.Define criteria for sustainability. 2.Analyze today's situation in relation to criteria. 3.Identifying Leverage Points or Envision future solutions. 4.Identify strategies towards sustainability
Examples of methods	1.Social, economic, environmental impact analysis. 2.Scenario construction methodologies. 3.System analysis and modelling.	1.Creativity techniques. 2.Strategy development. 3.Employee involvement. 4.Employee training.	1.Stakeholder analysis. 2.Employee training. 3.Problem analysis. 4.Technology analysis. 5.Construction of future visions.	1.Current systems mapping. 2.Stakeholders dialogues. 3.Outside-in and Inside-out approaches

Table 3.2: Different Backcasting approaches, Note: Robinson, TNS and STD are based on (Phdungsilp, 2011), Challenge Lab is based on (Larsson & Holmberg, 2018)

4

Methods of Phase 1

In this following chapter, the methods followed in formulating the research questions of a master thesis at Challenge Lab are described. This method was carried out by 12 master thesis students at the Challenge Lab to find leverage points which are relevant to the current sustainable development of Västra Götaland Region. Later, the research questions were formulated based on the identified leverage points.

As mentioned earlier, this method follows step 1,2 & 3 of the backcasting approach. Step 1 includes workshops on Self-leadership and Sustainable principles. These steps were carried out to find common ground between all the 12 master thesis students. Step 2 includes systems mapping based on gathered information and stakeholder dialogues to get an overview of the current system and Step 3 includes identifying leverage points. The details on how each tool was used in each step are discussed below.

4.1 Step 1

Mahatma Gandhi once said that *"A powerful sense of purpose gives our lives a clear sense of direction and a rich source of motivation and inspiration."* Hence, this step was all about finding the purpose and a direction to define the criteria of a sustainable future collaboratively along with enhancing the self-leadership abilities of the individual through exercises and workshops.

Self-leadership
The exercises/workshops are performed to improve self-leadership, values clarification and Mission statement. These exercises were carried out so that every student can recognize and express their values which could later be contributed in the rest of the thesis research project. Firstly, Values clarification exercise begins with reflecting upon the values and choosing 5-10 core values by each student. Values can guide the decision-making process and actions, that are also intrinsically motivating (Ryan & Deci, 2000). Later the whole group was divided into groups of three to allow each student to express 'Why each of the core values is important for them?' through a process called storytelling. This creates trust and openness in a group which are essential for taking upon complex challenges together (Wendelheim, 1997).

During storytelling, each group was divided into three roles, i.e., Focus person, Listener and Observer. Focus person is the one who shares a specific experience

connected to the value chosen for themselves. A listener is the one who listens to the focus person without commenting or asking questions. Observers keep track of time and observe what happens in the interaction between focus person and listener. This process continued until everyone got the chance to take all the three roles mentioned above. The purpose of this exercise was to build trust and bring forth openness among the students. Also, to enhance the analytic listening skill and create a bond between the students which could be worthwhile for the thesis research process.

This above process continued with a personal strength exercise. The task was to observe and identify three strengths of themselves and their teammates in the group. Then it was shared among the group, i.e., one receives from all others, including him/herself. This will help the students to know their strengths which they were unaware of. Also, to realize how important it is to appreciate the partner during the thesis research process for his/her work. This further will enhance the collaboration in the team. This exercise also taught on how to balance him/her strengths. The impact of strengths when it is exaggerated. For example: If my strength is 'Fast acting and I have overdone the use of my strength, it might result in 'Pushy'. Hence, balancing one's strength is very important to have a good outcome.

Furthermore, we also participated in Mission Statement workshop. A statement includes one's purpose and reflection of their values and principles (sustainable). This exercise was not intended to have a finished Mission Statement in the end nor to share it with others. This exercise was aimed to reflect upon the values chosen during the storytelling process and use it as keywords in the mission statement. This also allows students to get inspired and use it as guidelines to deal with the problematic situations in the thesis research process and also in life. The mission statement can be revised and reflected over time to improve the self-leadership.

Formulating sustainability principles
Before formulating sustainability principles for wellbeing, students were introduced to the 'Sustainability Lighthouse' model proposed by Holmberg and Larsson (Holmberg & Larsson, 2018). The lighthouse model introduces sustainability in four dimensions, as shown in figure 4.1. On top of the lighthouse model, lie Human needs and wellbeing. The other three dimensions, i.e., Social, Economic and Ecological, are influenced by the needs of Human needs and wellbeing. This results in providing direction and purpose in formulating sustainability principles (Holmberg & Larsson, 2018).

The lighthouse framework might be of value in processes guiding socio-technical transitions towards sustainability in three different ways:

- by attempting to bridge the issue of 'transition' with that of 'sustainability.'
- as part of a backcasting process
- modes of transdisciplinary research where relevant actors take part in the conversation (Holmberg & Larsson, 2018).

In this study, the lighthouse model is mostly used as a part of a backcasting process.

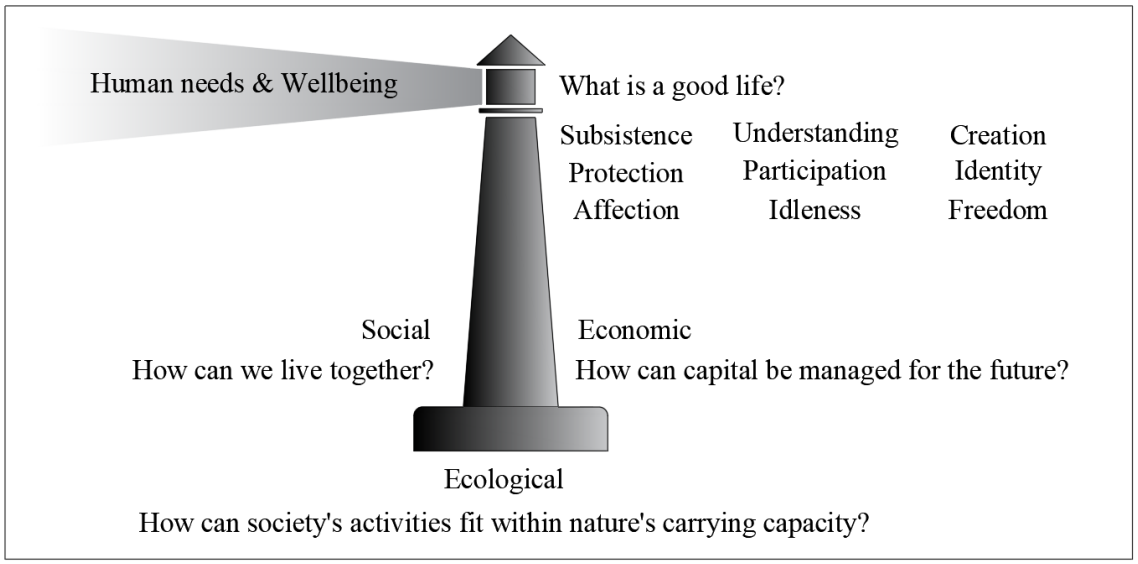


Figure 4.1: Sustainability Lighthouse model proposed by Holmberg & Larsson (2018)

This workshop was as mentioned above, was based on the lighthouse framework. This workshop was divided into two sessions. In the first session, students were supposed to formulate sustainability principles for wellbeing. The whole group was divided into two groups, and each team were supposed to brainstorm keywords, that is to be considered for a good life and made to write it down in post-its. All the aspects were covered during brainstorming, for example young- old person, suburb-metropolis, now- in 500 years and so on. The keywords identified are made to fall into their respective groups, i.e., under higher-level keywords. The aim was to form a cluster without speaking. Later, the outcome of the whole process was presented to other group and identified higher-level keywords from both the groups were combined to form a common framework to formulate sustainability principles for wellbeing.

During the second session, the students were made to identify the principles for the rest of the three dimensions of a lighthouse: ecology, economic and social. This exercise was conducted through World café settings. Hence, the group was divided into three (ecology, economic and social groups), and one in each group was the table host. That means in every 15 minutes, all the members of the team expect table host was made to move into another table. After every round, table host introduced briefly about the previous discussion, then discussions continued. Everyone came back to their original group at the final/fourth round. During each round, perspectives/aspects and missing data of the respective dimension's keywords were discussed by the students. In the end, all the groups presented their keywords identified for each dimension, i.e., ecology, economic and social. This was later compared with the keywords formulated for wellbeing, followed by the discussions than the finalized sustainability principles were created to form the common framework, which could be used for the rest of the thesis research process.

4.2 Step 2

The challenge lab considered three thematic areas, under which students had to come up with a topic to work for sustainability transitions. The three thematic areas are Mobility, Food and Energy, Material and Resources. Further research and processes were carried out under each thematic area to get more in-depth knowledge.

System mapping
Here, System Mapping techniques are proposed to get a visual description of the current state related to sustainability transitions under three thematic areas and to build a feeling of understanding of the current system for the students. Hence, the purpose of this module was to get an initial understanding of the information the current system, including challenges faced, identifying the potential in the ongoing processes. The system Mapping process also intended to prepare material for stakeholder dialogues by creating a system description to check with the stakeholders.

Firstly, Students were made to write down the information they were aware of related to the thematic areas in post-it's to put it on the respective board, and then search/read about new things individually. Later, students were made to work on the thematic areas one by one to add perspectives and make sense of the information they collected. This process also carried out through World café setting, as explained in the previous exercise. A person in each thematic area took the role of a secretary whose task was to remember what the group has discussed and informed the next group. So, after every 25 minutes, students switched group expected secretary and worked on adding more post-it's to the whiteboard, based on information gained from desk research. Furthermore, titles were updated on earlier post-its if there found a better one. This was continued until they came back to their primary/interested thematic area. At the end of this session, there was a system mapping created for the whole system under each thematic area.

As mentioned earlier, the second purpose of system mapping module was to prepare for stakeholder dialogues. Hence, the previously created system mapping was updated by relating the post-it's to the sustainability principles/keywords and removing the ones who had no relation to the principles/keywords. Then the whole system mapping was divided into a multi-level perspective, i.e., niche, regime and landscape to assess the current system. Later, each group had to formulate the questions to be asked for stakeholders during the dialogue session. For example, questions that address the gap between the principles/keywords and the current system. Formulated questions were presented in front of everyone at the end of the session.

Stakeholder Dialogues
The purpose of the stakeholder dialogues was to focus on challenges and enablers connected to sustainability transitions in the Västra Götaland Region. The stakeholder dialogue was conducted in a fishbowl setting, where the seating arrangements consist of an inner and outer circle. Each student was assigned to one of the five roles,

i.e., Active dialogues, facilitators, notetakers and metalisteners. Active dialogues are responsible for asking questions to the stakeholders. Facilitators facilitated the dialogue session. Notetakers, as the name, suggests writing down what was discussed in the dialogue session. Meta listeners are the ones who actively listen to dialogue sessions. The inner-circle includes stakeholders, facilitators and active dialogues. The outer circle includes meta listeners and notetakers.

Before conducting the dialogue sessions, the questions identified in the previous exercise was formulated in a constructive manner considering the language level, scope (boundaries and domain) and assumptions (implied truths/generations). This was done so that the people participating in the dialogue session understand the questions easily and do not feel offended.

The stakeholder dialogues were conducted in two batches the first batch of dialogue session took place during Autumn 2017 by Chalmers students from course *Managing Stakeholders for Sustainable Development (ENM130)*. In this batch, three dialogue session was carried out, i.e. one for each thematic group, and it followed the fishbowl settings as mentioned above. The purpose of this dialogue session was to make students understand the current system and challenges for sustainable development in Västra Götland Region and also to experience executing the stakeholder dialogues.

Challenge Lab master thesis students conducted the second batch of dialogue sessions. The results from previous batch's stakeholder dialogues were also considered while formulating questions for this batch. The stakeholders involved were the representatives from the academy, public & private sector. The second batch conducted seven dialogue sessions such as Mobility of people, Food (production), Energy, Circularity/circular flows, Equality/accessibility and participation, Climate 2030 agenda and Mobility of goods. All the dialogue sessions followed the same fishbowl settings. Here, the students started the conversation around what it would take to transition towards sustainability. Furthermore, the results from these dialogues (as well as previous dialogues and desk research) were used to map the current situation in the Västra Götaland Region and also compare it with the previously identified sustainable principles. Based on the gaps observed between the current system and desired sustainable future, potential leverage points are identifying, which could enable a transition.

4.3 Step 3

Identifying Leverage Points
The final step carried out to find the leverage points before formulating research questions. The previously identified system mapping was further updated and iterated after the stakeholder dialogues outcome. Later, updated challenges and gap lease to framing leverage points. Leverage points are defined as "A place of potential in a system, where a solution can be applied, and a small intervention might lead to large changes in the system". They are described from three perspectives:

- What - What is a problem to address, what is the gap to address?

- Where - Which "lock-in" to address, what is a local problem?
- Who - Which individuals and/or organizations interest in this issue? What are ongoing processes could it connect to?

After students presented the identified leverage points (minimum two leverage points from each thematic area), There were divided into three thematic areas according to their interest: Mobility, Innovation & strategy, Materials and Resources. Then the formation of thesis research pair was carried out according to the common interest towards the final leverage points and gaps. The leverage point identified for this study was "Live where you act": promoting live-work space & mixed-function city. Further investigation and research on this leverage point lead to the formulation of research questions which are discussed in section 5.2.

5

Results of Phase 1

5.1 A common framework for sustainability

The figure 5.1 illustrates the common framework for sustainability created by the challenge lab students during step 1 described in the method chapter. The keywords such as well being, economic, ecological and social are derived from the "sustainability lighthouse" model proposed by Holmberg & Larsson (2018).

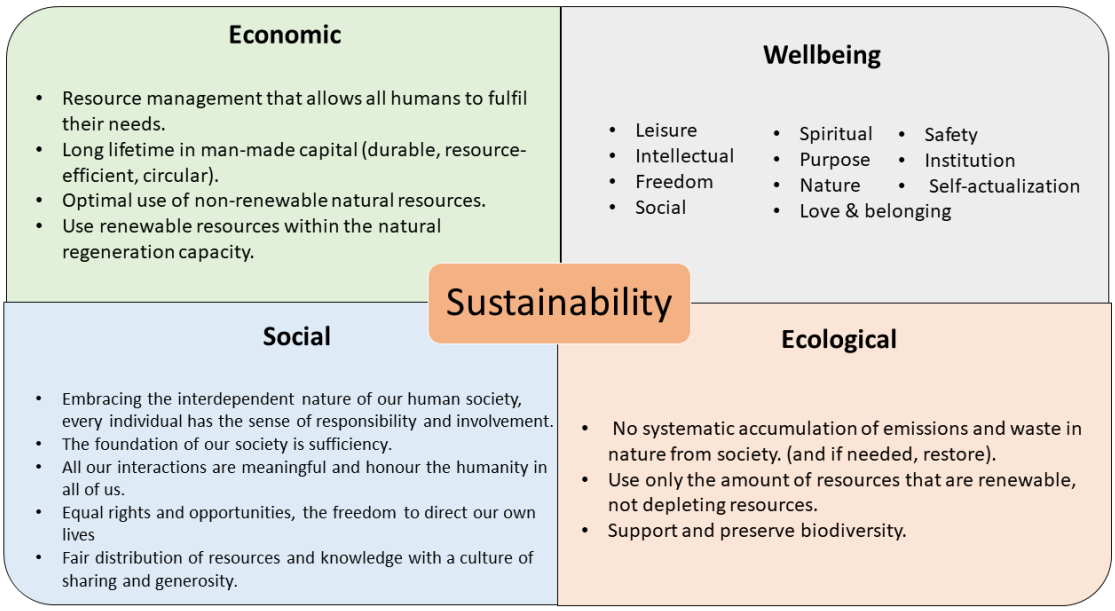


Figure 5.1: Common framework for sustainability

5.2 Formulation of Research Question

Every step carried out in phase 1 are essential to reach the research questions. The beginning was to define what we (students) want for the future, that led to creating a common framework for sustainability. There were several ideas linked and identified through system mapping such as the ownership of personal cars, public transportation, walking and cycling as means of transportation. The next process in step 2 was the stakeholder dialogues. The two dialogue sessions which influenced the formulation of research questions were the 'mobility of people' and 'climate 2030'.

In both dialogue sessions, there was a focus on how people tend to use their cars instead of public transportation. The problem identified is the city design which does not promote the usage of bicycles and walking between work, home and other facilities such as supermarkets.

After the stakeholder dialogue sessions where people from the mobility sector were involved, there were further discussions about redesigning the city in order to achieve the concept of "live where you act". This concept promotes less use of personal cars and shorter distance between work, home & other facilities. However, dealing with redesigned cities is a complicated subject for a master thesis research. Therefore, "Landvetter Södra" is considered as the case study project. Because this project (city) is currently working on the early stages of the urban design phase. Additionally, the project goals coincide with the aforementioned focused topics we identified during stakeholder dialogue sessions (i.e. city design promoting public transportation, walking & bicycles, an attempt to reduce housing problems etc.).

Furthermore, the concept of sustainable urban development contains different approaches: Compact City, Eco-City and many more with different characteristics such as mixed-use, transit-adjacent or transit-oriented development. The keywords mentioned previously (live-work space, multi-purpose city, and so on) coincide with the compact city qualities. Therefore, the Compact City approach is chosen. Furthermore, it is found that the involvement of actors in the processes of urban design phase concerning the context can provide uniqueness to the compact city approach. To asses, this hypothesis, local actors, processes and context are explored in the Landvetter Södra project. Later, it is further evaluated under the guidance of our supervisor to formulate the research questions mentioned in section 1.4.

Part II

Phase 2: Analysing and Answering Research Questions

6
Theory

In the following section the literature or theory used as a foundation for this thesis paper will be discussed in detail.

6.1 Background and Current Debate

Sustainability is the current driving force for most agendas of non-profit organizations and governments, from policies to planning and execution (Rérat, 2012). The Brundtland report (1987) first sparked the term 'sustainable development'. This expression further evolved into 'sustainable urban development' and 'sustainable cities', the latter reflecting a response to the growing population and urbanization dynamic. In 2050, 70% of the world population will be living in urban areas (OECD, 2012). In the shadow of that prediction, cities play a significant role in sustainable transitions.

According to the history of the last century, cities have developed according to two opposite trends: centrism, e.g. compact city and decentrism, e.g. urban sprawl. The reasons standing behind centrism differ from one country to another, among the common factors it is possible to mention the reduction of the use of personal cars to promote public transportation and preservation of the countryside from urban expansion (Lee & Lim, 2018).

In recent decades and as an example of decentrism, urban sprawl emerged worldwide as a scattered and unsustainable form of suburban development, associated with many types of social, economical and environmental negative impacts (Shi, Yang, & Gao, 2016). Sprawl depends on the availability of cheap, available lands outside the cities, the availability of private transportation and lower capital needed to own a property (Neuman, 2005). Criticisms toward sprawl as a type of urban development are based on the cost of public services and infrastructure (Carruthers & Ulfarsson, 2003), including environment and energy consumption (Creutzig, Baiocchi, Bierkandt, Pichler & Seto, 2015; MacDonald & Rudel, 2005). In order to solve the previous problems, i.e. environment and energy consumption, the responses by researchers advocate for a denser and more compact form of cities development (Carruthers & Úlfarsson, 2008; Cervero & Duncan, 2006; Chen, Jia, & Lau, 2008; Ludlow, 2006).

In spite of a the positive opinions on dense urban development (Moliní & Salgado,

2010), there is still a debate about the compact city as the best approach for city development. The sceptics about the compact city, e.g. (Neuman, 2005) are basing their arguments that this approach will increase congestion, pollution, unaffordable housing, loss of green space within cities, and so forth (Breheny, 1996; Audirac, Shermyen, & Smith, 1990; Nicholson-Lord & Foundation, 2003). On the other hand, those who promote the compact city approach state that it will reduce private mobility and the usage of resources, with fewer roads which will lead to lower infrastructure cost but with more landscaping, social cohesion and other social, economic and environmental benefits (Sengweni, 2018; Kain et.al., 2016). In the next section, the compact city concept is explained in details.

6.2 Theoretical Framework

The upcoming subsections will explain the following topics in detail: Compact City definition, general characteristics, processes and actors in urban design for compact city development. Partially there are an adaptation in both, compact city urban design processes (6.2.4) and actors (6.2.5) from generic literature to compact city approach in urban design.

6.2.1 Compact City definition

The compact city first emerged in the writing of Dantzig and Saaty (1973) as an ideal model of city design. Their ideal proposal has a specific vision of a city with several circular layers connected by elevators and contains a functional core surrounded by residential areas containing different facilities like schools, clinics and local shops. Their approach was driven towards more efficient use of public resources, denser and mixed-use urban design. Such an ideal model has been appreciated by several authors (Alexander & Tomalty, 2002; Baerny, 2004; Banister, 2000) with a growing interest in the following decades. Also, this is shown, for instance, in the work of Thomas and Cousins (1996), who supported the compact city approach. They used the term decentralized concentration to express the idea of compactness. Other authors like Burton (2002) and Churchman (1999) argued on the importance of compact city policies which are high density, mixed-use land and intensification. Neuman (2005), although he has a sceptical view on the compact city, defines 14 characteristics of this urban model that are mentioned in the next subsection.

According to one of the latest definition of the compact city from OECD Compact City Policies report in 2012: *"Compact city is spatial urban form characterized by compactness and its key characteristics as: i) dense and proximate development patterns; ii) urban areas linked by public transport systems; and iii) accessibility to local services and jobs."* (OECD, 2012, p. 15)

However, the definition of the compact city is still under debate. Most of the researchers favour this as an urban design approach, but on the other hand, the criticism towards compact city cannot be neglected as it will help to improve the idea and approach (Moliní & Salgado, 2010).

6.2.2 Compact City general characteristics

As mentioned previously, the authors who first introduced the concept of the compact city were Dantzig and Saaty in the 1970s. Their work described three fundamental characteristics of a compact city. Firstly, the urban form is highly dense with less use of private transportation and a visible boundary from the city's surroundings. Secondly, mixed land use, clear identity and diversity are its spatial features. And thirdly, the compact city generates social equity, self-sufficiency for daily life and has an independent administration (Dantzig and Saaty, 1973). Later definitions, such as the one developed for example by Thomas and Cousins (1996) mentioned three characteristics of the compact city: compactness being a numerical quantity representing density; accessibility to all services and facilities through sustainable means of transportation; respect for nature.

From the works developed in the current century, Neuman (2005) defined 14 characteristics of a compact city. *"i. High residential and employment densities. ii. A mixture of land uses. iii. The fine grain of land uses. iv. Strong social and economic interaction. v. Contiguous development. vi. Contained urban development with clearly demarcated limits. vii. Contained urban infrastructure, especially sewerage and water mains. viii. Multi-modal transport. ix. A high degree of accessibility in local and regional. x. A high degree of street connectivity internally and externally, including sidewalks and bicycle lanes. xi. A high degree of impervious surface coverage. xii. Low open-space ratio. xiii. Unitary or closely coordinated control of the planning of land development. xiv. Sufficient government fiscal capacity to finance public facilities and infrastructure."* (Neuman, 2005, p. 14)

Besides academic literature, the compact city has been endorsed by international institutions. For instance, the OECD report (2012) shares most of the concepts mentioned before as it includes in its compact city definition high-density development patterns, public transportation connecting urban areas and easiness to reach jobs and local services.

Based on the literature review, for this thesis paper, the compact city features can be summarized as follows:

- Areas developed by patterns that promote high density respecting nature and wildlife.
- Mixed land use as a blend of different functions in an urban space, e.g. residential, business, facilities and so on.
- Accessibility and connectivity to different local services and jobs, internally and externally by using sustainable transportation models

The next subsection will delve more into complexity of the compact city concept and approach.

6.2.3 Compact City States & Impacts

According to Kain et al. (2016), the qualities of a compact city can be classified into twelve categories. These twelve categories were identified based on clustering

of different terms used in 84 reviewed articles, as mentioned in the table 6.1. Furthermore, according to Adelfio et al. (2019), the categories can be further divided into two groups, such as States and Impacts, as shown in figure 6.1.
States consist of:

- People
- Build Structures
  - Build Structures A (Buildings and Functions Density)
  - Build Structures B (Buildings and Functions Mix)
  - Build Structures C (Connectivity, Morphology)
  - Build structures D (Access, Transport)
- Nature

Impacts are divided into Primary and Secondary Impacts.
Primary Impacts consist of:

- Socio-Culture
- Environment
- Economy

Secondary Impacts consist of:

- Health
- Quality of Life
- Justice
- Adaptability

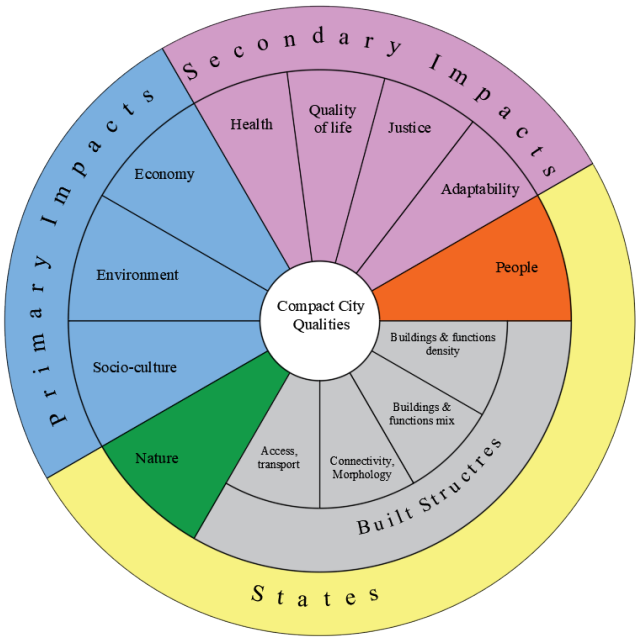


Figure 6.1: Compact City States and Impacts (Adelfio et al.,2019)

6.2.4 Compact City Design Processes

In order to determine and describe compact city design processes, it is needed to describe urban design processes in general. There is a possibility that the mainstream

Categories of urban qualities	Terms used in the articles
People	Population density, Population size, population growth or decline, and Population mix
Built Structures A: Buildings and Functions Density	Density in general, Building density, Site coverage, Residential density, Residential floor area, building heights, Number of public facilities,and Open land suitable for development
Built Structures B: Buildings and Functions Mix	Land use in general, Mixed land use, Intensification of activities, Regeneration and/or reuse of brown fields, less land consumption for urbanization, and Efficient land use
Built Structures C: Connectivity, Morphology	Urban form in general, Monocentric, polycentric or corridor development, Non-sprawl, and Network density
Built Structures D: Access,Transport	Mobility and accessibility, less Congestion, Short distances (walkability, bikability), Access to green space, Less cars, and efficient public transport
Nature	Green or blue areas in general, smaller Ecological footprint, less Habitat fragmentation, more Green roofs or walls, and more Ecosystem services
Health, Environment	Health in general, Active commuting, less Traffic fatalities, Environment in general, Energy efficiency, lower Resource use, less Air and noise pollution, less Heat island effects, and mitigation of Climate change
Quality of life	Quality of life in general, pedestrian and attractive public spaces, Human-oriented street life, Look and feel of place, and Security
Socioculture	Social aspects in general, Social capital (interaction and community), Vibrant communities, Social control, Community Integration and social cohesion, Social inclusion, and Social diversity
Justice	Equality and equity, more Social or affordable housing, and Equal access to mobility (affordable public transport)
Economy	Vibrancy (revitalise the local economy), higher income levels, higher Employment and workplace density, Reduced expenditures on infrastructure and services, higher Land and property values (and rents)
Adaptability	Resilience, Form as outcome of micro-behaviour, Salient feature of informality and micro-behaviour, and Flexible use

Table 6.1: Twelve main categories of urban qualities (Kain et al., 2016)

processes of urban design are not functional toward the sustainability cause. That requires a different approach to be able to include sustainability principles in the design.

First, what is urban design? *"Urban design is the practice of planning and creating communities."* (Rager, 2018). This definition can be considered as a basic essence of urban design. However, that does not reflect which aspects of urban design must be considered. Rager (2018) continued explaining urban design true aim which is communities and individuals *"Modern urban design is seeking to integrate commerce, transportation, recreation, and housing into functional, aesthetically pleasing spaces that allow for diversity and promote mental and physical well-being."*

There are several studies and approaches to analyze urban design processes. Some of the processes will be described below based on the words of Dias, Curwell, &

Bichard, (2014) and another research by Cuesta, Sarris, Signoretta, & Moughtin, (2003). For the purpose of this study, the main focus is on two approaches, Top-down and Bottom-up. The main reason behind choosing these two approaches is to highlight the fundamental aspect of sustainable urban design processes, i.e., the involvement of the community.

Top-down approach

Based on the research "The Current approach of Urban Design and its Implications for Sustainable Urban Development" (Dias, Curwell, & Bichard, 2014), the mainstream approach to urban design is described by Moughtin (2007). It consists of four main phases which are aligned with the Royal Institute of British Architects practices (1980). The phases are:

- *Phase 1-Assimilation: the accumulation of general information and information, especially related to the problem.*
- *Phase 2-General Study: the investigation of the nature of the problem: the investigation of possible solutions.*
- *Phase 3-Development: the development of one or more solutions.*
- *Phase 4-Communication: The communication of the chosen solution to the client.*

As a further of development of the top-down view, a landmark project exploring the sustainable 24hour city Boyko, Cooper, Davey, and Wootton (2006) identified a recent development in the urban design process which has considered stakeholder engagement. There are four main stages in this process, including four transitional stages, as shown in the figure 6.2. The fundamental four stages in this process are as follows:

- *Stage 1: creating teams, appraising the situation and forming goals.*
- *Stage 2: designing and developing.*
- *Stage 3: evaluating, selecting and creating a plan.*
- *Stage 4: implementing, monitoring and following up.*

This indicates that designers and planners are assigned to identify the problem and analyze the data to generate the design ideas. Also, once the design ideas are generated, communication is done with consultancy or stakeholders. This working approach can still be considered as a Top-down in spite of involving stakeholders.

Bottom-up approach

By contrast, there is another approach to the urban design process, which is called bottom-up. The bottom-up approach has emerged as *"Planning is participatory, as different interest groups work together in solving their problems through communication strategies, and the planner acts as a mediator to reach agreed decisions* (Rojas-Caldelas et al., 2015, p. 5). Roy and Ganguly (2009) mention this approach as more suitable for designing because communities know more about their needs and understand them better than professional actors. Fraser et al. (2006) research supports this approach with more clear motivations and critical points on why bottom-up will deliver more sustainable solutions. For instance, one of the given

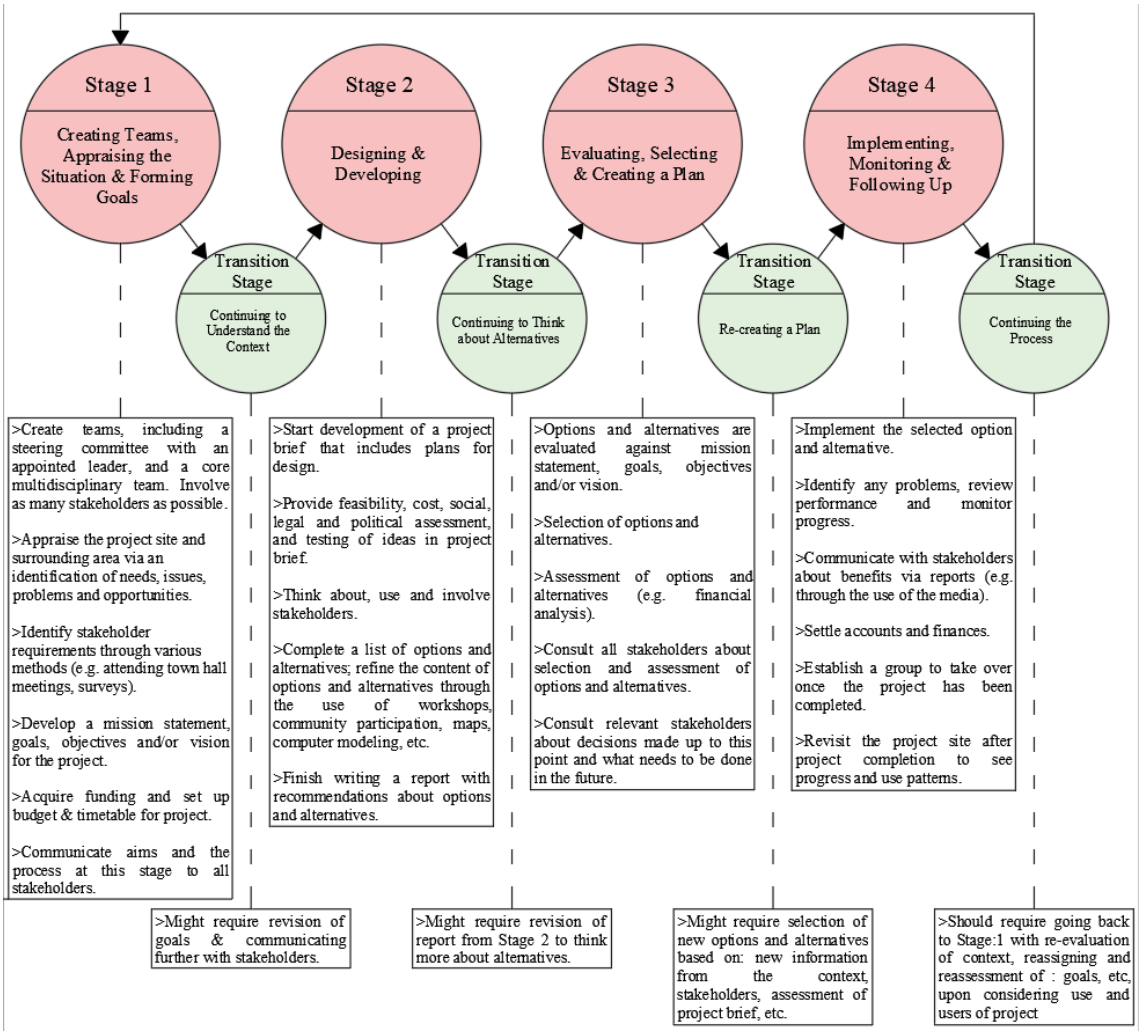


Figure 6.2: Adapted from The urban Design with transitional stages (Boyko, Cooper, Davey, & Wootton, 2006)

reasons is that bottom-up will provide a local assessment about the three sustainable branches (social, economic and ecologic) rather than depending on quantitative facts. Additionally, this approach will close the gap in problem identification, i.e., the gap of differences between studies and actual local problems. Since the solutions are from a local perspective, they are sustainable because they address local problems. Finally, this approach empowers the community because it is increasing its capacity to manage the environment.

According to Dias et al. (2014), the ideal application of the bottom-up approach is about involving and consulting the community from the beginning and until the end of the project. Involving the community in the early stages will improve the quality of problem identification and the sustainability of the solutions.

6.2.5 Compact City Actors

In Nietzsche's words, *"the more eyes, different eyes, we can use to observe one thing, the more complete will our 'concept' of this thing, our 'objectivity', be"* (quoted in Schacht, 1996). In order to acknowledge this wide range of consideration, a multi-dimensional viewpoint is required. Multi-dimensional viewpoint combines political, economic and cultural aspects of urban design and development. This viewpoint needs to be dynamic, so that it can address the process of urban change by integrating a time dimension into the process of spatial variation, rather than only focusing on a particular place or a single moment in this process (Lefebvre, 1991). To employ a multi-dimensional and dynamic perspective, there is a need to see urban design as part of the broader context of the urban development process, including the one referable to the compact city.. Hence, it is fundamental to analyze the significance of urban design from the perspectives of regulators, producers and users of the urban space (Madanipour, 2006).These actors are not exclusively operating in the context of compact cities but can be applied to it as they exist in any type of urban development.

Each of these groups (i.e., regulators, producers & users) in turn includes several types of actors. Regulators mainly refer to the government and its role in regulating the economy, which in the urban development process is primarily reflected in planning. Producers include those who build the city, predominantly developers and their financiers and teams of professionals, including designers and construction companies. Users generally refer to those who visit, work or live in the city and use the urban space in some capacity. As we focus on the process of urban development, these terms (i.e., regulators, producers & users) may helpfully describe the roles that groups of actors play in this complex process (Madanipour, 2006).

Madanipour (2006) in his paper " Role and Challenges of Urban Design" showed that urban design is relevant for the producers, regulators and users of urban space. For the producers, it reflects a new division of labour among the stakeholders, shapes the built environment, co-ordinates and leads the development process, stabilises the market conditions, and markets the development. For the regulators, it helps to make the city more competitive, shapes the future of the city, manages its environmental change, and contributes towards good governance by bringing together different actors to participate in the process of developing and implementing a vision for the city. For the users of the city, it improves how the place functions and enhances its symbolic values.

6.3 Analytical Framework

The result and the outcome of this thesis research are represented in the form of a visual framework. The models and mapping techniques discussed in this section are used in order to structure analyzed data and assets logical thinking in a systematic manner. This study will use the following three models mentioned below to structure the outcome of the result.

6.3.1 Stakeholder Mapping

Stakeholder engagement should be carried out within the context of a particular project. Particular attention must be given to the distinctive features of the circumstances in which a project is being carried out (Mathur et al., 2007). It has been argued that *"Every situation is unique, shaped by the issues, the people, history, location, structures of organisations and institutions taking part, wider decision-making processes and systems, and so on"*(Involve, 2005, p.8).

There are several techniques for mapping of stakeholders, which are also sometimes referred to as stakeholder analysis techniques. One of the ways of visualising the relationship of stakeholders to a project goal is "the stakeholder onion diagram" as shown in the figure 6.3. This diagram helps to identify and characterise each of the stakeholder's role in the process (Czischke, 2018).

The stakeholder onion diagram, as shown in figure 6.3, consists of four circles. The innermost circle indicates the project goal; circle 1 indicates primary stakeholders, circle 2 and circle 3 consists of secondary stakeholders and the wider environment, respectively. The detailed information about each level are given below:

- *Primary Stakeholders (Circle 1): They have significant influence in the project with strong legitimacy and/or strong control over essential resources.*
- *Secondary Stakeholders (Circle 2): They play an important role in the project but are not involved in day-to-day operations unlike primary stakeholders.*
- *Wider Environment (Circle 3): Individuals or organisations that are indirectly affected by the project.*(Czischke, 2018)

Furthermore, the entire stakeholder onion diagram is divided into three parts, such as market, state and civil society actors. This division will help to identify different types of stakeholder's motives, agendas and institutional logic's. Additionally, dashed arrows can be used in the diagram to represent the relationships between the different stakeholders visually. These relationships are further divided into three types are as follows: 'Strong' collaboration relationship are related to day to day working aspects of the project and mutually interdependent, 'Ad-hoc' collaboration relationship is having limited involvement in the project, and 'Indirect' relationship is latent or implicit (Czischke, 2018).

6.3.2 Policy Triangle

In order to reach the aimed thesis research result and answer the research questions, this was drawn on the framework developed by Walt & Gilson (1994). This analytical model links four aspects of the study showing a clear connection between processes, actors, context and content, as shown in figure 6.4.

The policy triangle is composed of four elements, as shown in the figure 6.4. Content is referred to topics and subjects covered in details by the policy. Context is related to the contextual factors to create the policy, e.g. cultural, situational. Actors are people, institutions and organisations that have influence and interest in a policy.

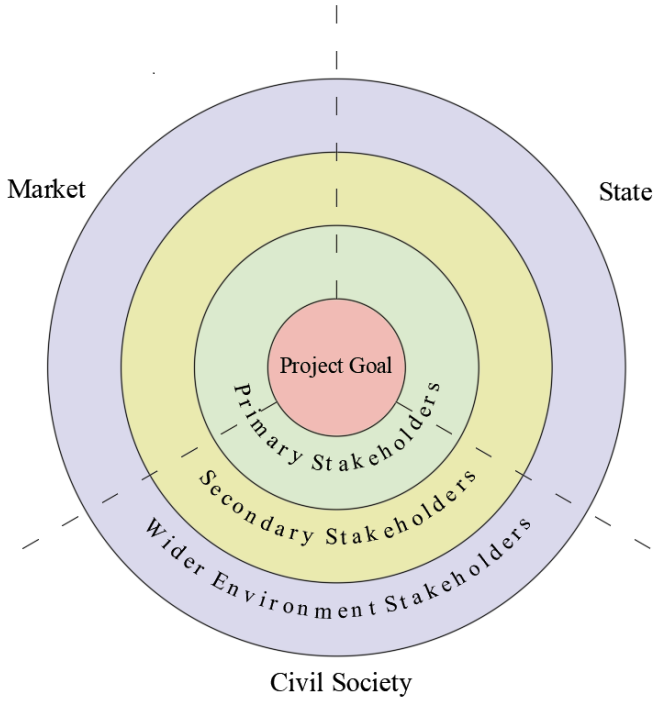


Figure 6.3: Stakeholder onion diagram adopted from Czischke's diagram (Czischke, 2018)

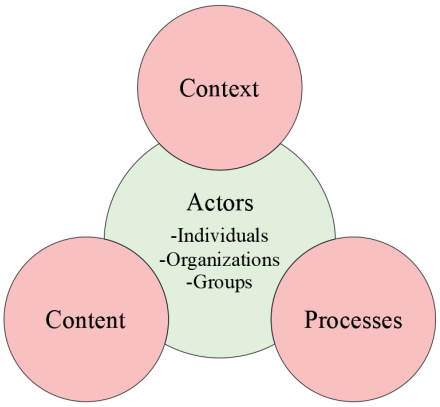


Figure 6.4: Adapted from The health policy triangle (Walt & Gilson, 1994)

Processes refer to the implementation processes of the policy.

The suggested framework by Walt & Gilson (1994), might seem simple and gives the impression that parts can be considered separately. In reality, it reflects many complex interactions between parts. For instance, actors are influenced by the context surrounding them. Processes are affected by actors involved in them because of their influence and interest. Focusing exclusively on the content of the policy and neglecting other factors such as context, processes, can make a difference between effective and ineffective policy.

6.3.3 Connected Circles of System Mapping

The dynamics and interconnections of urban systems are to be analysed through a multidimensional framework. This is where systems mapping tools come into the picture. System mapping provides an opportunity to explore the urban systems, communicate understanding, identification of knowledge gaps, intervention points, and insights (Acaroglu, 2017).

The system mapping used in this study is the Connected Circles of system mapping. Connected Circles of system mapping is defined as an individual map that allows for a deep exploration of relationships and cause and effect in systems dynamics as shown in the figure 6.5 (Acaroglu, 2017).

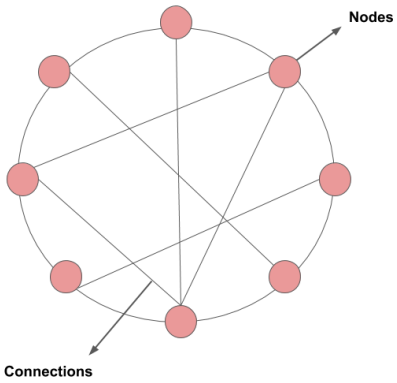


Figure 6.5: Connected Circles of System Mapping adopted from Tools for Systems Thinkers: Systems Mapping (Acaroglu,2017)

7

Methods

This Chapter will explain the research steps followed throughout this work and outline the choice of research methods used to gather relevant information to answer the research questions. The research has gone through the following steps, as shown in figure 7.1.

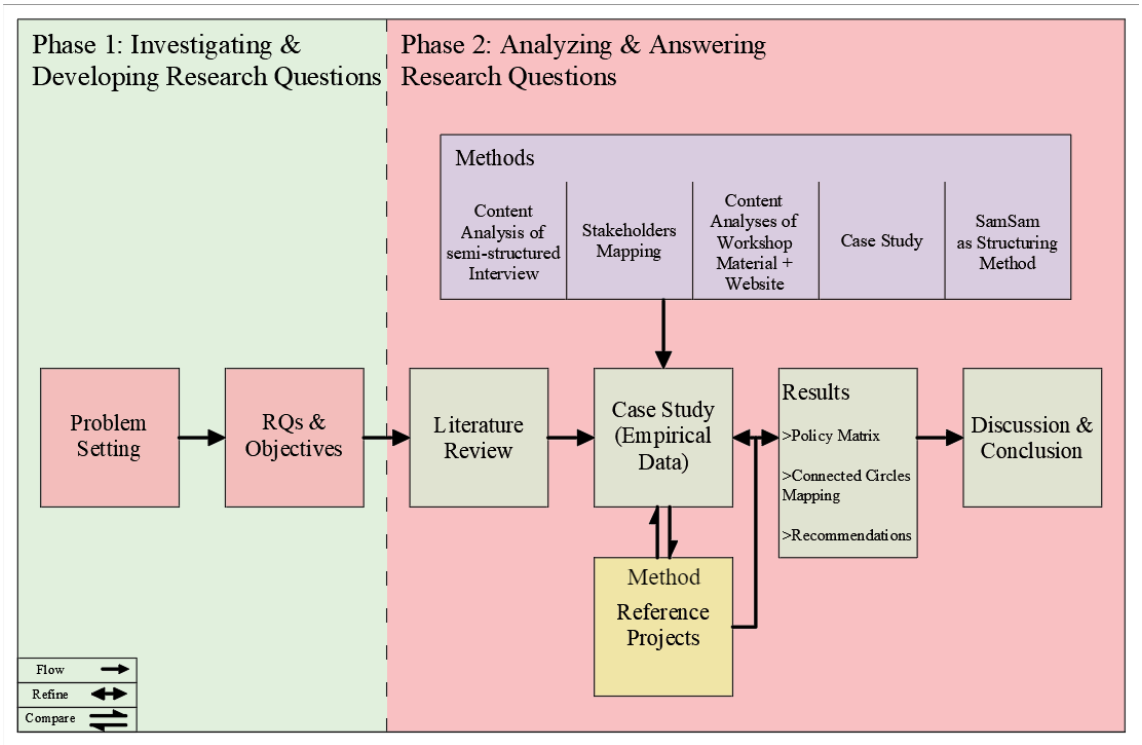


Figure 7.1: Visual representation of the sequence of research steps

Concerning the methods that have been used they include reference projects (Baretschneider et al., 2005), case study analysis (Yin, 2003), content analysis of semi-structured interviews (Elliot et al., 2016), webpage (Krippendorff, 2019) and workshops (Bellman, G. M., & Kelly, L. A. 2001), stakeholder mapping (Caputo, 2013) and SamSam as structuring method. Table 7.1 summarizes the rational and desired or expected outcome for each method.

Method	Rationale (Why?)	Expected Outcome
Reference Projects	1.To compare and analyse with case study Landvetter Södra.	1.Identification of special/unique characteristics.
Case Study	1.To assess and refine the framework based on practical data / information. 2.To Identify the characteristics which differ from the theoretical perspective.	1.A functional and context adaptive framework.
Content analysis of semi-structured interviews, webpage and workshop results of Landvetter Södra	1.To gain stakeholders perspectives. 2.To examine the current situation and local context. 3.The webpage is used to gather the additional source of information and data.	1.An understanding of stakeholder perspectives and different opinions. 2.Context-adaptive framework. 3.Project information and principles.
Stakeholder Mapping	1.To obtain a systematic approach in identifying the stakeholders. 2.To plan the stakeholder engagement.	1.Secure the stakeholder mapping. 2.Appropriate means for the stakeholder engagement is planned.
SamSam as Structuring Method	1.To Integrate process & actors into Policy Matrix through SamSam. 2.To see how the co-creation process is carried out (methods, tools, positive & negative outcome).	1.The results/outcome of the co-creation process integrated in the comprehensive Policy Matrix.

Table 7.1: Research methods with Rationale and Expected Outcome

7.1 Reference Projects

Reference projects are best practices regarding compact city development in this thesis research. They can be defined as *"a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption"* (Merriam-Webster, 2019). Bretschneider et al. (2005) added that empirical use of best practices in the pure form will fail if not taking into consideration the diversity of contexts in which they are applied. The reference projects in this research function as a guiding compass for achieving the compact city model of urban development. The analyses of such projects are fundamental because they are representing exemplars of the compact city model and help to define strengths related to the case study and counteract possible case study's weaknesses.

There are four reference projects considered within the European countries such as Germany, Spain and the United Kingdom. The comparison of reference projects will be quantitative and qualitative and explained in section 9.1. Quantitative analysis is based on comparing the five projects by numbers, area, populations and number of dwellings. Qualitative is based on reviewing previous research about the projects.

7.2 Case Study

Case study is one of the ways of doing social science research, and it is generally a preferred strategy when "how" or "why" research questions are being arisen. As stated by Yin (2003) *"the essence of a case study, the central tendency among all types of case study is that it tried to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result".*

The focus of case study analysis for this thesis paper is on the actors and processes involved in the urban design phase of the Landvetter Södra project to understand the real-life context. The outcome of this case study research is used to refine and asses the result of this thesis research.

7.3 Content Analysis

Another method followed in this thesis paper is the content analysis of semi structured interviews, website and workshops. It is further discussed in detail in the text below.

7.3.1 Semi-Structured Interviews

The interviews were carried out to gather stakeholder perspectives and the current situation of processes and local actors involved in the compact city development. In order to achieve this, a semi-structured approach to interviews was adopted because it allows the interviewee to raise new ideas during the interview (Elliot et al., 2016). During the semi-structured interview process, there is flexibility, opportunities to adapt questions, change order, or ask additional unplanned questions to explore and clarify the interviewee's responses (Elliot et al., 2016).

In total, six semi-structured interviews were conducted in this project. The questions asked during the interview process were not ordered, leaving room for flexibility to adapt or change the interview structure in accordance with the direction of the conversation. In order to gain different perspectives on a particular topic, the same questions were asked to multiple stakeholders. There were also a few different questions, which may have influenced the results. However, this was required to ensure that the questions between one interview and another, were relevant to each of the stakeholders.

The interviews were analyzed and categorized into four themes that reflect and summarize stakeholders' opinions. The chosen themes are Processes, Actors, Compact city attributes and Good urban design qualities.

7.3.2 Content Analysis of Web pages

Krippendorff (2019) defines content analysis as *"a research technique for making replicable and valid inferences from data to the contexts of their use".* Content anal-

ysis is used in researches to examine communication artefacts (e.g. web pages and newspapers) systematically, objectively and quantitatively. There are two types of content analysis: quantitative and qualitative. Analysing content quantitatively means using statistical methods to analyse patterns in documents and communication artefacts. Qualitative analysis is about analysing the content meaning of a text which is the method used in this thesis paper. Krippendorff (2019) mentioned several advantages when applying content analysis, e.g. unobtrusive, unstructured and it is context-sensitive so it can overcome the massive amount of data.

Applying content analysis on a web base content is an easy and fast method to gain data that is suitable for research purposes. In this thesis research, content analysis on web pages has been applied to gain more data and information about the case study project. The data source is the case study project web page (https://landvettersodra.se/).

The availability and expansion of the world wide web provided an opportunity to create a vast amount of content in various forms. The web content gives new chances for researchers to access and analyse this data instead of spending a tremendous amount of time and energy in using more traditional methods for collecting data. Researchers now can download data without the necessity to involve who produced the data. However, the data provided is unstructured and comes in a variety of formats, so it needs to be restructured through content analysis (Krippendorff, 2019).

7.3.3 Workshops

Workshops are extremely useful in research because they extract information from practical skills and knowledge of participants and then transfer them into results. Workshops can fill the gap between desired and actual targets thanks to the participation of real stakeholders. (Bellman & Kelly, 2000).

The Center for Community Health and Development at the University of Kansas defined a workshop as *"single, a short educational program designed to teach or introduce to participants practical skills, techniques, or ideas which they can then use in their work or their daily lives"*(CTB, 2018).

The main reason to use workshops in this study is to observe collaborative effort in urban design; Workshops are designed for individuals who are working together or in the same field and including people with experience or knowledge about the subject. Also, participants are active and can influence workshop development. Workshops can be an optimal way to work, especially if the target is to create an intensive experience in a short period. Daily meetings may not be conducted, as participants would be at various sites / locations. When collaborating, the participants can improve the work in real situations by getting feedback from peers and create a sense of community or common purpose. The reasons for conducting workshops are various. The two main reasons that coincide with the case study are the beginning of a new project and the availability of experts (CTB, 2018).

In the case of Landvetter Södra, politicians and practitioners in Mölnlycke municipality were looking for an approach to have a unified vision about the project. Besides, they were looking for a tool to enhance trust between team members within the municipality. The case study team members in the municipality have been introduced to SamSam, which will be described further in the thesis paper. SamSam includes conducting six workshops with different subject in each workshop to discuss different aspects of project design. As author's, it was a privilege to be able to attend one of the workshops as observers. Also, we obtained a few of the workshops' results, which also will be shown further in this paper.

7.4 Stakeholder Mapping

It is essential to form a systematic approach for identifying project stakeholders so that the appropriate means for their engagement can be planned. As mentioned by Caputo (2013), the influence of the stakeholders in a project can be studied from different perspectives. There is a political aspect, regarding democracy, connected with the right of citizens to influence decisions affecting their local communities.

In this thesis paper, the main actors involved in the case study have been identified, and they are grouped based on their level of engagement in the project. The level of engagement was determined through observation and interviews. Later, the identified actors and their level of engagement have been represented on the Czischke's stakeholder onion diagram (Czischke, 2018).

7.5 SamSam as Structuring Method

SamSam is a procedural or co-creation process incorporated by the Landvetter Södra project. The detailed information regarding SamSam will be explained in the next chapter. However, the reason behind choosing this as a structuring method is to integrate results or outcome of the co-creation process in the comprehensive Policy Matrix which is displayed in chapter 10, section 10.2. The urban design processes with transitional stages explained in chapter 6 (see Figure 6.2 by Boyko, Cooper, Davey & Wootton, 2006) are similar to the SamSam steps. Therefore, the names of the urban design processes from SamSam are considered in this thesis paper as a structuring method. For instance, the tasks involved in stage 1 of urban design processes (see Figure 6.2), i.e. creating teams, appraising the situation forming goals are similar to the Co-initiation step from the SamSam. Additionally, SamSam workshops are analysed to see how the co-creation process is carried out (methods and tools used, positive & negative outcome).

8

Introduction to Case Study

This chapter provides an introduction to the case study using data and information provided by the municipality and project website. The reasons for choosing this case study are several, but the most important ones are its location and the aim of the project. Regarding location, the project is situated in Västra Götaland region, which is in line with Challenge Lab requirements, e.g. studying and analyzing current systems in the region and participating in sustainable transition. Then the project aim, based on the provided data from the website, is to design and build a city with an urban compaction approach, as confirmed by several interviews with the project's stakeholders. However, there is a current debate regarding compact city approach and in this thesis paper analysis is made regarding the same for the Landvetter Södra project. Besides, there will be a section about project processes to reach aimed targets. Figure 8.1 is a visualization of the project expected vision.

Figure 8.1: Landvetter södra Future perception (Source: landvettersodra.se)

About the project

The project is located in the Västra Götaland region west of Sweden. The same region where the second biggest city in Sweden is situated, i.e. Gothenburg. Landvetter södra is in the municipality of Härryda, south of the existing town of Landvetter and east to the town of Mölnlycke, as shown in figure 8.2. The Landvetter airport is located on the same road extension that connects Gothenburg, Mölnlycke and Landvetter. The project is located on the third commuting route in Sweden connecting Gothenburg with Borås. Also, the future railroad Götalandsbanan will be crossing through the project site, as displayed in figure 8.3. The project covers an area of 650 hectares intending to be a city for 25,000 inhabitants as an initial estimated number ("Landvetter Södra, Om projektet.", n.d.).

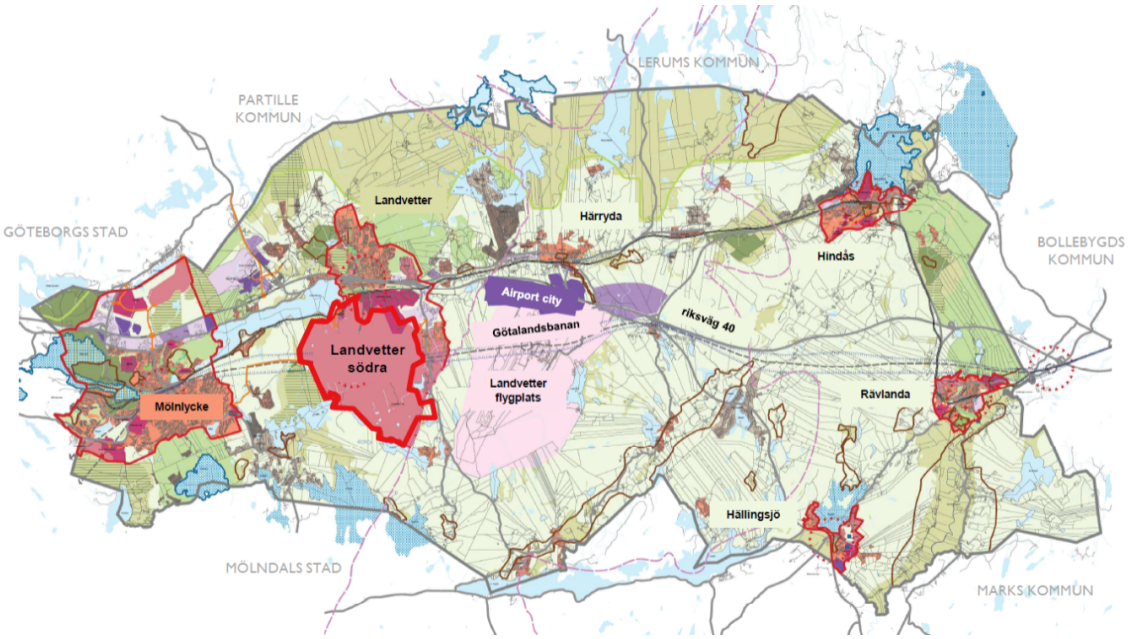


Figure 8.2: Härryda municipality plan (Source: Landvettersodra.se)

According to orientation objectives mentioned in the Landvetter södra webpage, four goals are guiding the project in both planning and decision-making processes. The first goal is "The human city" which is about creating a society for everyone, a democratic, equal, inclusive and sustainable city, where physical and mental health constitutes the central focus of any idea and decision. Then an "International city", this based on close location to the airport and on the way between cities. The third is a "Modern city", which means mixed-use with daring architecture and high density into consideration. Finally, "Innovative city" aiming to create flexibility in planning to allow innovation and creative ideas to influence the final results ("Landvetter Södra, Politisk målsättning", n.d.).

The numerical expectations of the project in terms of creation of employment, based on the project website and municipality analyses, is to provide around 3,000 jobs

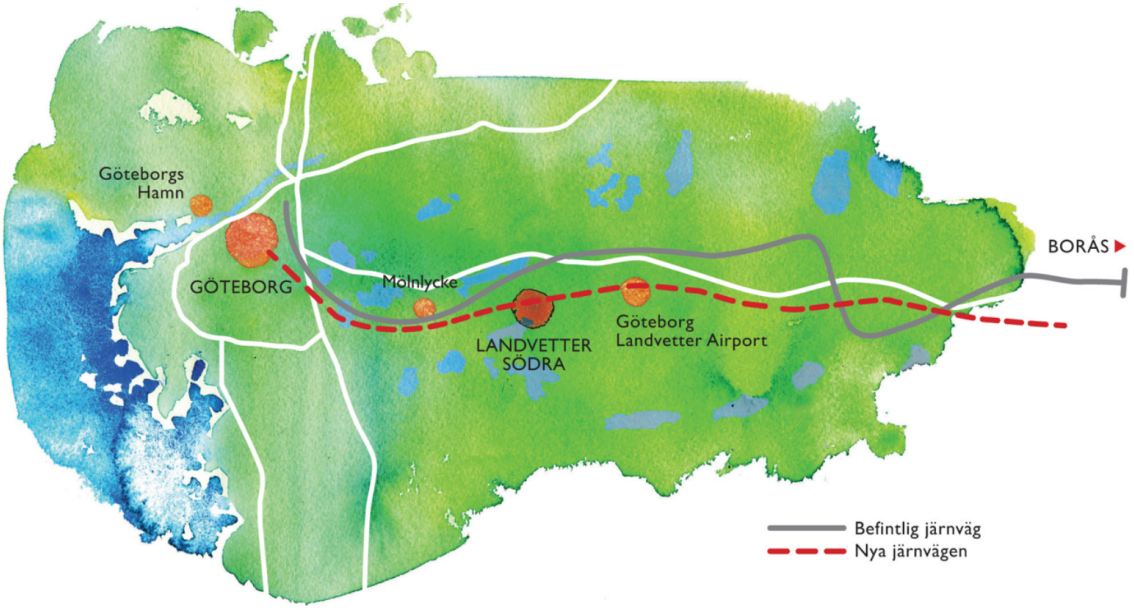


Figure 8.3: The Project location to the new railway and cities (Source: landvettersodra.se)

opportunities. The jobs are divided between local business activity and jobs in local services like schools, health centre, etc. The aforementioned job opportunities are just related to the project in a direct way. Because of the project location, inhabitance will also be able to access for 12,000 jobs outside the project. Some of these jobs are in neighbouring municipalities and at the airport. In the current planning process, the project will provide the Swedish housing market with 7,800 apartments and 2,600 houses. The apartments are divided between 40% renting and 60% condominiums. Non-residential uses are also planned for example commercial business is going to cover an area around 35,000 m2, Municipal facilities in the form of different types of schools, culture and leisure facilities, fire defence etc. will be approximately 90,000 m2. Besides, county council municipal health services need about 5,000 m2 ("Landvetter södra i siffror". n.d.).

Landvetter Södra project construction will start in 2020 as the project website "landvettersodra.se/tidsplan" indicates. However, the project was going through several milestones from the start in 2012. The City Council adopted the master plan in 2012 for the project, and the area was pointed out as the municipality's future large area for housing. After the master plan was politically adopted and to facilitate the implementation of the project, Härryda municipality purchased some plots of land between 2013 and 2014. It now owns approximately 650 hectares of land. In 2014 The City Council discussed the project orientation of Landvetter Södra and what types of social values should be promoted. On September 22 of the same year, the City Council agreed on the establishment of the aforementioned four targets. Between 2016 and 2018 the people who worked in Härryda municipality have been investigating in different ways how to create a city from scratch. This was accomplished by developing an in-depth understanding of the master plan in the

perspective of the four goals previously mentioned.

In 2018 and through participating n the SamSam project, which will be discussed in the upcoming section 8.1, the in-depth studies continued. This participation and the results of the SamSam workshops are intended to finish by 2019. During the same year, a completed comprehensive plan will be presented for consultation. Figure 8.4 is a visual representation of the time plan of Landvetter Södra ("Landvetter Södra, Tidsplan", n.d.).

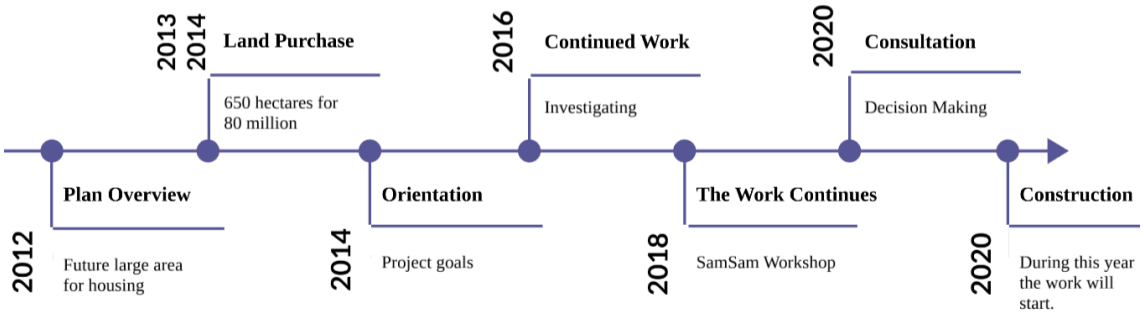


Figure 8.4: Project Time Plan. Translated by Authors. (Source: landvettersodra.se)

8.1 About the SamSam (Samskapande samhällsplanering för energieffektiva och hållbara stationssamhällen)

The project creating community planning for "Energy-efficient and sustainable urban station communities" (Samskapande samhällsplanering för energieffektiva och hållbara stationssamhällen - SamSam) aims to develop knowledge, methods and tools for planning and creating regional energy efficient built structures along railways, as well as existing and newly created small and medium station communities (webpage). It also focuses on developing new knowledge about how to create sustainable energy-efficient station communities using co-creation in early stages in urban planning on different levels: Local levels where they work together with municipalities and one Regional level with Västra Götaland Region.

SamSam is a part of the knowledge process developed by Mistra Urban Futures and Gothenburg region who runs the process of urban station communities. A researcher from the Royal Institution of Technology, KTH, Stockholm, run as a project leader along with the support from professor/ researcher Ulf Ranhagen and few other researchers from the KTH, Chalmers University of Technology, Gothenburg University, Lulea technical university. From the interviews, it is found that Landvetter Södra is the main case study on future station communities and together with some stakeholders, i.e. Västra Gotland region, Härryda Municipality, Borås Municipality and Stenungsund Municipality.

Furthermore, SamSam is considered as a procedural approach, because it is designed as a research and planning process. According to the interviewee, It has four major steps or leaps.

- **Step 1 (Co-initiation):** This step involves designing the processes, designing the constellation of actors and carrying out required initial analysis for the project. Additionally, decisions are taken upon the rest of the project needs.
- **Step 2 (Co-design):** It is the part of the process that carries out an investigation using future studies and backcasting, different future images or scenarios. The investigation results are then evaluated using criteria that are developed at the beginning of this co-design step. This is quite a big part of the process because it is where people are allowed to be very creative and develop ideas in a cyclical and iterative process.
- **Step 3 (Co-production):** In this step, the ideas are turned into a strategy and backcasting (Robinson, 1982) is used as a method.
- **Step 4 (Co-Implementation):** In this step, the stakeholder arenas are found to develop key projects. However, to reach this step in the project, there needs to have a political decision, then it becomes a real project and not just an experimental project.

These steps can be used for research, planning and practise.

As mentioned above, SamSam initiated the co-creation workshops for the Landvetter Södra project. The purpose of these workshops is to form the main arena where researchers and practitioners meet to design and develop knowledge together about urban form. Also, test and implement new tools, methods and models for these planning processes. So for every workshop, they introduce new tools to conduct the activities and also have research questions related to urban form and energy efficiency. Figure 8.5 shows the number of workshops facilitated by SamSam until now and the topics discussed in each workshop. In addition to that, the program for each workshop is carefully designed together with the municipality to decide on which issue to bring up, how to develop and design the activities and how to implement it during each workshops ("Landvetter Södra, Dialog och samarbete", n.d.).

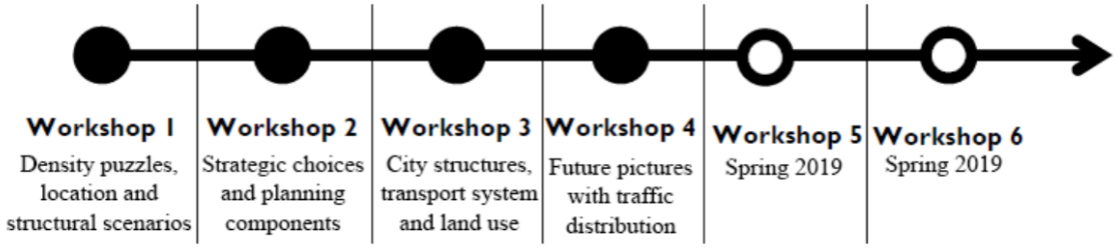


Figure 8.5: Workshops through SamSam (Source: landvettersodra.se)

Figure 8.6 and figure 8.7 show the outcome of workshops 1 & 2 respectively. During workshop 1, the agenda was to figure out the type of density using density puzzles, location of the project and different urban planning scenarios. Workshop 2 was

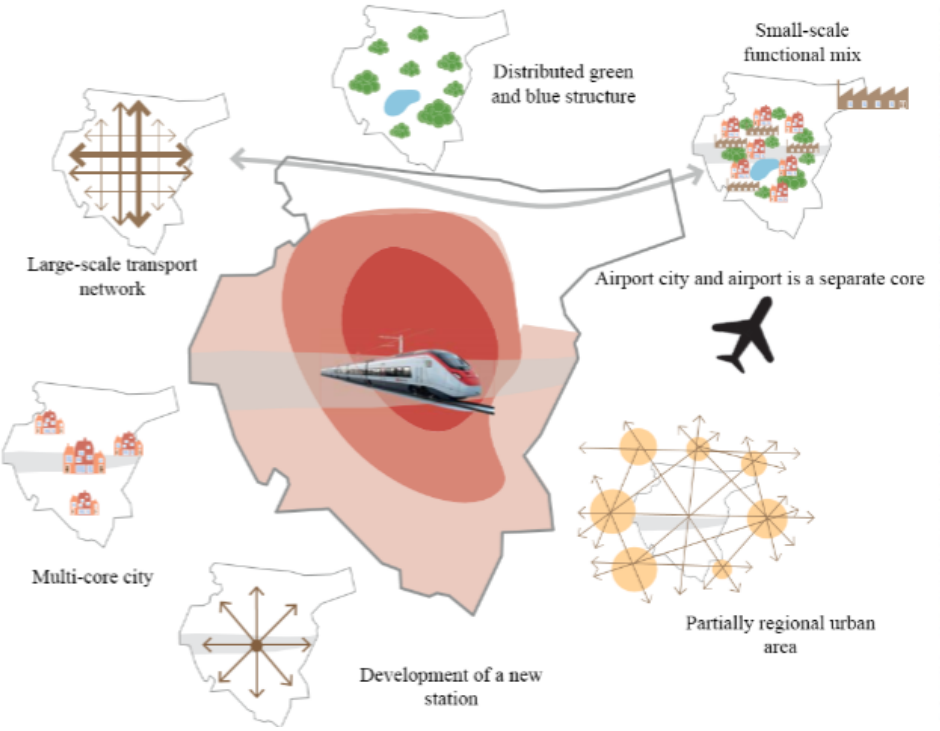


Figure 8.6: Results from SamSam workshop 1 (Density puzzles,location and different urban planning scenarios) (Source: landvettersodra.se)

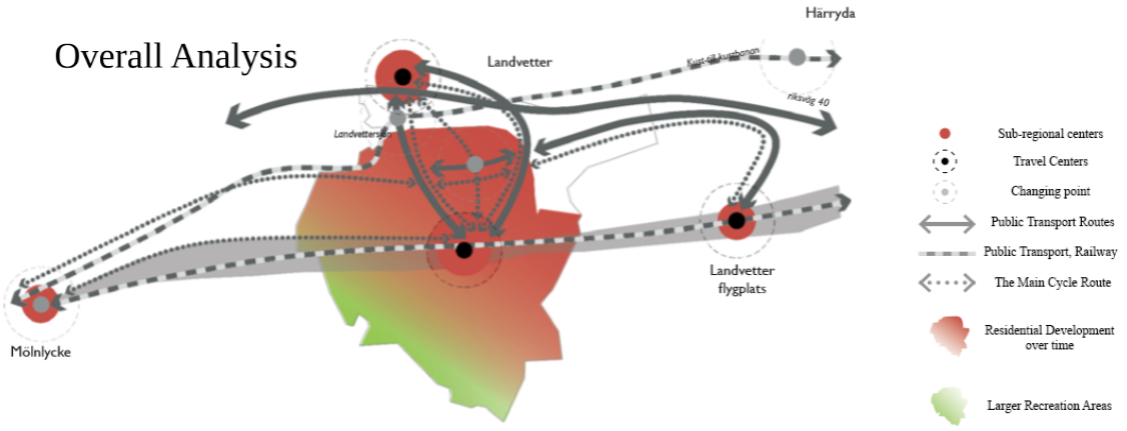


Figure 8.7: Results from SamSam workshop 2 (Strategic choices and planning components) (Source: landvettersodra.se)

focused on strategic choices and planning components. Figure 8.8 graphically represents the time schedule of Landvetter Södra, including work processes and SamSam workshops ("Landvetter Södra, Dialog och samarbete", n.d.).

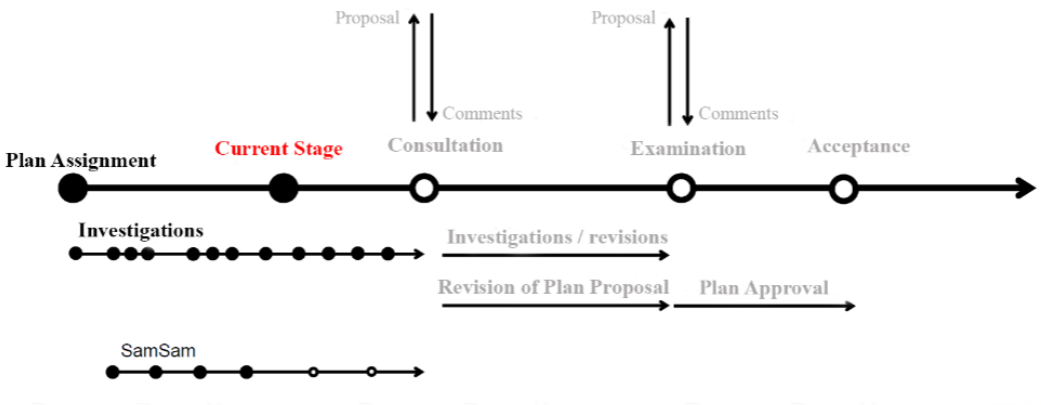


Figure 8.8: Time Schedule of Landvetter Södra including work processes and SamSam workshops (Source: landvettersodra.se)

9
Analysis

9.1 Reference Projects

This section will provide a brief description of the projects within the European Union, which are similar to the case study Landvetter Södra. The primary purpose of the reference projects is to compare different approaches and outcomes of the compact city concept with the case study Landvetter Södra. The analyses of these reference projects are less profound than the Landvetter Södra case study due to time constraint. The chosen reference projects for this thesis paper are shown in figure 9.1 are:

1- Vauban, Freiburg, Germany
2- Rieselfeld, Freiburg, Germany
3- Polvoranca, Madrid, Spain
4- Northstowe, Cambridgeshire, UK
5- Landvetter Södra, Härryda, Sweden

Figure 9.1: Reference Projects (Source: google.se/maps)

Vauban

This project was built on former French barracks. The total area of the project is around 40 hectares, with a target to obtain housing for 5500 inhabitants. The primary purpose of developing this area is to address the housing shortage in Freiburg with integrating ecological aspects from the beginning. Moreover, the project includes kindergartens, schools and retail stores to provide jobs. The district development plan is created through a collaboration between the city of Freiburg and Forum-Vauban. The former organization offered political support and groundings of development. The latter organization was formed to represent the citizens' voice. Schroepfer & Hee, (2008) mentioned that a principle of *"Planning that Learns"* was included in the design process and implementation. By doing so, each stage presented an opportunity to refine and enhance the processes and results. The forum opened an office in the district city to *"organize mobilization campaigns, workshops and events to assist people in forming co-housing groups"*. The critical factor of Vauban district success involves citizen participation in planning. The forum's task is to coordinate cooperative workshops between different groups i.e., architects, residents and developers to obtain solutions for project's problems.

The compact mixed-use (Vauban) district is promoting various transportation models. Public transportation, walking, biking and car-sharing are the essence of transportation. That helped in reducing the car density to 165 cars per 1000 inhabitants.

Vauban's compact city qualities can be summarized as mixed land use, public transportation, facilitated walking and cycling paths, which reduced private car ownership. Additionally, Cooperative workshops between different groups of stakeholders promoted more sustainable solutions.

Rieselfeld

This project is located on the west side of the city of Freiburg. The Rieselfeld project includes different facilities and services such as schools, library, church, several retailing stores, bank and three supermarkets. The reduction of traffic is a key factor of project urban design. To serve that purpose tram line and stations are located within 5 minutes walk of distance from homes. The project urban design provides accessibility for all sorts of users and promotes social equity. Green areas are spread through the plan in different forms like formal gardens, recreational spaces and non-typical wild spaces close to homes. Cycling is a significant urban planning aspect, by dedicating cycling routes connecting different parts of the city with parking and storage areas (Keivani & Shirazi, 2019).

The population in Rieselfeld are varied in ages with more concentration towards young families. The reason behind that is the housing ownership plan. Keivani et al. (2019) mentioned that 20% of the housing is provided by the state and cooperative groups, which make it affordable. There are 105 housing built by the schemes of ''Baugruppen". Group-build or Baugruppen is a type of community-led development which collectives formed and initiated for purposes of building housing. Group-build

model is a solution for three difficulties housing affordability, social interaction and cohesion and homes almost matching the requirements of residents. (Hamiduddin & Gallent, 2015).

Regarding compact city qualities, Rieselfeld shows methods and approaches to ensure social equity and cohesion, e.g. Baugruppen housing schemes. At the same time, Rieselfeld urban design is characterized as mixed land use and facilitated accessibility by sustainable methods, e.g. cycling.

Polvoranca

This project is located at Leganés municipality, south of Madrid. The main purpose of the project is to promote diversity in land use (i.e. mixed-land use). Moreover, the project has encouraged diversity and social integration by developing mixed-housing suitable for people with different income levels. The main actor behind the planning is the regional government who expropriated the land and worked on the master plan (Keivani & Shirazi, 2019).

The indications from the previous paragraph made it possible for young families to own a property. The mixed land use, with an orientation towards a friendly pedestrian environment, gave the residents a feeling of belonging. One must not forget the main points here, which are green areas and transportation. Almost 15% of the project is dedicated to green areas. Regarding shipping, there is a fair coverage of pedestrian paths in addition to cycling paths. The existence of public transportation and local stations reduced the use of private cars compared to other parts of the city. However, due to the non-existence of offices, residents must travel to workplaces (Keivani & Shirazi, 2019).

Polvoranca project shows the importance of mixed land use and public transportation. "Mixed land use" and a variety of housing options promote social integration and diversity. Public transportation and the availability of paths for both walking and cycling reduced car ownership.

Northstowe

The data and information about this project are taken from the web page northstowearchive.com. The project is about building a new town in the former location of Royal Air Force station in Oakington. The city is located between Cambridge and Huntingdon. Northstowe will be a home for 24,500 inhabitants on an area of 650 hectares. The number of the dwelling is around 10,000 units varied in sizes and types (Where town meets country in a brand new community: Northstowe, n.d.)

Northstowe will include different services and facilities such as primary and secondary schools, pharmacy, healthcare, leisure and shops. It has been divided into three phases. Phase one has already been finished, and the new residents already moved. Phase two is under construction, and phase three is under planning. In ad-

dition, the location of NorthStowe surrounded by rural community and the nearby communities will use some of the project services and facilities (Community | Northstowe, n.d.).

The main focal point of the project is human health and well being, thus promoting sustainability aspects. Examples of sustainable approaches are the local strategies for lowering carbon footprint and energy consumption from buildings. Green areas and spaces are integrated into project plans with accessibility to surrounding wild nature and farms (Environment | Northstowe, n.d.).

The main stakeholders in the project are Gallagher Estates, the Homes England, South Cambridgeshire District Council and Cambridgeshire County Council. This shows that the approach in the project is still top-down and lacks the involvement of communities and citizens. There are attempts to include people through the project website and the Northstowe Community Working Group. Active New Communities is a project aiming to arrange activities and collect inhabitants opinions about activities that can be done (Where town meets country in a brand new community: Northstowe, n.d.).

NorthStowe shows a variety of compact city qualities, e.g. built structures, such as working spaces and recreation areas are integrated into the whole project design, Environmental strategies for lowering carbon footprint and energy consumption. Regarding the life quality of inhabitants, it is the focal point of the project's urban design.

Learning Experiences

This subsection describes the strengths identified from each reference project. The lessons from the reference projects mentioned below will help to enhance the case study project and also act as a guideline to achieve the compact city model irrespective of the location.

The main lesson from the reference project Vauban, Freiburg, Germany is involving communities in the project will generate more sustainable solutions. The Riesefeld project shows that rules and tools should be created and implemented to secure diversity in the community. Polvoranca displayed how public spaces play a vital role in creating community cohesion. The common learning's found in both Riesefeld and Polvoranca are related to the fact that including workplaces in the design will promote 24-hour city life. The Northstowe project suggests having integration with surrounding communities by means of shared facilities and services connected by sustainable transportation. Finally, the most common lessons identified in all the reference projects are: the lower carbon footprint can be achieved by providing public transportation services; compactness should balance between private and public spaces because it is considered to be a strong asset to the community; accessibility and connectivity with the availability of walking and cycling paths are the bases to encourage sustainable transportation.

Table 9.1 shows the qualitative comparison between reference projects. There are three columns stating Rationale for selection, Success factor & Weakness of the reference project. The rationale for selection explains the reason behind choosing the reference project for this thesis research. Success factor and Weakness of each referencing project can be used to improve the Landvetter Södra project.

	Rationale for selection	**Success factor**	**Weakness**
Vauban	The importance of involving the community in decision-making processes	Cooperative workshops between different groups of stakeholders, mainly community, lead to more sustainable solutions	The project is more homogeneous than diverse compared to Rieselfeld project
Rieselfeld	Implantation of policies and methods to secure diversity	Accessibility and affordable housing	The lack of working spaces did not help to reduce the travelling from and into the project
Polvoranca	The importance of public spaces transit-adjacent development with the availability of workspaces	Mixed land use with a variety of housing to create variety of residents	Lacking offices to make it 24 hours life
Northstowe	The concept, density & housing are similar to the case study	Working spaces and recreation areas are integrated into the whole projects design	The design approach is top-down without involving the community

Table 9.1: Qualitative comparison between Reference projects

Similarly, table 9.2 shows the quantitative comparison between the reference projects and Landvetter Södra. It is evident from both the tables 9.1 & 9.2 that the reference project Northstowe and Landvetter Södra have most specifications in common. For example, both are new settlements and have similar estimated population and number of homes.

	Project type	**Area**	**Population**	**No.of Homes**
Vauban	Urban extension	40 hectares	5,500	2,500
Rieselfeld	Urban extension	70 hectares	10,000	3,700
Polvoranca	Urban extension	131 hectares	10,000	3,600
Northstowe	New city	432 hectares	24,500	10,000
Landvetter Södra	New city	650 hectares	25,000	10,400

Table 9.2: Quantitative comparision between Reference projects and Case Study

9.2 Interview Analysis

In this subsection, data collected from the interviews are analysed according to the identified themes from section 6.2, i.e., Processes, Actors, Compact City definition

& general characteristics and Compact City states & impacts. Figure 9.2 visually represent the method of interview content analysis.

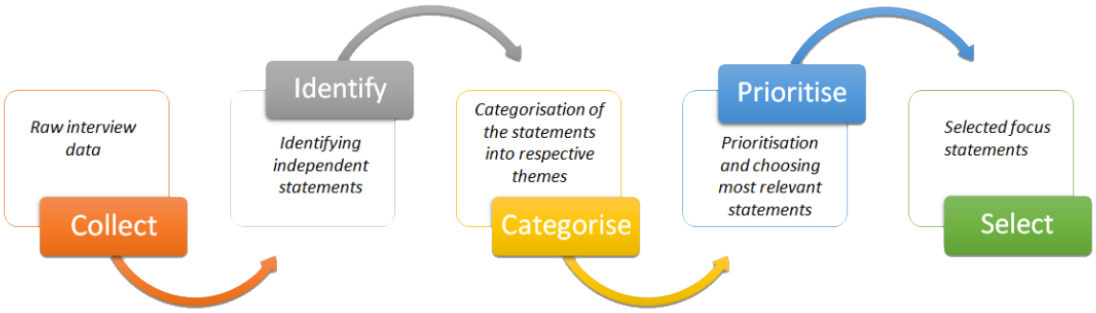


Figure 9.2: Process diagram of Interview content analysis

9.2.1 Processes

Co-creation (Table 9.3)
Co-creation process was mainly carried out to unify the vision and goals of the project between the politicians and practitioners in the municipality. This process also helped to build trust among the members involved in the project and made project members agree on the mutually decided plans, which will result in avoiding future conflicts. Everyone in the co-creation workshops had different perspectives, experiences and ideas while working together towards a common goal.

The idea behind these workshops was to bring out the local knowledge and the implicit or tacit understanding that policymakers (i.e., mostly politicians, practitioners from municipality) have in their everyday practice. Hence, this local knowledge that is created during the workshops gave the municipality a better institutional capacity to plan for a process. That entails bringing in resources, people, money, connecting with stakeholders, creating shared vision, goals and strategies, developing tactics on how to introduce the project and make it legible in a broader sense on a long term basis. These workshops also provide a platform to combine researchers and practitioners of the municipality.

One interesting aspect to observe is that neither developers nor local communities were participating in these workshops. Therefore, there is a possibility that their participation might have changed workshop results or the comprehensive plan of the project. One of the interviewees suggested to conduct the same workshops between politicians and developers and later compare the results of these workshops and the previous workshops that only includes politicians and practitioners from the municipality. One more advice from one of the interviewees was to make the developers go through the same workshops, i.e., Sam Sam process on their own to get the results and then compare it with the previous workshops. However, currently, these workshops results are not finalized, and necessary changes will be made after consulting with the developers.

Table 9.3: Selected examples of statements from the performed interviews: Processes - Co-creation

Statement	Interview NO.
Co creation process helped us to talk step by step, topic by topic after the process we are in some sort of agreement we are not seeing the same thing but all of us work to a common goal that we can see on paper.	4
A good way of exploring how to work together. To fill the trust issue between the project members. And unifying vision. And sam sam helped in the interrupting of Politician's visions.	3

Stakeholder Engagement (Table 9.4)

The tools or methods used by practitioners in the Härryda municipality for Landvetter Södra project, to involve stakeholders in the project include stakeholder dialogues, workshops, meetings and emails. According to one of the interviewees, the dialogues are planned to carry out between the developers and municipality to reform the vision of the project. This also helps to convey each other's opinions in order to have mutual results. Currently, the Landvetter Södra project has incorporated Sam Sam as one of the co-creation processes.

Table 9.4: Selected examples of statements from the performed interviews: Processes - Stakeholder Engagement

Statement	Interview NO.
We have dialogues between the developers and municipality about basic criteria for quality so we have this way of linking them together.	3
Now the process includes all kinds you can imagine. Such as Meetings, mail, dialogue, workshops.	1

The stakeholders involved in the decision-making process of the initial design phase were mostly politicians. They were representatives from each political party to ensure everyone agrees with the project for a long term commitment. According to all interviewees, the initial decision-making phase includes only the politicians where as the practitioners are allowed to join the discussions in the next phases only.

Work Planning (Table 9.5)

As mentioned before, the comprehensive plan formed during the co-creation workshops may or may not be changed due to the absence of developers. One of the interviewees argued that the workshops conducted between the politicians and practitioners lacked technical competences and more evidence-based knowledge.

The program for each workshop was carefully designed by Sam Sam facilitators together with the municipality. In parallel, the municipality has a working group which carry out the investigations and research required for the project. Moreover, the results of the investigations are included in the Sam Sam workshops to have a

structured plan at the end of each workshop. This plan could be further refined by the working group of the municipality to document the results.

On the other side, the traditional approach is usually more of rational planning, which is a linear stepwise approach and evident based. Furthermore, it is formulated and performed by experts.

Table 9.5: Selected examples of statements from the performed interviews: Processes - Work Planning

Statement	Interview NO.
So we take this comprehensive plan with us when we are going to companies to find developers, but we can't say it is going to be exactly the same plan because we need to verify it with our developers and others to check how to do it.	5
Also, it can be mentioned that if these visionary process that is Sam Sam is one process, there is also a need for more evidence-based knowledge when it comes to for example geological, climatology or ecological or transport-related issues and many other issues as well.	3

9.2.2 Actors

The identification of actors (stakeholders) related to the case study was based on asking interviewees about the individuals, groups and organizations involved in the current processes of the Landvetter Södra case study. In addition, the actors to be involved in the future were also investigated. There were similarities in answers between interviewees regarding the involvement of certain organizations or groups in the process and the actor's influence and conflicts, e.g. "we have politicians as actors, and they are in the decision-makers for the comprehensive plan" from interview NO.3, "The new city was politicians visions" from interview NO.2. Similarities in answers within a sample of stakeholders can lead to generalizing the findings to include the rest of the stakeholders. (Krippendorff, 2019)

Actors Identification (Table 9.6)
One of the main groups of actors are the politicians. They are key actors because they are decision makers. The second influencing group of actors are municipality practitioners. They have the knowledge and expertise required to accomplish the project and turn the vision into reality. Other relevant actors are, e.g. Västra Götaland County "Västra Götalandsregionen", Swedish Transport Administration "Trafikverket", Skanska Sverige AB, Riksbyggen Ekonomisk Förening and more. These examples of organizations come after the practitioners because they are not involved in the day-to-day activities and decisions. The first two examples (Västra Götalandsregionen, Trafikverket) of organizations work in the national and regional level by providing data and information on a bigger scale than a city. The second two examples (Skanska Sverige AB, Riksbyggen Ekonomisk Förening) of organizations are developing companies. Those examples of companies are important because they assist in completing Landvetter Södra urban design with their knowledge and have

the financial abilities to start building the project. Additionally, the interviewees mentioned NGOs, e.g. Swedish Trade Union Confederation "Landsorganisationen i Sverige", Central Organisation of the Workers of Sweden "Sveriges Arbetares Centralorganisation" as part of the actors' groups. Table 9.6 contains few statements about actors identification from the interviews

Table 9.6: Selected examples of statements from the performed interviews: Actors - Actors identification

Statement	Interview NO.
we have politicians as actors, and they are in the decision makers for the comprehensive plan.	1
So that is the municipal organization, and also they have municipal companies such as the waste and energy company. They will be part of it in the future.	3
I think there are many actors in the process the main actor is the municipality, in addition, politicians and practitioners in the municipality.	6
We are not doing/can't do it just by ourself (i.e., municipality). We need the markets. We need the companies; we need infrastructure buildings, we need every company who can help us to build this because we don't build, but we own the land.	5

Actors involvement (Table 9.7)
When asked during the interviews about the actors that should be involved, the most common answer was "everyone". Such word is meant to include direct and indirect actors, communities, governmental and private organizations. The community, specifically the residents of nearby towns, e.g. Mölnlycke, Landvetter must be involved because of the project's effects on residents lives. However, there are no tools to include the communities except showing and presenting the results of the design process through the web page and open seminars and getting feedbacks.

As discussed in the theory chapter, involving actors in the design process will improve the quality of the results. However, if the responsible organization, in this case, the municipality, does not have a unified vision for the project. The lack of unified vision will lead other actors (i.e. developers) to influence or change the vision of the project. For instance, when the municipality approaches the developers for consultation with no unified vision, there is a possibility that developers might have negative effects on the project. Furthermore, other actors should be involved, but their involvement is based on their field of expertise, so they promote a more realistic, comprehensive plan. Examples of those organizations are energy, traffic, water, waste... etc. These types of organization work in public service but in a national or regional context. Even NGOs should be involved because they have more in-depth knowledge in a fields that other organizations do not have.

It has been observed in the interviews that there are three main challenges in the involvement of actors. The first challenge is having a unified vision, which in this case study is solved by co-creation processes. As a result of using co-creation pro-

cesses, the actors within the municipality have the same vision about the project, and this helped to build trust among them. Another challenge is related to practitioners' involvement. Their role is limited to the provision of data and information in order to refine the political decision and transform it into a more realistic vision. The third challenge is involving new actors during the design process, which will have effects on both time and progress because involving a new actor means going back one step or more to adjust the plan based on their knowledge and requirements.

Table 9.7: Selected examples of statements from the performed interviews: Actors - Actors involvement

Statement	Interview NO.
We invite stakeholders when they are interested in subjects that are related to there work and planning.	4
There are absent actors and we decide to make them absent. It was a strategic choice.	4
co-creative planning is more of an integrated approach where you collaborate trans-disciplinary and together with stakeholders in the local community meaning local officials from the municipality, politicians it could also be NGO's, companies, practically everyone.	3
Every time you involve a new actor you should negotiate and go through discussion and ask it okay or we should go back one step	4

Influence and conflicts (Table 9.8)
Involving different actors might generate conflicts and challenges. The first raised conflict in the case study project was the one between the politicians and practitioners in the municipality. The reason behind it is the difference in their visions or opinions related to the project. Each group has its vision that is in line with its background and role in Härryda Municipality.

The second issue generating conflicts and influence is in decision making. The most agreed opinion is that politicians are the primary decisions makers. Their decisions are about initiating the project, its location and define its objectives. Additional conflict is related to the influence of the development companies. When asked about it, there was an agreement among interviewees that development companies will have a significant influence on the project for two reasons. Firstly, because of their financial participation in the project. Secondly, their knowledge in both small and huge projects, which can affect the political decision.

9.2.3 Compact City Definition & General Characteristics

In this subsection, interviews are examined with regard to the identified compact city attributes. Firstly, most of the stakeholders were allowed to define a compact city using their own words (Table 9.9). The most common attributes highlighted in the definition were density, accessibility and connectivity and mixed land use.

Table 9.8: Selected examples of statements from the performed interviews: Actors - Influence and conflicts

Statement	Interview NO.
when we started, the main actors were not in agreement; it was hard to inform outsiders to contribute when we didn't have a clear vision together.	4
It was the politicians that wanted to develop and strengthen the municipality in a most strategic location.	1
Developers will be included in the next stage after the co-creation process to fill the gaps.	4
If we involve those companies, they will have more influence and will not be our vision but theirs we agreed to create political vision first and then include developers and co-work with them in future.	6

Table 9.9: Definition of Compact City from stakeholders' perspectives.

Definition	Interview NO.
Where you can find everything, you need.	2
A city which is denser and has a lot of benefits regards to transportation modes and ways.	4
A city where people have accessibility and nearness to many things that are needed in everyday life. The design needs to promote nearness and at the same time, provide space for greenery in the sense that people can be healthy and live a fair and equitable life.	3

Accordingly , the analysis has been focused on compact city attributes such as Density, Mixed land use, Accessibility & Connectivity.

Density (Table 9.10)

According to the interviews, the main aim of Landvetter Södra was to build a high-density city, preserving the nature around it. One of the interviewees mentioned that the design of the compact city needs to promote nearness and at the same time provide space for greenery so that people can be healthy and live a fair and equitable life. Hence, this indicates that nature is respected when density is considered.

Another aspect of having a dense area noted in the interviews is to attract inhabitants and business. Inhabitants preference for not exclusively residential use of the area emerged. They would like to have a workplace and other local services such as shopping, cafe, schools etc. near the residential area. Also, one of the interviewees mentioned that compact city is the aim behind the urban design but raised a question "what is enough, related to density, to be considered sustainable compactness".

Mixed Land Use (Table 9.10)

One of the interviewees said, "We want to make a city people live and work in". This could be achieved because mixed land use is expected to promote efficient usage of urban spaces and infrastructure. The combination of different usages can help to

have the living and workspace in the same building or nearby. The other aspect pointed out was to use the available resources efficiently, i.e., to use the lands for different purposes as much as possible. For example, to have a workspace, a house and a garden in the same neighbourhood.

Table 9.10: Selected examples of statements from the performed interviews: Compact City General Characteristics

Statement	Interview NO.
So the design needs to promote nearness and at the same time provide space for greenery in the sense that people can be healthy and live a fair and equitable life	3
Landvetter södra is a big area, and we have the possibility to get a new station. It is close to the airport and other infrastructure. Also, that is how we decided to build a city in that area.	5
We want to make a city people live and work in.	4

Accessibility & connectivity (Table 9.10)
The frequently used word by the interviewees while defining a compact city was "accessibility". One interviewee mentioned that accessibility is one of the compact city characteristics. in addition, service, retailing and health facilities must be near inhabitants to meet their needs. Another interviewee also suggested having the opportunity to have a walk into the forest and lake near the place where people live.

Accessibility and connectivity also include a connection with the surroundings. Landvetter Södra has functional connectivity to the airport and a big city such as Gothenburg. Therefore, It is also essential to see the accessibility and connectivity outside the city, so that inhabitants find it very convenient to travel around.

Another highlighted aspect to focus on is sustainable transportation, which means creating a city that promotes public transportation, cycling and walking. The streets have to be designed in such a way that includes short travel distances. All these aspects are found to be coinciding with the compact city attributes.

9.2.4 Compact City-States & Impacts

In order to understand the types of compact city qualities which are aimed at the case study, the interviews are filtered through a structural framework defining the Compact City through its States & Impacts. The structural framework is based on Kain et al. (2016) and used to sort and combine different qualities into twelve quality clusters. Adelfio et al. (2019) further sorted and compressed these twelve clusters into three main categories: State, Primary impacts and secondary impacts. For analytical reasons we have decided to use from Adelfio et al. (2019), three categories of states (People, Built environment and Nature) and combine the impacts

(Socio-culture, Economy, Health ...) as one category for interview analyses.

People (Table 9.11)
Through the interviews, there was a similar perspective in relation to one of the compact city states, i.e. People. The interviewees are convinced that a high density of inhabitants is not problematic in relation to city design, since European cities, especially the main ones, are highly dense and are characterized, especially in their urban cores, by a remarkable vitality and liveability. Based on that, the interviewees promote high density combined with urban design to reach sustainable high density rather than standardized high density. In other words, one of the goals in Landvetter Södra is the quality that the dense urban development provides. Furthermore, city design should be human-centered.

Table 9.11: Selected examples of statements from the performed interviews: Urban Design Qualities - People

Statement	Interview NO.
We are speaking about sustainable density rather than standardization of density.	2
Make it really liveable and human, with the human in focus.	1
A new sustainable city which is good for human, green and with low carbon footprints and nature having next to the city as a resource.	5

Built Structures (Table 9.12)
One of the main issues described by the interviewees regards location as a key feature when considering the different aspects of built structures as in Table 6.1. They mentioned that location is very important to promote connectivity with the surrounding. A spot on the map with several connecting roads between important cities can be considered a strategic choice of location. Also, a strategic location close to several connecting roads will promote accessibility to the city through different routes. In addition, the location and accessibility will promote integration with nearby towns and cities.

The previous paragraph described the importance of three aspects, connectivity, accessibility and integration as part of the built structure. Besides this, the city parts should also be connected internally, the inhabitants should have accessibility to all of its parts, and finally, all the parts should be integrated to form a unity.

Another aspect related to the built structures concerns transportation modes. Few interviewees mentioned the importance of creating a new city with a concept of sustainability and varied transportation modes. However, the modes of transportation are considered secondary because the priority is given to city design. City design should promote walking and cycling as modes of transportation. Moreover, according to interviewees, the design & planning of road connections will encourage people to use public transportation.

Table 9.12: Selected examples of statements from the performed interviews: Urban Design Qualities - Built Structures

Statement	Interview NO.
We are on one of the transportations lines toward Borås and the development spouse to be along those lines, also, the E40 and the current railway with the future project of the new railway. Landvetter is in the middle of these. We interrupted the transportation lines as growing lines.	4
We are starting the development close to existing Landvetter. So we will bring them together. Moreover, this is a great opportunity in the region; it is close to the airport; it is between Boras and Gothenburg, which are larger cities in the region. So we need to take care of the strategic location, but of course, we will bring them together (Landvetter and landvetter sodra), so it will be one city.	1
the thing with making it safe to bike and walk most of the areas is the main thing.	1
Everything we do must show that it helps us be better in the footprints.	5

Nature (Table 9.13)
Considering humans as a focus of design requires equal consideration of nature, since nature is part of the human need, and it is important to integrate nature with city design. Interviewees emphasized the importance for inhabitants to reach natural places like lakes and forests, in order to have a better quality of life. Furthermore, thinking about the carbon footprint would imply searching and applying best practices in the field of sustainability.

Table 9.13: Selected examples of statements from the performed interviews: Urban Design Qualities - Nature

Statement	Interview NO.
I think you could have a lot of greenery in a compact city	3
Everything we do must show that it helps us be better in the footprints.	5

Impacts (Table 9.14)
Interviewees underlined two main compact city impacts. The first impact is diversity; they have been mentioning that building a diverse city that will promote diversity of inhabitants requires different approaches to fulfil their various needs. The second impact was adaptability. They stated that city buildings and design must always take into account and incorporate innovative and new ideas because the city is not built only for the current users but also for future generations.

9.2.5 Additional analysis

Some of the interviewees mentioned a strategy to be adopted in order to reach a good urban quality. Such a strategy is about following an agenda that will guide

Table 9.14: Selected examples of statements from the performed interviews: Urban Design Qualities - Impacts

Statement	Interview NO.
Adaptability is to keep the discussion and planning in the continues process but with a clear core of what we want. Being innovative can contradict with another quality like flexibility and adaptability.	4
Maybe but more like villas with low density and you will have less diversity. It is going to be different target group	2

the project and decision-making processes. In the Lanvetter Södra case study, they are following the 2030 UN agenda to guide them in adopting nationally and internationally appreciated principles.

In addition, the interviewees have been questioning the existing problems within the compact city qualities. For example, the quality of life for inhabitants during project construction. The inhabitants will be living in a construction site between 20 to 30 years until all the close-by facilities and buildings are finished. Building a new city is going to consume material resources and lands, so it is essential to intervene and follow the 2030 UN agenda in order to achieve sustainability.

Another question related to Compact City states and impacts is the lack of national regulations that help to approach better results regarding, health, environment and quality of life. That makes it harder for both politicians and practitioners to make decisions and design aiming for them. The interviewee statements regarding these topics are mentioned in Table 9.15.

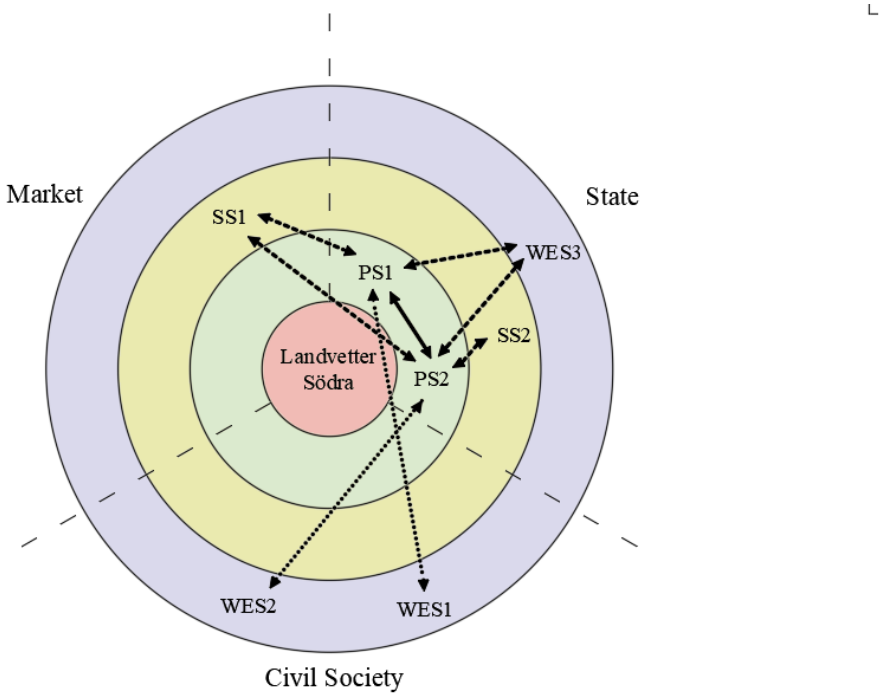
Table 9.15: Selected examples of statements from the performed interviews: Urban Design Qualities - General Analysis

Statement	Interview NO.
We are using the agenda of 2030 and all the UN global goals.	1
Building a new city, it is going to be a construction site for 50 years, so this will affect the quality of life. Justice is one of the concerns where everybody has the right to be. We know the cost of the houses and apartments going to be high, that means we are facing to have a city for rich people. So, we have cheap commercial dwellings for people with limited financial abilities. Because of the closeness to the airport, the city will be more diverse, and that can promote a risk of developing air travelling.	6
Health environment and quality of life, we do not have such a practice on this scale in Sweden how to bring it in the comprehensive a level.	4

9.3 Actors involvement in Landvetter Södra

In this section, ad-hoc stakeholder mapping has been drawn according to the outcome of the interview and observations as mentioned in the previous section.

The actors involved in the Landvetter Södra project are identified and classified in figure 9.3 through Czischke's Stakeholder Onion Diagram (Czischke, 2018), according to their level of involvement in the project. Politicians (PS1) and Practitioners of Municipality (PS2) are Primary Stakeholders as they have a significant influence on the project. Developing Companies (SS1) and National & regional organisation (SS2) are Secondary Stakeholders as they play an important role in the project but are not involved in day-to-day operations, unlike primary stakeholders. Finally, Community (WS1), NGOs (WS2) and Regulators (WS3) are identified to be the Wider Environment Stakeholders, because they are observed to have weaker legitimacy and control over the project when compared to stakeholders in the inner circles of the diagram. Furthermore, actors are assigned to their field of participation such as Market, State and Civil Society as shown in figure 9.3.



Legend				
PS - Primary Stakeholders / SS - Secondary Stakeholders / WES - Wider Environment Stakeholders				
Strong Collaboration relationship		Ad-hoc Collaboration relationship		Indirect relationship
Stakeholders				
PS1 - Politicians	PS2 - Practitioners of municipality	SS1 - Developing Companies	SS2 - National & regional Organizations	WES1 - Community
WES2 - NGOs	WES3 - Regulators			

Figure 9.3: Stakeholder Mapping of Actors involved in Landvetter Södra Project

Dashed arrows are used to represent the relationship between different actors. As displayed in the figure 9.3, relationships are categorised into three types i.e., 'Strong'

collaboration relationship, 'Ad-hoc' collaboration relationship and 'Indirect' relationship (Czischke, 2018). A 'Strong' collaboration relationship means that the actors are related to day-to-day operational aspects of the project. For example, In the Landvetter Södra project Politicians (PS1) and Practitioners (PS2) of Municipality are observed to be in contact all the time during the project and mutually interdependent in most cases. Similarly, 'Ad-hoc' collaboration relationship entails a specific type of communication, usually on technical matters. e.g. the relationship between Developing Companies (SS1) and Practitioners of Municipality (PS2) are found to have Ad-hoc collaboration relationship in the current phase of the project. Lastly, the 'Indirect' relationship implies an indirect communication among stakeholders, latent or implicit, Community (WES1) and Politicians (PS1) are observed to have Indirect relationship according to what emerged in interviews and observations.

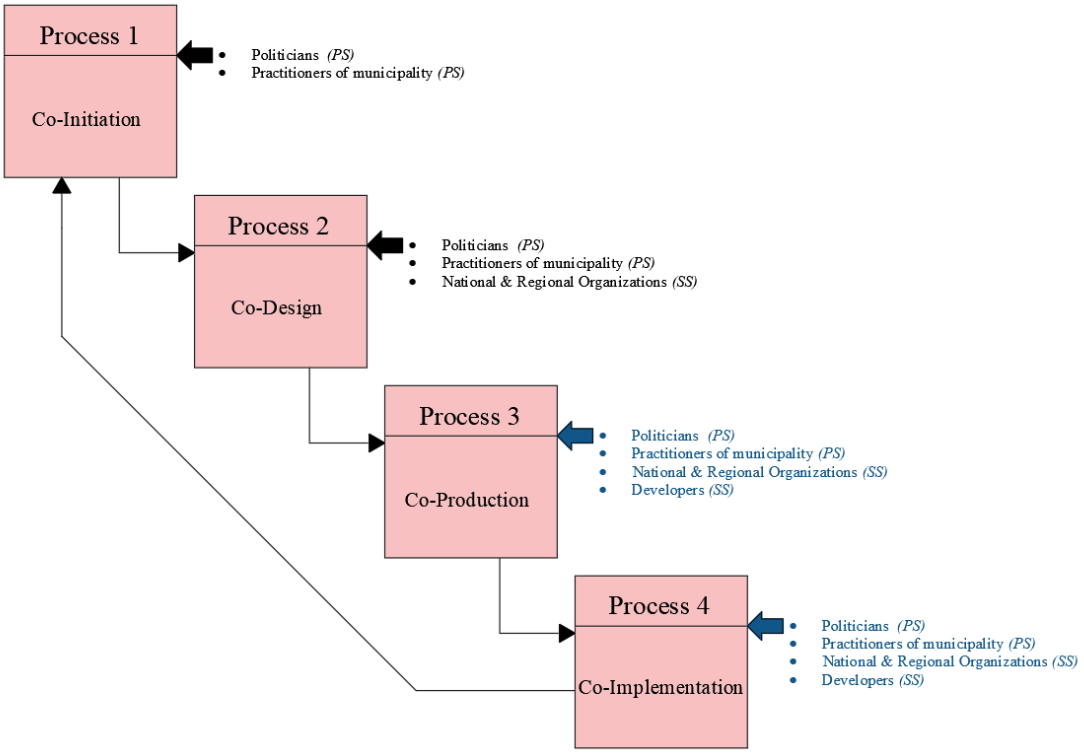


Figure 9.4: Actors involvement in the Landvetter Södra

In figure 9.4, the groups of actors involved in each process have been represented visually. It is observed that Landvetter Södra has completed two processes while this study was held, i.e., Co-Initiation and Co-Design. The stakeholders participated in these process are Politicians, Practitioners of Municipality and National & Regional Organizations. Process 3 and 4 (Co-Production and Co-Implementation) have still to be carried out. Actors involved in such phases are represented in blue colour because the actors' involvement for process 3 & 4 stems for assumptions purely based on interviews outcomes.

10
Results

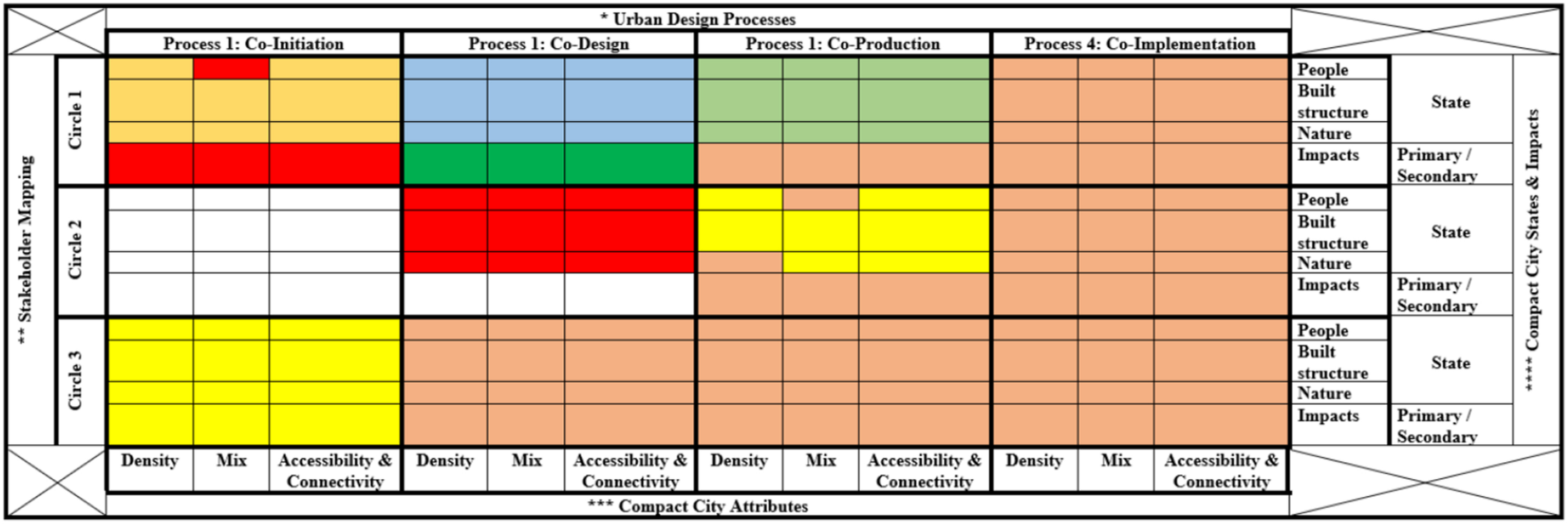
The results of this thesis research are visually represented into three types of outputs, which are expressions of compact city definition; Policy matrix; Connected circles mapping and Recommendations.

10.1 Compact City definition

The theory section started with defining the compact city concept of previous research. Following a similar approach, this chapter starts with re-defining the compact city based on literature, interview and analysis outcomes. So the compact city is re-defined by the authors of this thesis paper as sustainable compactness of an urban form. Such compactness promotes high density respecting nature and wildlife; provides sustainable transportation services with good accessibility and connectivity required for everyday life; community engagement is key to promoting a good level of quality of life. This definition is considered as a guiding principle for the succeeding results.

10.2 Policy Matrix

The complex Policy Matrix in figure 10.1 has been derived from the policy triangle, which is discussed in detail in chapter 6 (see section 6.3.2). This policy matrix consists of four corners, each representing actors, four stages of urban design processes, compact city-states & impacts and compact city attributes. Based on Czischke (2018), the actors are divided into three levels, such as Primary stakeholders (Circle 1), Secondary stakeholders (Circle 2) and Wider environment stakeholders (Circle 3). Similarly, the four stages of urban design processes are Co-Initiation, Co-Design, Co-Production and Co-Implementation. Following the SamSam steps, Co-Initiation consists of activities such as creating teams, appraising the situation and forming goals. Co-Design involves designing and developing. Co-Production includes activities such as evaluating, selection of opinions, & alternatives, and creating a plan. Co-Implementation involves implementing, monitoring and following up. Furthermore, four Urban design qualities are mentioned such as People, Built structure, Nature and Impacts. The last row consists of Compact City attributes such as Density, Mixed land use and Accessibility & connectivity.



Literature	Literature, Interviews & Website	Literature, Interviews, Website & Workshop
Literature, Interviews & Workshop	Literature & Website	Literature & Interviews
Interviews & workshop		

* Urban design processes Adapted from the urban Design with transitional stages (Boyko et.al., 2006) & SamSam	Co-initiation: Creating teams, appraising the situation and forming goals.	
	Co-Design: Designing and developing.	
	Co-Production: Evaluating, selecting and creating a plan.	
	Co-Implementation: Implementing, monitoring and following up.	
** Stakeholder mapping	Circle 1 (Primary Stakeholders): They have significant influence in the project with strong legitimacy and/or strong control over essential resources.	
	Circle 2 (Secondary Stakeholders): They play an important role in the project but are not involved in day-to-day operations unlike primary stakeholders.	
	Circle 3 (Wider Environment): Individuals or organizations that are indirectly affected by the project.	
*** Compact city attributes	Density	
	Mix	
	Accessibility and connectivity	
**** Compact City States & Impacts Adapted from (Kain et al. ,2016) & (Adelfio et al. ,2019)	State	People
		Built Structure
		Nature
	Primary & Secondary Impacts	Health, environment, quality of life, socio-culture, justice, economy and adaptability.

Figure 10.1: Policy Matrix
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The purpose of the Policy Matrix is to understand the importance of actors involved in the processes in order to obtain compact city attributes. Also, the matrix shows the integration between stakeholders, urban design processes, compact city attributes and compact city states & impacts. The data used in this policy matrix derives from literature, interviews, workshops and case study website. Interviews, workshops and website are purely related to the case study Landvetter Södra.

To start with the Process 1, i.e., Co- Initiation, it can be observed from the policy matrix that only circle 1 and circle 3 actors are part of co-initiation process. This is supported by sources such as literature, interviews and case study website, as shown in Figure 10.1. Actors involved in circle 1 and 3 will have a major impact in achieving compact city attributes, and it is necessary to involve them from the beginning of the process. Additionally, as mentioned in theoretical framework chapter, bottom up approach promotes the involvement of circle 3 from the beginning until the end of a project, especially when circle 3 includes the community as one of the stakeholders. Secondary stakeholders (circle 2), are not involved in the co-initiation process.

In relation to Process 2 (Co-design), the policy matrix shows the involvement of the actors involved in circles 1, 2 & 3. However, according to literature (Dias et al., 2014), only primary and wider environment stakeholders are part of co-design process. In the Landvetter Södra case study, only primary and secondary stakeholders are involved in the co-design process. This project has involved wider environment stakeholders, i.e., community during co- initiation process, but it is assumed through interviews analysis, workshop and website data that their opinions have not been reflected in the other phases of the process including Co-Design, Co-Production and Co-Implementation.

Similarly, in Process 3 (Co-Production), the policy matrix shows the involvement of actors from circle 1, 2 & 3. However, the difference is, according to literature (Boyko, Cooper, Davey, & Wootton, 2006), that all the three types of stakeholders, primary, secondary and wider environment, are part of the Co-Production process. Notwithstanding, in the Landvetter Södra case study, only primary and secondary stakeholders are involved. The last process, Co-implementation, involves actors from all the three circles according to the literature. However, there is no relevant source regarding Landvetter Södra project in relation to the Co-implementation process because it is observed that the case study still had to implement Co-Production during the development of this thesis paper.

Another key issue is the interconnection between compact city attributes, and compact city-states & impacts (Adelfio et al.,2019), i.e., when attributes (Density, Mixed land use, Accessibility & Connectivity) referred to the states (People, Built structures & Nature) have an impact (Primary & Secondary). For example, density, when referred to the people, has an impact on the quality of life.

10.3 Connected Circles Mapping

Figure 10.2, visually represents the strong interdependence and connections between processes, actors, context and compact city-states and impacts. This figure has been customized by combining two analytical frameworks such as policy triangle (Walt & Gilson, 1994) and connecting circles of system mapping (Acaroglu, 2017). The result demonstrates the importance and contribution of each element to accomplish compact city attributes.

Descriptively, to deal with compact city state and impacts during the design phase, urban design processes must take into consideration the actors involved in the projects. In the same way, actors should gain a full understanding of the context they are involved in. In addition, the context will affect the design processes and methods of decision making. The interaction between those three pillars (processes, actors &context) is essential and must be considered during the design phase and decision-making processes. Another aspect is that the communities must be involved from the beginning of the design processes. They should be considered as the main actor in the stakeholder mapping, i.e. stakeholder onion diagram. Finally, communities play a significant role in the context (i.e. Landvetter Södra) because as mentioned by one of the authors Dias et al. (2014), it will improve the quality of problem identification and the sustainability of the solutions.

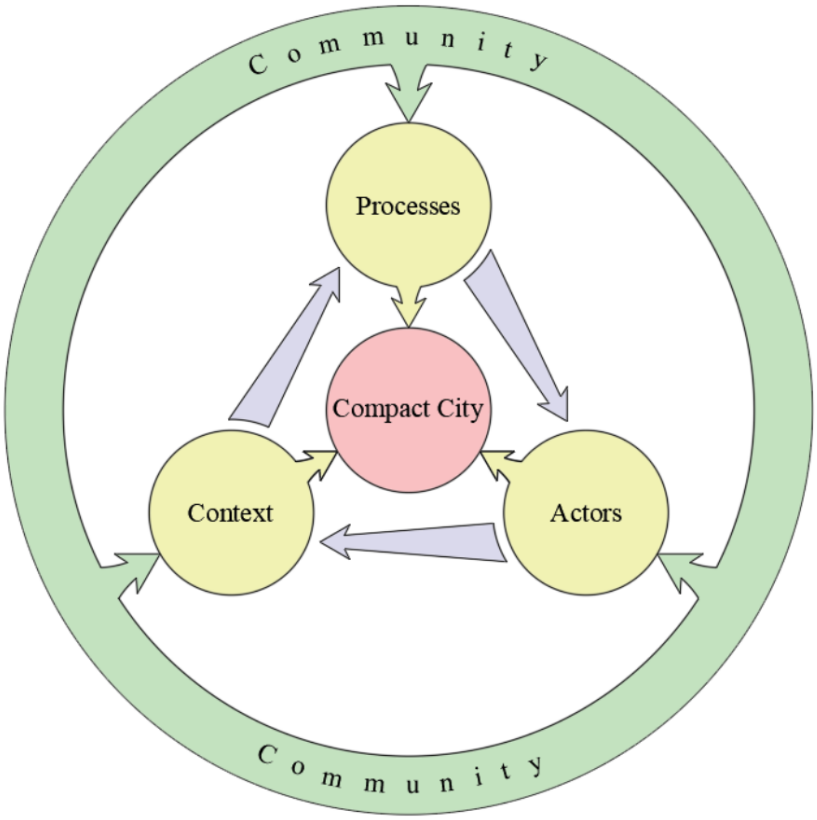

Figure 10.2: Connected Circles Mapping

10.4 Recommendations

The third type of results is represented by the recommendations for Landvetter Södra and other generic compact city projects. The recommendations are the results from the literature review and the comparison of the Landvetter Södra project with the other reference projects on the basis of basic information such as total area, population and housing units numbers. These values constitute basic descriptive statistics commonly used in urban analysis. In addition to that, comparing different aspects of success and weakness of the project will enrich the design making process of the urban design phase.

Recommendations for Landvetter Södra

Strengths:

- The main railway connection Götalandbanan passes through the main project site and is expected to have a new train station in Landvetter Södra.
- Density is considered equally important as respecting the nature or having a generous provision of green spaces.
- External accessibility and connectivity are considered to be good because the Landvetter Södra city is close to the airport, Gothenburg, Stockholm and Borås cities.
- Well structured co-creation workshops with SamSam, contributed to a shared vision between politicians and practitioners from municipality.

Weaknesses:

- The population size must be increased in Landvetter Sodra compared to other reference projects especially the Northstowe project. This will lead to an increase in the number of housing needed.
- Engagement of citizens should be more considered in decision-making processes.
- Diversity is one of the main goals of the project. In order to reach that, a variety of housing types should be provided with opportunities for people with different income levels.
- The municipality should be involved in housing ownership so they can secure the availability of affordable housing.

Recommendations for Generic Compact City Projects

- **Qualitative Approach :** Policy should promote sustainable compactness with local stakeholders rather than through a quantitative approach based on densification or thresholds of density.
- **Encouraging Bottom-Up:** Urban design and decision-making processes are encouraged to include a bottom-up approach rather than exclusively a top-down approach, which means including communities and local citizens from the beginning of the project until the end.

- **Focus on context:** City design and sustainable compactness must be an answer for contextually raised problems rather than looking for universal solutions.
- **Integrated and Structured Process:** Co-creation workshops such as Sam-Sam, are encouraged to be performed between relevant stakeholders from circle 1,2 & 3 (i.e., Primary, Secondary and Wider Environment Stakeholders).
- **Multiple Expertise incl. Community:** Compactness contributes to reduction and efficient use of energy. Multidisciplinary expertise and community collaboration are required to achieve this objective.

11
Discussion

This thesis research started with the research question *"How is Landvetter Södra positioned within the contemporary debate towards the Compact City as an ideal urban model?"*. Such a question was motivated by the need of sustainable urban development, a concept that first appeared in the Brundtland report (1987) and the expectation that 70% of the earth population will live in urban areas by 2050 (OECD, 2012).

In order to address this research question, the current debate about the compact city has been examined. Previous research supports the approach towards more compactness within cites rather than urban sprawl (Breheny, 1996). Due to the negative impacts of urban sprawl (Shi, Yang, & Gao, 2016; Neuman, 2005; Carruthers & Ulfarsson, 2003), several previous researchers have considered the urban compaction approaches as more favourable and considered positively by academic researchers (Alexander & Tomalty, 2002; Baerny, 2004; Banister, 2000). However, there are still a few scholars (Neuman, 2005) who are sceptical about the compact city.
Answering the part of the research question about the position of Landvetter södra in the current debate about the compact city is achieved by evaluating the case study using different criteria, i.e. compatibility with compact city definition, compact city theory comparison with reference projects and finally the opinions of interviewed stakeholders.

Firstly, the compact city definition has been re-elaborated for the purpose of this thesis research. This new definition was developed based on the literature and analytical outcomes of the thesis research. The definition emphasizes compactness in the urban form, which is the main aspect mentioned by previous research (Dantzig & Saaty, 1973; Thomas & Cousins, 1996; OECD, 2012, p. 15), enriched with an enhanced focus on sustainability. The suggested updated definition underlines that sustainable compactness is based on three factors. The first and second factors, i.e. high density respecting nature and sustainable transportation promoting accessibility & connectivity respectively, are derived from the literature (Neuman, 2005, p. 14; OECD, 2012, p. 15) and also the analytical outcome of the thesis paper (see Chapter 9). The third factor is about the collaboration between multidisciplinary experts and community, which is supported by bottom-up theories of urban design (Roy & Ganguly, 2009; Dias et al. ,2014).

Landvetter södra project is manifesting two of the three factors. Regarding the first

factor, the case study incorporates high density and respect for nature in the project principles, e.g. "The human city" and "Modern city". The second factor, sustainable transportation with accessibility and connectivity, is reflected in the case study as the second project principle. Sustainable transportation with accessibility and connectivity is included in the planning ideas of the project, i.e. planning the location of the train station, promoting walking and cycling paths. The third factor is not fully tangible in Landvetter södra, and this is mentioned as one of the recommendations for the project to improve.

The second assessment criterion for Landvetter Södra stems from previous literature that explores the compact city from a theoretical perspective (Dantzig and Saaty, 1973; Thomas and Cousins, 1996; OECD, 2012; Kain et al., 2016; Adelfio et al., 2019). Such a theoretical contribution is manifested in the Policy Matrix and Connected Circles Mapping (see Sections 10.2 & 10.3). The focus is on compact city attributes and its states and impacts.

The policy matrix as shown in the figure 10.1 indicates that there is a direct connection between the compact city attributes, i.e. density, mixed land use, accessibility & connectivity and its states and impacts. Additionally, the importance of actors involvement in the urban design processes in achieving the compact city attributes.

The policy matrix indicates that during the three design phases, i.e. co-initiation, co-design and co-production in the Landvetter södra project, there were discussions about the three attributes and their effect on the states and impacts of the compact city. Both the policy matrix and connected circles displayed a lack of community engagement in decision making. However, the project promotes the achievement of compact city attributes and states. Regarding the three states mentioned by Adelfio et al. (2019), i.e. people, nature and built structure, the interviewees' statements reflect discussions on how to reach a balance between those three states. But it is observed to see a lack of discussions between the stakeholders regarding the impacts such as Quality of life, Justice, Socio-culture etc (Adelfio et al., 2019). This might be due to the lack of national regulations related to those impacts.

The third assessment criterion is related to reference projects. This method is used to see how Landvetter Södra is approaching compact city concept compared to other reference projects, mentioned in section 9.1. The learning experiences indicate some concepts such as involving communities, social cohesion, working and living spaces close to each other, integration and accumulation, rules and tools to secure social diversity. Landvetter södra reflects some of those concepts in the project principles description and web page content analysis. Furthermore, the same concepts also emerged in the interviews.

The first key concept in the assessment to reference projects is involving communities in decision-making processes. However, it was observed that the case study project does not involve community either during workshops or decision-making process. By contrast, one of the reference projects, Vauban showed a strong community

engagement as a key factor of success. From a theoretical perspective, the bottom-up approach in urban design showed how important it is to do so. The connected circles mapping (see Section 10.3) underlines the integration of community as a way to achieve a compact city. The other aforementioned concepts are mentioned in the web page of case study project and by interviewees both directly and indirectly.

There is a study on the case study web page about job opportunities and the number of dwellings. Also, the proposed initial Landvetter Södra design includes working spaces and living areas in the same location. Both facts are an indication of a city for both living and working. There are many steps to reach social cohesion; one of them is to create public social spaces for community members. During the initiation and design phases, there was an in-depth consideration in the project about having public and natural spaces within the city, and this is an indication of aiming for social cohesion. There are suggestions in Landvetter Södra city planning to have different types of dwellings to cover different types of housing needs, which reflects a will to create social diversity. However, social diversity can be undermined by concerns about high renting prices, which can be a problem for some families with limited economic resources. Both in interviews and on the web page, it is mentioned that Landvetter Södra must be a part of Landvetter and connected to all the surrounding cities and to be part of comprehensive housing strategies including bigger cities like Gothenburg. This might potentially contribute to an overall more equitable housing market and housing accessibility.

The final assessments criterion is based on the opinions of interviewed stakeholders regarding the current debate about the compact city. By reviewing and analyzing the interviews and workshops results, there is conformity among interviewees about ideas and concepts. In all the interviews and workshops, there is a direct indication and discussion about the different aspects of Landvetter Södra urban design. For example, in the SamSam's first workshop, there were discussions and arguments about population numbers, density and whether planning a central core of the city or smaller multi-centres etc. Also, in the interviews, the respondents talked about mixed land use and the need to develop a sustainable city. In general, the stakeholders are seen to be aware of most of the topics involved in the current debate about the compact city.

Based on the previous considerations, Landvetter Södra manifests many good qualities in terms of urban design. Those qualities are also reflected in the policy matrix and connected circles mapping as well as on the interview analysis and the literature study. However, the still missing community involvement in the project can be considered as a weakness to reach sustainable urban development. In spite of that, the case study has considered the compact city as an approach to sustainable urban development.

The following sub-research question *"How can local actors and processes contribute to reshaping such an ideal model towards a more context-adaptive development?"* focuses on three essential aspects, i.e., actors, processes and context. Our suggested

framework, the Connected Circles Mapping, as shown in figure 10.2, addresses the sub-research question visually and it should be used as a framework during urban design phase. This framework is explained in detail in section 10.3, and it represents the interdependence and connections between actors, processes, context and compact city-states and impacts. Figure 10.1 was derived by combining two analytical frameworks such as policy triangle by Walt & Gilson (1994) and connected circles of system mapping (see 6.3.2 & 6.3.3). The Policy triangle framework showed a clear connection between content, context, processes & actors. Each of these aspects is explained in detail in chapter 6. Focusing simultaneously on all the elements in the Policy Triangle framework (Figure 6.4) should be the first step towards achieving a more context-adaptive development. On the other hand, the Connected circles of system mapping, helps to define the in-depth exploration of relationships. The combination of these two analytical frameworks demonstrates the importance of each element to accomplish compact city attributes.

To obtain a more context-adaptive urban development model, it is important to consider every actor's interests in each specific situation through relevant effective processes. One of the ways is to adopt a bottom-up approach. Roy and Ganguly (2009) mentioned this approach as more suitable for city plans because communities are more aware of their needs and understand them better than professional actors. Local citizens will also feel the ownership of the plans. Accordingly, Connected Circles Mapping produced in this thesis research mainly focuses on the community as one of the local actors and its connection between context, processes, compact city attributes and compact city-states & impacts. Involvement of local actors is essential in the design processes, and they play an important role in achieving more context-adaptive development. Furthermore, the Policy Matrix (see Section 10.2) could be used to monitor the integration between stakeholders, processes, compact city attributes and compact city-states & impacts in detail. By doing so, it is possible to evaluate the effects and contribution of each action during the urban design processes in reshaping an ideal urban model towards a more context-adaptive development. For example, figure 10.1 explains how local actors and processes contributed to promoting a compact city concept for Landvetter Södra.

The key factors to be taken into account in relation to how local actors and processes can contribute to reshaping such an ideal model towards a more context adaptive development can be summarised as:

- To set a common goal towards achieving Compact City attributes and follow it throughout the process: It is essential to make sure all the actors are on the same page and work towards a common goal. This will make the processes effective and result in a better outcome.
- Create Stakeholder Mapping: It is essential to know how much an actor has the power to influence the project. Therefore stakeholder mapping will help to identify and characterize each of the actors' role in the process. One of the examples is "the stakeholder onion diagram" by Czischke (2018, p. 11). Stakeholder mapping will provide a clear picture on which actors to involve, in which process and how important it is to consider their interest. This will also

help to make sure none of the actors are neglected and enhance the process in reshaping the ideal model most effectively.

- Primary Stakeholders and The wider Environment Stakeholders (i.e., community) are suggested to be involved from the beginning of the process: It is essential to involve the community from the beginning until the end of the project. As discussed previously, inhabitants play a crucial role in reshaping the ideal compact city model towards a more context-adaptive development. As a source of inspiration, the reference project Vauban highlight the benefits of involving the community and how it will also lead to more sustainable solutions.
- Initiating Co-creation Workshops: There is a need for co-creation workshops in order to involve relevant actors during the urban design processes. Actors from different professional background will contribute to having realistic outcomes at the end of the workshops. These workshops will also provide a platform to enhance the communication between the stakeholders and share their knowledge. All the actors will feel involved in the project, which will be reflected in the process outcomes. For example, SamSam (Samskapande samhäll-splanering för energieffektiva och hållbara stationssamhällen) framework developed co-creation workshops with actors involved with different background (i.e., researchers, practitioners, and so on). These actors are given the freedom to come up with their ideas and present them to the rest. As explained in section 8.1, these workshops will enhance the overall plan & design of the project resulting in more context-adaptive development.

Additionally, the suggested tools Connect Circles Mapping & Policy Matrix can help to stimulate co-creation, collaboration, efficiency, and scale up the design process. However, it is important to point out that the strategies to achieve a compact city concept could vary according to local situations.

In spite of the promising results of this thesis paper (i.e., policy matrix, connected circles and general scenario recommendations), more case studies need to be tested to improve the method. This can be considered as one of the limitations of this study. Regarding the subjectivity of this study, the integration of more quantitative data would have increased the certainty and objectivity of the results.

Furthermore, this research is more qualitative and subjective; we recommend more quantitative research about the relation between the compact city as an urban design approach, the design processes and the actors involved in each process. In addition, we recommend further research related to tools and approaches to involve communities in the urban design process.

12
Conclusion

The Challenge lab processes, i.e. (dialogues, backcasting, etc.), provided an overall view about the sustainability concept and the current situation in the Västra Götaland region. The highlights of these sessions are the current barriers Västra Götaland region is facing right now, i.e., people have to travel long distance due to poor city design, housing problems, demand on urbanization respecting the nature, community integration and social cohesion and so on.

On a global scale, cities are expected to have a rapid growth in population and 70% world population living in urban areas by 2050. Therefore, to overcome this, cities are required to develop and promote sustainable urbanization. One of the concept academically recognized, which promotes sustainable development, is the Compact City included as a policy approach to densification. However, there are uneven definitions of the compact city and current debates regarding the compact city concept as a sustainable approach. Hence, compact city development is a wicked problem, and it should be tackled through the local context. In this thesis research, Landvetter Södra was chosen as a case study and local context.

Landvetter Södra is a new city built from scratch and is located in the Västra Götaland region. This project aimed to follow the compact city approach as in the planning and design phase. The outcome of this thesis research suggests using the tools Connected Circles Mapping and Policy Matrix to scale up the stakeholders' collaboration and design process. The primary purpose of these tools is to achieve compact city states and impacts more efficiently and effectively. One of the main findings of research is the need to involve the community from the beginning of the project. Furthermore, involving communities will contribute to achieving a sustainable local context-adaptive urban design. Additionally, recommendations were provided for Landvetter Södra based on the thesis analysis and research results. Recommendations can be considered to improve the Landvetter Södra project and tackle its weaknesses.

In order to use these tools for a project in an efficient way, there is a need to include stakeholder mapping, facilitate co-creation workshops such as Sam Sam's workshops and also consider the context. As every project is unique, with different goals, approach and location, these suggested tools are very flexible to be adapted in generic scenarios. Accordingly, a set of general recommendations was provided and can be used as a set of principles for any future projects.

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Appendix 1: Interviews Transcripts

Interview 1

Question 1: Based on the initial definition for compact cities and mix-used cities, do you see that Landvetter Södra is near to those definitions?

Compact City is a short distance to urban planning and a high density of people to meet an effective public transportation system. Walking, Cycling, Reduced energy consumption and pollution.

Mixed-Use: Development of simpler life and workspace.

I think we are nearly near to those definitions. We are trying to build this dense city and looking at human habitats definition for a city and how many people you need to have in a specific square kilometre. So, you can have all those functions, activities and Get people close to each other and have it safe.

Make it liveable and human, with the human in focus. So, one of our value works/-words is to be human. So, the thing with making it safe to bike and walk most of the areas is the main thing. Also, smart transportation and public transportation is focussed (such as railways).

What is smart transportation?

We had a dialogue with car companies to talk about smart mobility, self-driving, autonomous car and sharing system for bike, car, pool something like that. So that is interesting, and we are focusing on. Also, decrease the need for cars with the train section, for example. To make it easier to travel and environmentally friendly.

Question 2: Why Compact City concept? (For example, there is even transit-oriented etc.)

Mostly to make it sustainable and make it easy for people to live sustainable and have the possibility to share things/ product/ services and so on with each other.

But also, resource efficiency. For example, to use the lands for purpose as much as possible. To save the nature/ land to have it more sustainable for people living in the city.

Questions 3: Another question as you mentioned density and sustainability so, why choosing 25,000 inhabitants as a density for the project?

It started with a lower number (15,000) but then increased to 25,000. It was realistic in the Härryda perspective. Since they have around 37,000 inhabitants today and it is not like double of the inhabitants but close to it. But it is not the limit, it can be more, and it can be less. Depends on the developer/ development of the city. It is a goal right now.

Based on the study, it can reach more and more in the same area. So, if you increase the density with more people and like better facilities, think is going to be more sustainable that way?

But it is a realistic average. Also, to start with and see the attraction. The purpose is to make it attractive, of course, even for international companies to set up a head office there, for example. Before you know and how you see it develops and start with the small amount and then plan for more. But in longer, it can be more people there. So, it a long-time goal.

Question 4: What is your definition of "Sustainability" in Landvetter Södra Project?

We are using the agenda of 2030 and all the UN global goals. But we have not yet programmed for sustainability, but we will develop it together with the partners that we will partner with. So, using agenda 2030 as a base and also Klimat 2030. The region is leading and managing; we have it as a base.

Question 5: Why building and planning a new city which conflict with regional guidelines and the concept of the compact city which are densified, reuse and develop current cities?

We are starting the development close to existing Landvetter. So we will bring them together. And this is a great opportunity in the region; it is close to the airport, it is between Borås and Gothenburg which are larger cities in the region. So we need to take care of the strategic location, but of course, we will bring them together (Landvetter and Landvetter Södra), so it will be one city.

How are you going to ensure that Landvetter and Landvetter Södra will combine/connect? And not repeat the same mistake/ problem as other areas in Gothenburg (for example: Angered, Hjällbo those are started as the same idea, but they are now the opposite way

Landvetter Södra and those are not the same programs. As you talking about processes and culture. This will be in collaboration with the surrounding, for example, Landvetter Södra all had a kommun, that is no difference. This is closer also compared to Hjalbo, which is more far away.

So now, the collaboration between different cities as one of the steps to ensure that the experience is not going to happen.

Yes. For example, the commercial part will be about what already existed in other parts of the kommun/municipality. So it is not going to be isolated or islands. So we will be complementing the other parts of the surrounding. And the distance is rather short — some kilometres to the airport and one or 1.5km to the Landvetter centrum.

Question 6: Whom are the actors involved while defining High density and Mixed-use city (Compact City) for Landvetter Södra?

From the beginning, I guess it was the politicians that wanted to develop and strengthen the municipality in a most strategic location. So Landvetter Södra put it out as the large developing area in a municipality in the year around 2012. And also the people from the planning department of the municipality is involved. So the municipality mostly. But also we involve a lot of companies that believe that this is a very strategic location to develop the city. Mostly Building sector, but also from mobility sectors, energy, innovation centre, companies. Right now, they are not mentioned on the website. But they are available soon. We are in the process or choose the evaluate the builders. White architects have been studying the landscape. Hence, there have been a lot of consultants connected to the comprehension planning whom you can contact/interview. For example Traffikverket. Also, the municipalities doing the nature value simulation. That can be found on the Härryda website. It is the unique placement of the area with nature.

Question 7: Connected to the previous. Why did you choose SamSam as a method for planning and development of Landvetter Södra?

I was not there when they started this project. Hence I do not know exactly. But they wanted to have a dialogue between the politicians and municipal employees and this project was suiting the need for a better dialogue. So then they had a workshop together (i.e., politicians and municipal planning department). Collaboration is key for decisions. I think there are other municipalities connected to this whole project. Contact Interviewee, the planning and architect responsibility of the project for more information.

Question 8: What is the reason behind involving those actors?

We have an interest analyses, who is involved or who has to be involved.

Question 9: Similarly, What are the processes involved in planning/defin-

ing Compact City for Landvetter Södra? And the reason behind it.

The base is the comprehension plan, and I mean the big picture, i.e., what it will be, the goals and the political decisions that are to be human, international, innovative and modern. So this is the base, but there are many parallel processes ongoing to reach those goals. For example, we are building in nature. What are the consequences of that? What we have to than to make the least effect as possible, for example. So that's also a process. We are on edge to start the workshop and dialogue session as process yet. We have not been starting work yet. We are still at the preparation stage since 2012. Right now it is mostly politically driven. And now it's like putting the boat into the sea and say now GO. Now we are identifying the partners to build the city, and from that, there will be exploratory driven. When they are chosen, it will be driven by the company and entrepreneurs and not only by municipalities. That is unusual because most times it is the municipality who have a detailed plan and most of the power is and those questions, but in this case, it is different and going in another way. But they are under the management group (politicians). There will be more collaboration to take the project forward.

Initial stage: Municipality were involved, few workshops and mostly SamSam, not so much outside of SamSam. Now, the process includes all kinds you can imagine, such as Meetings, mail, dialogue, workshops. The office we recently got will be like a whole working space. Everyone who is involved in the project can work under the same roof and collaborate. Very creative and progressive all the time to make it very liveable from the beginning and also even has it as an exhibition area because of all glass around it. So, very transparent for inhabitants and other interested people/parts can come and visit. So it will be very open.

Question 10: How you are planning to avoid the negative sides of the compact city? (For example pollution, congestion)

We know when we put a lot of people in a smaller place, there is going to be a lot of problems and how are you going to overcome.

We can learn from others. There have been so many areas that are developed which can see the good and not so good results in there. And we can bring good's and also learn about the bad results as well. So that is one way. Also, have the agenda 2030 and all the UN global goals in mind all the time. Interviewee: And we are building from scratch. Thus, when Gothenburg was built, it was an industrial revolution as well. You made space for cars, and it was like status to have it, but now we are building a city that is something never have seen from scratch. So, there maybe will not be cars. But we do not have to move parking spaces as Munken city doing, for example. Now they are building on parking spaces to make it more environmental. But we will not have that problem, and we will make sure that our quality plan will make sure that we are not making more footprint than its needed. For example, we are also thinking of joining the city lab ambition to work from that, and they have very serious/severe processes to make sure everything is like the best. Like men-

tioned from, the best from everybody else experiences. And then it will be possible to certify it may be.

Question 11: How you are planning to include the rest of urban cluster categories in the project? (mentioned in the research assumed qualities of compact cities)

This is one of the main goals of the area to make a city for people. To make it human, liveable and lovable.

How are you going to achieve this?

Certification tool could be one way and also make certification of the building himself. And also involve inhabitants very early to make them a part of the creation in the amount that is possible and also students, pupils, children, youth. So it will be a city built by citizens. We have no end year for the project; it will develop for a long time. The railway is located in the area we will have a density near the station centre with locked outbuildings. Around 2030ish. But people will start to live there before, from 2021 or something. We are starting with a part of the reddest part from above. We start at Landvetter and down to the centre of the station.

We will secure that we have a program that all the partners agree on for all these aspects for sustainability and every single aspect. And also dialogue with the citizens to make it. This is part of the certification we mentioned but also the agenda 2030 includes Heath, Environment, Quality of life, Social Culture think its a part of it too. Social consequences analysers will be part of it and Justice, Equality is also in the agendas 2030, Economy as well, Adaptability. These all will be part of the certification as well. We will follow, but we will not have the certification. We are yet to decide, but it is part of our program to follow. And also make a sustainability program for our area, that everybody is committing to so they cannot say no, we will not have this facade, or we will not have a green area which is not suitable for us. They cannot say that because it will be planned from the beginning with everyone and everybody is committing to it. To be more specific with the word sustainability, you can follow the green building website just for the guidelines. They work with many partners in Sweden. Builders, etc. We have more specific details on it. But we have not decided yet which certification system will use, but we will look at them and make our program but will have a system to cover all this cluster of urban qualities. The main thing we are approaching is mobility and energy. And also social aspects. We are also brainstorming on flexibility. To reach our approach in every phase of the life of the people.

Interview 2

This interview represents the personal opinion of the interviewee, not an official discussion.

Question 1: What is the role of Mistra urban future in the development of cities in general?

It is a huge umbrella organization with platforms all over the world so Gothenburg no the main platform but secretariat and on this platform Gothenburg region, Gothenburg University, Chalmers... People and organizations are involved in 'Mistra urban futures', and they concern about green dense and cities all projects should be multidisciplinary almost all the projects have someone from the research side and someone from the practitioner side there is a goal of connecting researchers and practitioners and make usage of reality so this could be overall focusing on social aspects and ecological and economic. One of the projects urban station communities which I project manages so one of a lot. Urban station deals with questions where we plan, how we plan its a wide range of everything.

Qestion 2: Your role or Mistra in Landvetter södra?

We have another umbrella project which is urban station communities where Härryda is a member of where there is a project called SamSam which is one of the projects of urban station communities, so we have an umbrella project. So, what we are applying in Landvetter södra is being applied in another project. SamSam is affecting our method, not the other way. The structural work of project first Mistra then station urban communities then we have SamSam.

Question 3: What is the standardization of high density in Sweden?

I am not sure if there is a standard. Larger cities have denser areas in the city centre; then it is sometimes over a period of time. The concept of the garden city has a lower density, and then when you add to it, you will have a denser city. However, 25000 is a lot in Landvetter södra. When we are speaking about a similar number is a huge project. They want to densify Mönlycke centre by adding 3000. The number is not relevant by it is self but also the area is relevant. We are working on sustainable of the station area, so it is based on new inhabitants' indicators so sustainable station area where it is like a percentage its a suggestion. The idea is that you have distance from the station and you have a percentage for green areas and living area, so we are speaking about sustainable density rather than standardization of density. We have a discussion about what is sustainable rather than just let us build dense. Because what is working for a project may not work for other places.

Question 4: What is your definition of a compact city?

As in community, city or society for me, they are different for me as a city could be Gothenburg where you have a city centre. We joke about is when you have Systembolaget you have a city. Otherwise, it is a community or a society it is different sizes of it. It is much movement during the entire day perhaps during the weekend at least also a big part of the night there are a lot of activities, so the ability to activities like cultural are a larger and more diverse possibility with low densification

it trickier to find the right amount of people to keep the service going. Is close you have the site lines for different things and a lot happening around where you are. Where you can find everything you need.

Question 5: Do you see Landvetter södra as an example of a compact city?

I think definitely the vision of compact city they are designing it in a way where you can walk and bike, and you can have everything you need, and that is very good the major challenge, they have is that they have a vision and vision do not always represent what happens in the end. So in Sweden in general we have election every four years and planning process can extend to 12 years so you can three elections during one project and many things can happen if the political well changes along the way if they really manage to do it in dense and compact city and follow the vision I think it is going to be a compact city but if they start to build for lower density and spread it out and lose of the vision it might turn all the way around. Why people are going to move there not to another place and how they are going to attract people but I think if they follow the vision, it is going to be a compact city.

Question 6: If things turn around, we will have cases like Hjällbo?

Maybe but more like villas with low density and you will have less diversity. It is going to be different target group the existence of Landvetter is houses are semi-attached houses not all of it. But if you planned similar, you will have a huge area on virgin land with a lot of houses blocks instead of functions and facilities that is a risk.

Question 7: How compact city design is achieved in terms of actors?

I think it depends on where on the process you are in early stages I think it is necessary for politicians and practitioners to be in communication with each other to discuss the vision and where should and how because of Landvetter södra as a case since it is a big area and many people building it they are creating a whole city it is important. The starting point of localization. For whom we are building is it for everyone so you should involve everyone. When you start designing it, you should involve people and organization from a civil sector with security issues or women rights and dark sports what types of function and play area when you are designing the people who are using the design should be involved. But there are a lot of steps along the way. If you involve inhabitants in early stages, you should decide the aim of their involvement because are putting their hearts and souls in developing areas so the aim of their participant should be decided cause if you do not take their opinion into consideration, they will not participate after that. Until the designing phase is done, everyone should be involved. Forum arena court it a processes model, in forum you can throw everything in the air and brainstorming phase and then when you do that the process leader can go to arena phase where you can start pointing things and connecting and setting the frame and then moving to the court phase where you decide things this is a good process model to make

decisions.

Question 8: Did SamSam project help to find relevant actors or help in planning?

I think the process regarding actors in Landvetter södra they just focused on practitioners and politicians. I do not think inhabitants or civil organizations they are not part of SamSam, but they are in another case study in SamSam.

Question 9: Especially regarding the process, almost all the discussions starting from a political point of view, and then involve practitioners not directly.

In Landvetter södra, that is what happens the idea building; the new city came from politicians.

Regarding political decision isn't a one-sided decision.

Yes, and in my own opinion, it is a one-sided decision, and that is the main challenge for practitioners to stand behind the project. If the politicians gave the assignment to work with, you need to find a way to make it realistic. Between politicians and practitioners, there is a wide gap.

Question 10: Any decision went to reality to be advised by practitioners to be built on scientific knowledge.

This is the democratic way to do it because the politicians in the municipality are elected and they represent the opinion of the people, of course, there should be a reality between the two sides visions. It can come from practices or people, but most of the time, it comes from a political view. There is a different way to make a decision like a point an area and say do this or ask about an idea and how to be done. In the case of Landvetter södra, they found a way to agree and continue forward; this is going to happen how we can do it in the best way possible. They tried different way like density puzzle area through SamSam.

Question 11: What are the processes that Mistra urban futures involved in the defining compact city in Landvetter södra and the reason behind it?

Not Mistra urban futures, but SamSam has, and it has all the processes in defining the processes of planning in Landvetter södra.

Question 12: What are the challenges faced during this process?

Everything, mainly time. Both individual time and time spent on things and how they supposed to be done. In addition, the time frame to finish the desired process.

Interview 3

Question 1: Why building and planning a new city which conflicts with the regional guidelines?

We are building a new city which came to be close to the current town, which is Landvetter. In our comprehensive plan for the while municipality we had a direction said the exciting town of Landvetter is supposed to grow to the north no to the south and that had been done during the last decade or two to north but now the is no possibility to do that because of the nature and other reason, so that made us think about how to make Landvetter grow as town because it had to grow. So, own many lands and located to the south that is one of the reasons. Yes, it is a new town, but also, we work with infill projects in the existing town of Mölnlycke and Rävlanda and Hindås, so we work on both so we don't think to work on one only. Bigger scale in Sweden and Västra Götaland, Gothenburg and Härryda we have a shortage in housing, so this is where as a municipality can contribute in much housing even in Mölnlycke there is a shortage of land in which we can develop in a larger scale. We can work in filling projects in the current cities but not on a larger scale to help in the shortage.

Question 2: what is the position of the municipality towards Gothenburg guidelines toward compacting and mixed-use?

We will do infill projects in Landvetter in parallel with Landvetter södra. We think that we are working with the guideline of the comprehensive plan of Gothenburg because we are on one of the transportations lines toward Borås and the development spouse to be along those lines, in addition, the E40 and the current railway with the future project of the new railway. Landvetter is in the middle of these. We interrupted the transportation lines as growing lines.

Question 3: Do you see Landvetter södra as an example of a compact city?

The aim to make it a compact city but the problem is a massive area 1 km2, so we have done several studies show that the area is larger, the goal is 25000 inhabitants and 10000 units, and there is a space for more there is ongoing dialogue is 25000 enough or the area too big so invest part of it or the whole area so can't answer. We want a compact city, but what is compact enough to be sustainable?

Question 4: What is your definition of a compact city?

What we are aiming for denser that Mölnlycke we have a reference of the central part of Stockholm can be something like that like Södermalm, but we do not think we will be built like it. We are in the dialogue of how much is dense. The compact city is the idea around the station area and in the first building year to get many inhabitants and then you can build further away as always been done.

Question 5: Why the compact city concept?

Because of sustainability and the benefits from the transportation ways and in addition, Landvetter is not on the transportation lines so need to attract inhabitants and business, so you have to be a dense area for it to work.

Question 6: How did you reach 25000 from 15000?

It is not limited to that number, as an initial number recording to volume study from an architecture firm which works on the comprehensive plan for the whole municipality, they estimated 15000 would be accepted in this area. However, in 2015 there was a national negotiation called Sverige rehandling which has to deal with railways Götalandsbanan the negotiation is about if the government do the railway can the municipality build housing along with it. Furthermore, if the housing area is big enough, you can get a train stop. So Härryda municipality saw this as an opportunity and did an analysis of the benefits of building and wanted to be in this negotiation and we wanted three stops on in Mölnlycke one in Landvetter södra and one at the airport. Furthermore, we did volume study and reached with a negotiation that 25000 is suitable for a train station, and it is the right political decision. After seeing what happened with SamSam and potential is huge so the numbers became 25000 inhabitants or more. Because what we are working on it now as a comprehensive plan will change in 10 to 15 years things can't be predictable for such large area there will be changes in society and how to think about sustainability.

Question 7: Who are the actors involved in planning and defining?

As a co-creation process, we have politicians as actors, and they are in the decision-makers for the comprehensive plan, and then we have the development company, in addition, all the practitioner from all of the departments (education, traffic, health ...) From municipality in some sessions, we have Västtrafik, GR, Trafikverket, a business region of Gothenburg and Swedavia who owns the airport in national level. The main aim of the co-creation is deciding what the municipality want. We invite stakeholders when they are interested in subjects that are related to there work and planning. Developers will be included in the next stage after the co-creation the process to fill the gaps that are not studied in the process and participate in their experience and the result of this process id the main structure of the project.

Question 8: What are the challenges with including actors?

The choice of developing companies has been done, and we do not know which criteria been taken to chose them. What are their requirements and needs, we going to meet and have dialogues to decide their involvement and structure of their vision, and represent what we have and comparing both visions. In co-creation processes every time, you involve a new actor you should negotiate and go through discussion and ask it okay, or we should go back one step, in addition, can the new participant

knowledge improve it.

Question 9: What are the positive outcomes of the co-creation process?

Before the process both Politicians and practitioners didn't have shared vision about how the project will look like this process helped us to talk step by step, topic by topic after the process we are in some agreement we do not see the same thing but all of us work to a common goal that we can see on paper. Furthermore, we have a better understanding of each other. This was done by mixing everybody from a different side. In addition, this work is not representing a singular opinion but the middle solution between all opinions.

Question 10: Why are some actors absent?

Yes, there are absent actors, and we decide to make them absent. It was a strategic choice because when we started, the main actors were not in agreement; it was hard to inform outsiders to contribute when we did not have a clear vision together. After SamSam process, we can call different actors to join, and they can make changes because we did not lock everything, and things can change.

Question 11: What are the processes in planning Landvetter södra?

The central part is the comprehensive plan we also are in the co-creation, and there are processes in parallel like the study of railway, the water providing of problems and energy sources. In the municipality level, there are studies about connecting the new project centre with Landvetter centre.

Question 12: If you took the compact city in consideration, what are the processes needed for planning?

We want a fixable plan to be able to hold many years and carry the ability for developers to participate in it. We are not legally bond how dense the area should be but just giving an idea on how to sustain the goal. We have a working group; together first we have to think about which investigation we have to do what are the risks, like nature and association. With the process of SamSam, each result should be in alignment with the process result, so everything works together. The results of the investigation are applied to SamSam, not the opposite. In the end, we will have a structured plan that is a result of SamSam and the investigations and regulations.

Question 13: How the SamSam method affected decisions regarding Landvetter södra?

It has a major impact on it since we did not agree on what we should do now we have an agreement, so we want this to be a real plan, so it has a huge impact on the structural plan. We took all the investigations results, and we put them on a plan, and that was very similar from results of SamSam results. However, the developers

are now coming, do they agree on not. If the development companies say we cannot do it, the politicians will take another approach.

Question 14: Is The decision for Landvetter södra was a collaborative decision or a political one?

It was mainly a political decision to create attraction city and create a mark on the map. Its strategic political view.

Question 15: As a practitioner, do you agree with that decision?

Of course, there are parts I do not agree with so as a practitioner; you should provide information to twist that decision in the right direction. The initial idea is to create a city in the forest, but by working on that, we were able to create a city that in the connection between different parts and surrounding cities we want to create a city for the people live in it.

Question 16: What is the impact to involve developers in the planning process, especially in SamSam?

It will have a huge impact because developers will have an opportunity to say what they want, not what the municipality wants as a result of a lack of trust between practitioner and politicians. The result will be more as a market city now make sure it is good for the whole municipality and surrounding area.

Question 17: Why did you choose SamSam?

The municipality thought it could be a good way of exploring how to work together. Moreover, to fill the trust issue between the project members. And unifying vision. Moreover, SamSam helped in the interrupting of Politian's visions.

Question 18: Clusters of urban qualities

The first six are involved, the second half is the main issues, we are involved in another research regarding social justice and transportation "transportation and sustainable urban development" by this research we learn about social justice by comparing it in different countries but not in the agenda enough. One of the methods to work on some of the clusters is to integrate Landvetter with Landvetter södra. Health environment and quality of life and we don't have such a practice on this scale in Sweden how to bring it in the comprehensive a level that is why it been pushed to the side. We are more interested in the first six clusters and economic side. We are having some decisions about what is going to make the city attractive and asking ourselves why people going to move to the city while it is a construction site, how the quality of life is going to be. About adaptability is to keep the discussion and planning in the continues process but with a clear core of what we want. Being innovative can contradict with another quality like flexibility and adaptability.

Question 19: Few cities had been built long back with good intention but right now not looking so good what this project make a difference?

It is one of the discussions we have. We are trying to learn from the mistakes of the previous examples. In order to change things take political guts to make things. About integration some bad old examples they had a purpose of fast building and they chose isolated areas to no disturb anyone but to make integration, you have to disturb someone. For this project, it should be integrated with near cities and airport. We want to make a city people live and work in.

Interview 4

Question 1: can you give us a brief introduction of SamSam project. (Origin, Purpose etc.) and your role in Landvetter Sodra Project.

I am a researcher from the Royal Institution of Technology, KTH, Stockholm. We are running a research project which actually is about co-creative urban planning for energy-efficient and sustainable station communities and his includes both existing communities and also those that are planned for the future where Landvetter Sodra is our main case study on future station communities and together with some stakeholders among that we have Västra Götaland region, Härryda Municipality. Also, we have Borås Municipality and Stenungsund Municipality. This is a part of the knowledge process under Mistra Urban Futures and Gothenburg region who runs the process of urban station communities. I run as a project leader and researcher, and I have also support from a professor/researcher from Chalmers and also some other researchers from KTH, Chalmers, Gothenburg University, Luleå technical university. So we are four universities and some municipality. So that is briefly about the project which aims at developing the new knowledge about how to create this sustainable energy-efficient station communities using co-creation in early stages in urban planning on different levels. We work together with municipalities on local levels. Region level also we work together with Västra Gotland Region. That is Sam Sam, and also it is financed by Västra Gotland Region and major parts by the Swedish energy agency. That is is why we have the focus on energy efficiency but also sustainability in the broader sense because previous research about energy efficiency in urban planning has revealed that energy efficiency is perhaps is not an issue of its own which is prioritised when urban planner works with future development. However, if you talk about sustainability in a boarder sense, energy efficiency is implicit in the concept of sustainable development in many senses.

Question 2: Do you think SamSam method is different from the traditional approach and how?

Well, the traditional approach, if there is such one, is usually more of rational planning which is a quite linear stepwise approach which is quite evident based and formulated and performed by experts. In this, it is urban planners and consultants

usually.

In this case, co-creative planning is more of an integrated approach where you collaborate transdisciplinary and together with stakeholders in the local community meaning local officials from the municipality, politicians it could also be NGO's, companies, practically everyone. In the Landvetter Södra project, we work together with politicians and officials, mainly. In some instances, it is also a government agency such as transport administration for example. So the idea is to bring out the local knowledge, the implicit or tacit knowledge that these officials have in their everyday practice. Furthermore, in that sense its a meeting between also research and practice where we interact together with stakeholders. They bring their knowledge, and we pick it up and analyse it and come back and take the next step in the process, so the researchers, in this case, together with the stakeholders also design the process stepwise within a framework that is developed from previous research projects.

Question 3: How did SamSam project become a part of Landvetter södra project & What is the role of SamSam project in Landvetter södra?

The history of it is that as a part of the urban station community process. We applied for a research project where we would like to develop this knowledge about co-creative processes and also investigated urban form, and it is important for energy efficiency in sustainability. We invited municipalities which were already part of the urban station community process, so Härryda was one of the municipality that answered very positively. We wrote the application for money for the energy agency, so they have been part of this from the very beginning. Moreover, in that discussion, we also chose between two different projects that the municipality of Härryda has. It is Monlycke station area and Landvetter Södra, and for their part, it was more interesting and more beneficial to work together with researchers in that project. So they chose that one, and we were also very interested of course. We wanted to have an example where you design and use station community from zero.

Question 4: What are the purpose of the workshops and any critical review on the workshops held at Hyrrada Municipality regarding Landvetter Södra project? (i.e., positive, negative outcomes or challenging aspects)

The purpose of the workshop is that it is the main arena where researchers and practitioners meet and design and develop together knowledge about urban form and also test and implement new tools, methods and models for these planning processes. So for every workshop, we introduce new tools, and we also have research questions related to urban form and energy efficiency, which we also focus on these workshops. Moreover, there is preparation work where we discuss together with the municipality about which issue is to bring up, how to develop and design the tools and how to implement among the workshops. So the program for each workshop is carefully designed together with the municipality, and I must say that it has been a

really good process in the sense that the interest from municipality has been great. Have been about 40% every time and the leading politicians and leading officials from the municipality. Which is nice also it's usually the same person that come-back for each workshop so every person is quite dedicated and gives this priority in the working schedule and the municipality also have been very very careful and thorough to document the workshop afterwards and putting the results together and also they have made analysis on their own for the planning work because this is for their sake its material that they will use in the formal, comprehensive plan according to the planning and building act which is to be presented in later this year I think as a proposal. For our part, we receive the results in the shape of their combination afterwards, and we use it as a material and analyse and see how persons are taking part in the workshop. Used tools have they received it and used it properly as we have expected or have they used it in other ways. And also we investigate how the local knowledge about urban efficiency is developed in the process. Is the result of the previous research on this area or is it something different and in that sense we can also evaluate the tacit knowledge and role it can play in a process such as this. We are not finished because this would be an iteration between locally generated knowledge and desktop analysis that we would perform. We have an urban structure developed that we assume to be quite energy-efficient, but then we can bring it into a desktop environment and test it using different desktop tools to see if the process has had a positive result or if it could be enhanced even further. So I think there are many upsides to this kind of work. The knowledge that is created during the workshops gave the municipality a better institutional capacity to plan for a process and this concept institutional capacity maybe you have not heard or got in touch with. It can be in many things. When I use it, I talk about knowledge, resources, relation resources(social capital and social network) within the municipalities, other bodies and stakeholders and I also mean the mobilising capacity of the urbanisation. That is bringing in resources, people, money, connecting other bodies outside of the municipality to the process, creating shared vision, goals and strategies, developing tactics on how to introduce this and make it legible in a broader sense on a long term basis. It is also interesting to know there is also the development companies and 13:21 that is working on gaining stakeholders and investors and interested parties to invest in Landvetter Södra in the future. And they work as the company more or less. Then we have the municipal organisation which is responsible for urban planning. In the best of worlds, these two actors should go and work together. The new development company and organisation is quite new, and we do not know how this will develop in the future but since the process leader and the leading politicians from the company is the part of the workshop together with the organisation from the municipality. I believe that this workshop will be useful to create common platforms for both these organisations. Which probably raise the possibility of getting carry through of the plans that are in accordance with the goals, visions and the strategies, so that is some of the benefits of this process I think.

Challenges: I believe that these kinds of processes tend to be a bit normative in the sense that municipality, of course, had the idea of the city before we entered the process. So I notice that they are some concept or ideas that tend to be brought

up recurrently so in that sense one of the issues is to broaden perspectives, bring up new alternatives and evaluate them in sort of neutral sense in this process so the strong ideas from the beginning bit challenged and in this sense there is moment of learning for the people involved that has been taking part of the process from a long time.

- We do not convince; we facilitate with right tools.
- We mix politicians and municipality practitioners in every group so that everyone is equal.

Question 5: Do you see Landvetter Södra as an example of a compact city?

Well, I have seen previous images early sort of prospect for creating a new city of Landvetter Södra, which was quite spread out. The landscape and topography and the region do not promote compact city development. That should be stated quite early in this description. There are valleys and hills. They are quite steep sometimes, and they are lakes, and there are wetlands. So it is a challenge to create a compact city. There could be a structure of compact urban island or urban corridors perhaps. Creating a compact city is a challenge, but the idea of the city is to make it compact and to use proximity to the railway station as an argument for this compact structure because one idea is to create a city where a lot of transport is made by public transport of some sort. It could be a railway, BRT or something else. As an addition to the railway. The railway is, of course, means of transport that has limited capacity when it comes to no of trains that can run on a railway. But combined with public transports in other forms it could be a strong promoter for sustainable means of transport I think. So compact city, Yes! Its a part of municipalities idea about the city and previous research on energy-efficient urban forms and transport also speak very strongly for the idea of the compact city. Then, of course, the compact can be mean different things.

Question 6: What is your definition for Compact City?

Compact for me I think is where people have accessibility and nearness to many things that are needed in everyday life and that does not necessarily mean high buildings but it means to me I think it's easy to reach what you need to reach and this should be done with sustainable means of transport and also there is traditional conflict between green areas and highly dense build-up areas for example. I do not think that this conflict needs to be there because actually, I think you could have a lot of greenery in a compact city but when you discuss that potential conflict, it is the matter of design in many ways. So the design needs to promote nearness and at the same time provide space for greenery in the sense that people can be healthy and live a fair and equitable life also. That sounds quite amazing and not that very easy to achieve perhaps given that you have this green area that Landvetter Södra is today at least you can design with accordance with what you know could be the good compact city from the beginning. So that is the simple definition. Another part of it has a population that is concentrated enough to support important urban functions so that you don't need to travel more than necessary to

reach these functions and also there should be interplay of spatial overlap between these concentrations of people and urban functions because if they do not match spatially you have sort of eccentric urban structures where transport is generated just because of this mismatch population density and concentration of urban functions, this could be monocentric but it could also be polycentric that is the matter of scale. If you look at the city from a sub-regional or municipal scale or if you look it from an intraurban scale. This is not such a big city. It is about 25 thousand inhabitants or so. Speaking about polycentric here may be slightly overkill sort of. But I have done some research myself on smaller cities when it comes to polycentricity, and it is actually, I think it legitimate to speak about polycentricity also for smaller cities. It is just that polycentricity takes another shape when it comes to small cites. It becomes more of meeting places and single urban functions that generate local transports rather than sort of small city centres with a lot of functions in it.

Question 7: Do you see SamSam as a method promoting the compact city as an approach to city planning? Why and how?

Yes! Maybe not a method but rather a procedural approach. Sam Sam as it is designed as a research and planning process. It has four major steps or leaps and actually, it is a discussion about is it four or three steps in this process, but the idea from the beginning was four steps.

- Step 1: which is co-initiation, where you initiate, design the process, analyse and design the consolation of actors and you decide upon the rest of the project sort of. You also make an initial analysis of what is needed for the rest of the process.
- Step 2: Co-design and that is the part of the process that we use a investigate using future studies and backcasting, different future images or scenarios, and you evaluate them using criteria that you developed at the beginning of this codesign step. This is quite a big part of the process actually because this is where people are allowed to be very creative and develop ideas, design them as much as you want to. And also iteratively use other means of analysis to enhance these ideas and develop them in a cyclical and iterative process.
- Step 3: Co-production I think we call it. And that is where you turn the ideas into a strategy and also their backcasting is used to create the step that is needed in the process. We have not put so much emphasis on that because it assumes that you have a clear idea about what you want to achieve, and we had not had the goal to do that as researchers. But the stakeholders, of course, would like to end up with a clear idea and clear concept of what they would like to do. So if they want to do that its process is open for them to do that but in some cases, they have not done it properly because there is a discussion about how closely we can connect this research process to the actual planning processes that are running in the municipalities. And we have a bit idea about that as well.
- Step 4: Co-Implementation. Where we in the best of words find arenas where we can develop key projects and start to carry on through, I do not think we will reach that step in the project because before we do that we need to have

> a political decision and then it becomes a real project. Not just an experiment anymore.

But that is the four-step. They can be used both for research and for planning and practise. Then we have to deal also with this is a research project and we would like to investigate things that perhaps the officials and politicians don't really or that interested in. Alternatively, that could also be that some issues are difficult to deal with in the local political context. So to deal with we use the concept of sor..court 29: 42, which is an idea about how to strategically navigate between different planning rooms/spaces. The forum is completely open planning space where everyone can discuss an issue related to station communities, and we can invite whomever we want. There is no political prestige or anything. It is like an open seminar. Then we have an arena which is more of an experiment room which is closer to the real planning processes. But they do not inflict upon them really unless municipalities want to. It sort of if you have a board room which is a court in a sense. You step out of the board room, and you go into another room, and there you can discuss the things that you cannot discuss in the boardroom. So the court/ board room where you decide upon things and where there are political decisions and political prestige and sometimes or where the officials are bound to previous decisions of the municipality. So that planning/Courtroom we cannot intervene with very much as researchers. Nevertheless, the arena/experiment room that is where all the fun takes place, and that is where we have these workshops in the different case studies and the different municipalities in the project. And then we also have the series of open seminars in the full room where we invite.

Question 8: Who are the actors involved in planning/defining Compact City for Landvetter Södra?

- ***And the reason behind it?***
- ***Challenges?***

Apart from this research project, it is the municipalities. That means the organisation with officials have the assignment of planning the new city in the formal sense. When I say a formal sense, I mean that there is to be produced detail comprehensive plan according to the planning and building activities and the municipality has that task. So there is an organisation of the working group with officials from different departments in the municipalities, and they have a political group for them to report to and give strategic advice and decision for the work and this political group I think consists of the leading politicians in the municipal board. And every department has a department board with the politicians for their sectoral issue such as building, transport, cultural and environment issue. Both working group with officials and the steering group with politicians consists of people from these different sectoral departments and perspectives. So that is the municipal organisation, and also they have municipal companies such as the waste and energy company. They will be part of it in the future. 35: 17. Then we have municipally-owned development companies which are owned by the company which is constructed as a company. They have a steering group as well. And the steering group consists of same politicians as per municipal organisation as far as I know. So these leading politicians have a very

good overview of what happens in both the organisation and the municipal organisation and the company. And the company has its task to communicate the idea of the city, and they have process/development leader that has worked with science park at Johannaberg, and they work with bringing in investors as one big issue as well. And I think they also handle the land issue because the municipality owns a lot of lands, which might be an important issue in the future because if we have a plan that discusses both the municipal land and on other owners. Well, how do the municipality or development companies get a hold on this land? This is, of course, related to the economy of carrying through the new city. So it will be interesting to see how the company will decide, and politicians will do regarding the land issue.

I think it is important both the development company and the municipality has a shared vision and idea about the compact city obviously the development company will have a significant role because they are ones to solve this issue about getting access to the land, and also I think they will have a lot to say when it comes to investments, infrastructure and also in different stages of carrying through because the whole city will not be built in one phase, it will be in many phases. So, discussing with stakeholders, bringing in sustainability issues and putting pressure and demands on these building companies that we develop the new area. I think the development company has a very big role there. The municipality has a big role in creating this vision where Sam Sam is part of the process and also to follow up and support the development company in achieving these visions and goals. So both parties are very important. I think the knowledge about compact cities will be provided from the municipality, so there is a need to be close cooperation between the company and the municipality along the way.

Land ownership is important. If municipalities do not own the land than they are in a weaker position to argue about sustainability is, for example, with developers. It is risk allowing to much power for developers. It is important to have this common vision about the compact city and sustainable city. And also according to the planning and building activities, it is usually the municipality is responsible for both designing, building and maintenance of public space. However, if we have many project stakeholders that develop this plot, we have to have a negotiation about financing and taking care of these public spaces. Public space in this sense is not just streets and squares but also the greeneries such as parks, recreational areas, sports facilities, etc.

It also requires very strong ambitions, and I believe not just from the municipality but also the developers and developing companies that they agree upon doing this because in many senses it could be more expensive to do like this, maybe more intricate and difficult to carry through the project. But that is an important concept of sustainability and the compact city, I believe.

There are three very critical 3d is that we need to have in the compact city: Distance(short distances), Diversity, Density of workplaces and people. So using these 3d's is one main key I think to create a sustainable compact city or station commu-

nity.

Question 9: Similarly, What are the processes involved in planning/defining Compact City for Landvetter Södra?

Well, depending on how you define the process, I think you can describe the way of working that we have in SamSam as a frame process may be in the early stages of planning, then it is usually preceded by some comprehensive planning on a larger scale level. It is very rare. I think that an idea is born out of nothing. Usually, it is preceded by ideas that go for back in time and then when it comes to a critical point of time where you want to develop for example this new city, you decide upon a way of working. That meant designing a process, as I mentioned in the first step in this co-creation process — the co-initiation phase. Then, a process could be what we talk about in Sam Sam, where you generate the idea, future image of the city look at the strategies carrying it through and that implemented in different key projects. But then other steps in the process take on like for example creating detailed plans according to the planning and building act which is required before you can build anything and then you have the design phase where you construct new buildings. Every step in this process needs to have initial ideas and ambitions and strategies as part of them or else; otherwise, it will take another direction.

We have to have strong processes in parallel; we have the municipal process, the developer's process which has to thrive within the municipal process. Now in Sweden, we have started to experiment with the planning building dialogues. We have dialogues between the developers and municipality about basic criteria for quality, so we have this way of linking them together: city lab actions and different kind off dialogues. Then I think research and development Sam Sam is some basic support for these type of processes, but it has no kind of any form and power, but it is more kind of powerful knowledge distribution.

There needs to be cities and dialogues as well as. Also, it can be mentioned that if these visionary process that is Sam Sam is one process, there is also a need for more evidence-based knowledge when it comes to for example geological, climatological or ecological or transport-related issues and many other issues as well. You need to make more desktop analysis or other kinds of research or investigations and those investigations in themselves could be long processes actually so there will be required a lot of processes. However, some of them will be more of generating knowledge-based that support the vision, and other processes will be more visionary in themselves, and then you will have the implementation processes, for example, the detailed development.

Question 10: How are you planning to include the rest of the urban cluster categories in the project? (mentioned in the research assumed qualities of compact cities)

We have the density puzzle, and we have a tool that we call the density puzzle or

jigsaw puzzle. So that we kind off investigate as one specific issue and we also relate that to the network of transports in other parts of the workshop series. Workshop 5 is about the functional mix. We can say that we address these issues by the co-creational process. We have the tools to mobilise the competence, and we experience from the participants. More than investigated, more analytical way by measuring. Measuring could also be an important monitoring process, but this is a specific approach for these urban cluster qualities.

Interview 5

Question 1: What is your role and other politicians in general in the Landvetter Sodra project?

As politicians, we are the people who decide what to do because of the democratic system we have it in Sweden (It is the politicians decide!). So Landvetter Södra, in the beginning, comes from planning for the whole municipality. This planning was decided in the year 2012. The plan before this was from the year 2002. The other plan was Landvetter Södra. We could not build at a different place due to nature issue, and mönlycke is famous for housing, and it is hard to reconstruct that city. Also, the railway connection was one of the point of interest that we need to take care of. Then we also have a Gothenburg city. Landvetter södra is a big area, and we can get a new station. It is close to the airport and other infrastructure. And that is how we decided to build a city in that area.

In the beginning, We start to talk about it is like building a new Mönlycke. Today it is about 17,000 people living in Mönlycke. But world changes and then we have this urbanisation or people moving to the cities. We have a lot of refugees coming to Sweden, a lot of young people stay home because of a lack of buildings/houses, We have the companies that are growing, but they cannot get the workers from other countries because when they come here, there are no houses for them. So then we start to think about, we are not going to build the same as we used to, i.e., building a lot of houses in the small area and there will not be a lot of transport, not near to workplace, shopping etc. Hence, we have to think more compact and think higher. So we started to talk about the city, and with this, we did as in 2012. So when we took the 2012 plan, we talk about building a new city. In that time we talked about around 15,000 people. We decided it should be Innovative, Modern, International and Human. We can see a lot of people building a lot of houses, but it is so boring and is no green, preschools etc. Hence, we want to build something else. Then the government of Sweden said that we need to connect three bigger cities in Sweden (Stockholm, Gothenburg and Malmö) with a new railway. We do that with high-speed train, and it will just take 2hours to get from Stockholm to Gothenburg or another way. But we were concerned with local traffic (i.e., to airport or Gothenburg city).

We want something else other than building just houses and also considering Agenda 2030. Today we have some politicians that do not want to build Landvetter Södra

as they were sceptical about the density of the people. Landvetter Södra land is 800 hectares. Södermalm at Stockholm is an area about 530 hectares and there live 136000 people. They have schools, hospitals, stores etc. and everything. Our area is bigger than that. So 25000 inhabitants and more in Landvetter Södra sound more feasible. Hence, I give this example to other politicians that they understand. It is important because our people in the municipality they do not understand what we are going to do because they have not been in process and everything. They have just heard of a new city in the wood and a lot of people, Why?.

So our work as a politician is to make this work happen because of our municipality's highest political committee, They have decided we shall beat this, and it is from our planning from 2012, and it is also that area that we make something different than we have been before. So what we have to do and I'm responsible for finding the right partners so we could build this as we wanted. It is not difficult to find companies who get an area and built house. That is very easy. But the tricky thing is to find this how can we build it compact, how can we make it green, how can we make it silence (for example today we have a lot of cars, buses and engines make a lot of voice). The tricky thing for us is to make sure that we build Landvetter Sodra as the new sustainable city which is good for human, green and with low carbon footprints and nature having next to the city as a resource. And keeping/holding this throughout the project is essential too.

Question 2: Why choosing the criteria of a compact city to the project? It can be just a regular housing area?

We tried to do something that no one has done before in Sweden. As I said, you can go around in Sweden there are a lot of interesting projects, where they have tried to build sustainable differently but only some part to sustainability. What we try to do is to build something that has not done anywhere else. We will pick up interesting and good projects from others and put them together. But we also know that we have a lot of Swedish companies which is small and they are developing new systems, new solutions and other interesting things. But they do not have an opportunity anywhere in Sweden where they can test it in full scale. So we want also Landvetter Södra to be test and innovation arena. It is very important, and that is why we try to hold on this all the time, and we talk a lot about innovations, and this humanity is very important. We can also make a lot of technical solutions for everything. But when we do that in the new system, they need to be good for something else. Everything we do must show that it helps us be better in the footprints. We also know that we have Chalmers and from there pops up small companies who are innovative. Some years ago I met a company, and they had an interesting energy solution where you do not have to use so much energy power, In Sweden, we have a lack of power, and we do not want to use coal and oil etc. But we are growing and not the energy system at the same speed. Even if we have solar and wind solutions, we are not growing faster. They have made the invention, a small test pad and they cannot get into the Swedish market, but they have it in Europe instead. Why can't a Swedish company do not show their innovation in Sweden? So

after that, we started to talk - we need to get this test and innovation arena same time. So we want to do something else and do not do what everyone else is doing. This project is not just for us; it is for the whole of Sweden.

We are not doing/cannot do it just by ourself (i.e., municipality). We need the markets; we need the companies, we need infrastructure buildings, we need every company who can help us to build this because we do not build, but we own the land.

Question 3: What are the processes involved in the decision-making process to start landvetter södra project?

We had a lot of processes when we took this plan, this a political decided document/plan. We have the highest group containing representatives from each political group/party; it does not matter if you have a small or big party. Everyone is included because this is a long term commitment. Then it is very important that we are having an agreement on this long term project and what we are going to do not depending on if with minority political switches because companies who interested of building in our municipality, they want the political stability. And that is why we are a lot of working with that. The interesting thing is when we took this plan, all parties except one person were saying "no, we stand behind this" but now we have two/three political parties who say we do not want to build it. But that depends on which person representing which political party, but we still have very broad representatives from different political parties in the leading minority and the opposition, and together we say we will build that, whatever. Then we have some who use this project for political argument as we have some election and they try to use it to get more votes, but it shows that it did not make any difference. So it was not an election-winning question that says no to this.

Question 4: Any practitioners involved at the beginning of the decision making the process?

When we take this plan, In this plan we have a lot of documents about nature, infrastructure, culture, etc. In the beginning, we had these workshops, for example, SamSam. It is very broad, and then you put it together more and more. And then the same process when we are taking this plan. So we also think about, where are the best place to have it and we think "where the people want to be" because we do not say it to people, okay you need a house, good you have to move that directions. But we do not do that in Sweden and as we know that urbanisation as were people moving closer and closer to the city and the city is growing than we must try to build where people want to be. Of course, we could have put our project in the area here, but if we had done that, we would have no connections to anything. In the present area, it is logical. If you have the city centre, most cities grow from the city centre and out. So you can see that if Mölnlycke is one of the city outside of Gothenburg, Landvetter is next ring outside the Gothenburg city and I am sure in future we will build here to (showing map). But it is the future. And then as we discussed earlier how to make short travel areas, the problem we have in the Gothenburg region

today if we look at in the higher perspective. You have heard about it is a picture where every municipality in Gothenburg come together, and we say where are we going to grow and where are‘ we going to keep the green areas and then said that, well, let us build in this area where we have highways or big infrastructure, That means that from Gothenburg we have 35:07. We have a problem with the planning which results in very long transportation. That is why we have some saying that we need green areas between. But then we get this infrastructure, that means if we cannot travel by bus, car, bike or anything. It means that we have to go from here to another place. That is the problem in Gothenburg. One place in Gothenburg where every infrastructure connects it is just before Liseberg. It is the middle point of the whole infrastructure in the whole region. We do not have any passes around. And that is a problem. So we want to build it close to the centre where most people are and try to find small transportation ways. That is very important, and that is why we choose that area.

Question 5: Similarly, who were the actors involved?

When we took these decisions, we did not have anyone else other than politicians. It was a lot of working in the municipality and politicians. It also important to understand today we are three people working full-time politicians before it was 2. We are about 80 politicians active. Those 80 politicians are people from the municipality. They are engineers, nurses, firemen, lawyers, teachers etc. We have a very good reputation. We have older people and young people, and that is the whole point of democracy. Our political system based on we are elected every 4th year and then it should be representative of the people. So when you say that don't you ask any outside other than politicians. You mean that politicians are one kind of people and then you have other people. So, to try to answer this question. We have inspiration and a lot of different mindsets when we are looking at it, but we did not go out and ask, for example, every building company or something else. We did not. But now when we are doing an update of this, and then we are going to talk much more with companies outside because for us, that is more important than company see that we are doing something good.

Question 6: What is the purpose behind choosing SamSam as an initial planning process?

When we decided to go with SamSam, it was mostly for our staff here in the municipality. Because there is a lot of project going on and sometimes I think it is a lot of projects doing the same thing but little difference but they the same goal with different processes. And they are working parallel. We had the choice to choose from different projects, but this one (SamSam) thought very very interesting because Sam Sam directly say that building city around the train station and we are working for the train station in this area, so that is one tick our box. Then it was how to cooperate when we are during this process, and then we have those different parts in Sweden trying the same process, and because we are early in the process, so we did not know what to do so we check on the idea of the process, and we check on,

we want to involve people, And we check on doing this around train station. So that is why we chose this project (Sam Sam). So when I started this full-time politician before that politicians were not so involved in processes, the citizens were not so involved in the processes, but that is my lead word is that sharing. That people be in the dialogue and tell what they need and think about things. So, it is very interesting that we do that. When we work in those processes and those workshops, for example, the latest one we used was a workshop 5, that was a very interesting process to work with, and sometimes I think that we should have done some little bit different but also that a project they are testing your model and everything. It is good because we are starting in a very broad scale and every time we scale it down, a little bit more and a little bit more specific and everything and I think it is very good process and also because we are working politicians, the staff and other people from outside. So I think that is very important, what we are missing that we do not have any citizens from the municipality in the process. Then we have compliment SamSam project when we are working with youth people. We have this mine craft project; we have students from... They have done their workshop around how young people look at a new sustainable city, and their perspective of a new city is very interesting to read that too.

Question 7: How do you evaluate the experience of co-creation workshops?

- ***Results***
- ***Vision***
- ***The comprehensive plan***

Very high! People, together with different mindsets and different experience and different ideas come together and talk because that is what we do in a workshop. When people meet then you get this criterion thought, then you get the culture, innovation, anything which is growing because people when put them together and working together, it gets growing and better than if just a few people do it.

We all must work together to get a mutual decision and have many people agreeing on project planning. I believe that when people together, sit and have a common problem or common thing, we need to have a solution. Everyone gets to say what they think, what they want, what they like, and what they do not like. I think that is a much better process.

Question 8: How do you evaluate the comprehensive plan that you get from the workshop?

If we look at this map, this is the recent results we got from the workshop. But there is one problem in the process. Very few people have been to this area walking around. And that means you are sitting in a meeting and drawing lines on maps. If you do not understand these areas geography (slopes, heights, etc.), you do not understand the circumstances when you draw an idea on the blank paper. I was there in the area for four hours and stopped at each corner and took photographs.

Because I want to know the area and when you walk around this area you get another perspective. Then the developers, do not think as we think. So what we need to do is that we have this quite good work that done during workshops and a lot of faults and a lot of conclusions, but we also need to make validation of it with the developers. They can agree with our plan or else say we will have some problems if we follow this idea. So we take this comprehensive plan with us when we are going to companies to find developers, but we cannot say it is going to be the same plan because we need to verify it with our developers and others to check how to do it. Also, when we talk about infrastructure and waste area, we cannot just put it on paper and say we build here as we do in the workshop, we should think how does infrastructure works. i.e., we do not have technical competence in the workshop so developers can change the plans.

What could interesting be to do the same process that we have done in our workshop with politicians with developers and do not show them the results? But we do the same process thing so they can do the do they match, why don't they match etc. If we do that in the same process, then we can verify if the process is valuable for others to use, so that is a thought I have. So, developers need to be in it.

It should benefit the developers to have good business and should not cost any money for the municipality as developers have to pay for everything. Hence, developers will be interested only if they see business potential in the plan. At the same time, we need to have a high level of innovation and sustainability.

We can not let developers run away and do their things; we need to stick to our goals and vision every time. And that is the reason we do not sell the land to the developers before we have decided what to do. So now we have these development companies (municipality owns it all). We have six development partners, and we will have a meeting soon. They know about our vision and goals. We, politicians, have the trump card; we have the decision to decide about the plan on how to build so if developers have a lot of plan and we do not like it, we do not let them do it.

Question 9: There are clusters of criteria for building a city. Six categories have already been studied in the project. The problem is with the other six. How do you think those should be planned and aim for?

I think it is very important to put other people together to work with this tool. We do not have people working with cultural, for example; we do not have people working with social behaviours, nurse. We do not have those people in the process, and I understand the difficulty with that. We should involve specialists to deal with it. It is not difficult to build the city. The difficult thing is to involve the other six aspects (impacts). If you do not think of impacts when you are developing, then you are probably missing the whole thing. So that is a challenge.

Interview 6

Question 1: What is your role and other politicians in Landvetter södra project?

The big majority of political parties like the project a lot. They think it is a good idea by the thing city in a nice way other political parties do not want to build l, so they do not want to build a high dense centre near the way.

Question 2: The role that you are playing.

I am the opposition leader. So, I have the voice of the opposition and represent the parties, so I work as leader of the opposition parties but also as a vice-chairman of Landvetter södra company in-depth since I have to work for the best of the project.

Question 3: Why choosing the criteria of a compact city?

Using the concept of a compact city will make us able to have more people living in the same area. Where is close to the densest parts of Sweden, which are Stockholm Malmo and Gothenburg. We have many people who want to have apartments and place to live. The economic situation is good so a lot of people is moving to places close to Gothenburg and they need a place to live. We have to build a lot of homes we can choose to build small houses that require a big area to make it possible or build a small part with high density and keep our beautiful nature around the buildings and people seems to like to have nature close to them they don't want to live in small houses they want to have the opportunity to have a walk in the forest and go to the lake.

Your idea to have urban life but also close to nature.

Also being close to big cities. Of course, Landvetter södra will be part of Gothenburg in a deeper sense the project will always be part of Härryda municipality, but the close distance will facilitate the resident to go to facilities in the city like opera house and stadium. The new railway will make it possible.

Question 4: What are the processes involved in decision making to start Landvetter södra project?

We have been working with those questions for a while now. We start by buying lands somewhere around 2004; this was a big step. A previous important step is to decide where we will build a new project. We talked a lot about which town we will build around. We started to look into Mölnlycke because this is the main city right now in the municipality, but there is not much land to build on in the. Then we started to look into Landvetter we looked into land north Landvetter close to the municipality of Partille, but then the government told that they want to make it as a national park. We started to look into other lands, so we discovered the lands of

Landvetter Södra, so we started to buy lands with fewer landowners as possible. So, this was the first start of work. Nowadays, we have made a start some companies to work together to make a dream come true. Shortly, the municipality will work on creating plans for the project about buildings types and height of buildings, those types of questions.

Question 5: Similar to the previous question, who are the actors in those processes?

I think there are a lot of actors in the process the main actor is the municipality, in addition, politicians and practitioners in the municipality. Who helps a lot to find a good location? The politician decided the project then they asked the people with knowledge. Politicians have a vision for the future.

Question 6: It is connected to the previous question of how you identify relevant actors in the decision-making process, who should be involved and who shouldn't, and who keep them informed?

My colleague and I have an idea to be open to everyone to about everything. If you asked us, we would say everyone can ask about and say their opinion but, in some way, we will have a group make decisions that group will be smaller than the group who participate in the project. The main group is the board of the company who are making deals with six companies. In the end, this big group will have decision making voting. The project board will decide other politicians and discuss it with all different political levels in the municipality. In addition, trying to explain other politicians in the Gothenburg area understand the importance of the project. We also have to talk with politicians in the government, so they understand the importance to get the railway stop. It is a very difficult question because there are many decision-making processes at the same time at very different levels. But I do not think we are excluding anyone from the discussions, but of course, we need to make decisions in the right place.

Question 7: Have you made a stakeholder mapping for the project?

I don't think that been made that yet. But we talked about it.

Question 8: Why planning a new city which conflicts with regional guidelines and the concept of the compact city which are densified, reuse and develops current cities?

We have to do both densify our cities if you look to the close centre is denser than what used 20 years ago but still no much dense, we started to build higher building 3, 4 and 5 floors buildings that are not dense to the rest of the world. When I speak about dense cities I think about Dubai when you have 18 floors buildings and more but to that point is a long way to go but we started to make denser and denser cities in big towns like Mölnlycke and Landvetter, and I think that have to continue, but

in Sweden we have complex problem where people already live because they can interfere with the decisions. That lead to go juristically process which can extend to 3,4 or 5 years before start building and of course, the municipality almost wins every time, so we know a building is going to happen. However, right now we are in time frame that we have to start building right now, or we should have started 10 to 15 years ago to not be in the position that we are in right now where a lot of people can't find homes at all, so we are little bit late already if we are going to make it quick and possible in span of 5 years we need to start in new lands or not going to be 10 years. In the Gothenburg region, 45000 people are looking for residence and in the whole Sweden is much more. In the biggest regions in Sweden, people are waiting too long in the housing lines, and companies in Sweden need human resources which need residence. If we do not supply the market with necessary housing, people will more, and we do not pay taxes, and that will affect the social and economic prosperity. We need to make companies that they have all their needs, especially in our region because if they do not, they will move to another place so will lose them forever. So, we have to start now.

We like to speak about building a city, but also it is a city connected to two other cities in my perception for the future it is going to be one big city Landvetter and Landvetter södra with Mölnlycke. We may see Landvetter be the main part of a big city because of the train station and denser centre.

Question 9: What the purpose of choosing Samsam as initial planning process?

When we started with SamSam, we were looking to find a method of communicating. We were in an early stage of the project we said we must do something to find out what we are going to do in the future and all started with us discuss what our mental picture of this new place called Landvetter is södra so when we start talking to each other we different. We decided to find a way that we can make our vision come together and agree about. We needed a unified vision so everyone can work in the project, and we face fewer difficulties in the future. One of the main problems is the population because we started by 10000 residents now, we are speaking about 25000 and more. Then we found SamSam, and they were looking for projects to be part of.

Question 10: How do you evaluate the co-creation workshops like results?

I think we have created many good results during those processes. There are difficulties because as a politician, you want to be part of every group. You want everybody to listen to you and everybody to think like you. When we are sitting down with six different groups, when I listen to the results, we came almost to the same results and had the same vision.

Question 11: How to evaluate the experience from the vision?

Will it almost the same. When we worked together, we find our vision together, and the vision had changed during the process because when we started, I was doubting building for 10000 people but now realised that is a waste of land which leads to change in vision this process helped to redefine the vision and create clarity and decision making

Question 12: How do you evaluate the process of creating a comprehensive plan?

I guess they will be part of the plan of future during the process we didn't have building companies and we will take those examples to say that this what we think as politicians but of course politicians are not the one who have all answers but they a little about everything in some context when we are meeting building companies they have the knowledge about building houses and buildings. So, when we are going to meet them, we will present those plans and say those our idea, and they will use it and use part of it then we have redefined the plans in some way.

Question 13: There would be an opinion if you involved those companies in the workshops?

We were using those processes to get politicians through and have the same vision. Because if we did not get them together, they would hesitate about the companies so now this our idea. If we involve those companies, they will have more influence and won't be out vision but theirs we agreed to create political vision first and then involve developers and co-work with them in future.

Question 14: Do have a plan to go with developers in the same process?

We are said to developers they have to go through the same phases, so they have to do SamSam in their own to get their results than comparing both results.

Question 15: What are the criteria which developers are chosen by?

Main criteria are companies with economic stability so they can build even in times of low economy because there is a prediction of a bad economy. However, we still need those buildings because we still have people standing in waiting lines and companies need those employees, even the Swedish economy go bad for a while, we need companies with economic stability. And try to find interesting companies to be out the norm of economic buildings and can bring a change like one of the companies building wooden houses and taking into consideration designing with ecological sustainability.

Question 16: What are the channels that been used to engage the community in the design process?

We have been out a lot and speaking to the public about building this city, so they

were from the start phase. The designing phase is not started yet, so we asked our developers to involve the community in their processes in some extension we will hold meetings so people can come and talk about the project. It is an important part of building a new city to be sustainable people must be part of the process, and we have been very clear with developers they been chosen because they are good at communication.

Question 17: Some of the researchers about qualities of urban design; some qualities are measurable like building quality and urban spaces there are different qualities diversity, justice ... How do you think those can be involved?

They are involved in the project, but of course, we must think about when building the city but you can masseurs it before it is done and one of the big problems of building a new city it is going to be a construction site for 50 years so this will affect the quality of life. Justice is one of the concerns where everybody has the right to be. We know the cost of the houses and apartments going to be high, that means we are facing to have a city for rich people. So, we have cheap economic houses for people with limited financial abilities. Because of the closeness to the airport, the city will be more diverse, and that can promote a risk of promoting air travelling.