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# **Polycentric development under different conditions – realism of the Buskerud City plan**

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## Acknowledgements

This master thesis marks the end of my studies in Urban and Regional Planning at Norwegian University of Life Sciences. During these five years I have acquired a lot of knowledge within a wide field of components. The reason I choose the actual topic is related to my special interest of how space affects human behaviour, thus how planning could be conducted to change an actual trend.

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## Abstract

The Buskerud City partnership (*Buskerudbysamarbeidet*) has since 2013 collaborated via a strategic planning policy, aiming for implementation of a polycentric city-region development, consisting of five main centres and hubs. The differences in characteristics between these five municipalities could possibly have an impact on how the municipalities approach the plan. The municipalities of Drammen and Øvre Eiker are used as cases, looking for differences and historical development to see how their present positions determinate their potential of developing a core within a polycentric structure. A key finding is that Drammen due to its history as a city has altered through an industrial change, and kept its position of being a city. Øvre Eiker has a higher amount of establishment within the primary and secondary industries. As well, an increased has acquired work outside the municipality. So is it harder for Øvre Eiker to strengthen Hokksund as their core, as it is not that attractive to developers. For both municipalities, there are tendencies showing growth rather takes place outside the selected cores. Hence, the conditions for a development where “as many as possible” of establishments in a centre could take place, are weak due to how bigger and smaller cities relate to each other, a founding as well partly confirmed by property developers.

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## Frequently used terms

**Buskerud City** (*Buskerudbyen*) – a secretariat lead by Norwegian Road Administration. Coordinates Buskerudbysamarbeidet, consisting of the five municipalities Lier, Drammen, Nedre Eiker, Øvre Eiker and Kongsberg, the county of Buskerud, County Governor, Norwegian Road Administration and Norwegian Railway Directorate. The secretariat coordinates the process related to the strategic plan that covers these five municipalities.

**County Governor** (*Fylkesmannen*) – a senior official position and authority, serving as administrative body between the government on the one side and county and municipalities on the other.

**Drammen region** – a metropolitan area within the Greater Oslo region. Consists of the municipalities Lier, Drammen, Nedre Eiker, Øvre Eiker, Svelvik, Sande and Holmestrand.

**Greater Oslo region** (abbr. Oslo region) (*Stor-Osloregionen*) – a city region in Eastern Norway, surrounding the capital, consisting of 46 municipalities.

**Urban settlement** (*tettsted*) – by Statistics Norway defined as urban settlements with population size of minimum 200 and distance between houses not exceeding 50 metres (Statistics Norway, 2018f).

# 1. Introduction

Over the last decades there has been a raised focus on environmental problems, including the attention of the connection between greenhouse gases and climate change. This altered focus has thus affected the spatial development of cities and city-regions. In 2010, a process of creating a strategic plan of spatial development and transport plan of Buskerud City (no. *Areal- og transportplan Buskerudbyen 2013–23*) was initiated. The same year, a premium agreement (*belønningsavtale*) outlining a plan on reduction of car transport and increasing the share of public transport travellers and bikers, was jointly signed by Ministry of Transport, Buskerud County and the five municipalities of Lier, Drammen, Nedre Eiker, Øvre Eiker and Kongsberg (Ministry of Transport et al., 2010). The agreement was an incident of national to the local and regional authorities on conditions of implementing parking regulations and an improvement of the public transport, as well creation of a common plan of spatial development and transport.

In 2013 the strategic plan was approved by each single municipality before final approval by the county council, as well as the County Governor, Road Administration and Railway Directorate attending as partners (Buskerudbyen, 2018a; Buskerudbyen, 2018c). The vision of the plan is creation of a “sustainable and competitive city region of considerable national interest” (Buskerudbyen, 2018c). With an estimated population growth of 68,000 inhabitants during the term 2014-2040 a goal is establishment of the “highest as possible amount” of dwellings and work places within six selected centres (Figure 1). The extent of the centres should be 3 km in diameter, radial from a hub in the middle. A downtown development by the most inner core, prioritised development of work places should be the inner 1 km radius, and dwellings the remaining extent (Figure 2) (Buskerudbyen, 2013, pp. 24-26).

## 1.1 Topic and problem formulations

The strategic regional plan of Buskerud City (abbr. BC) has four main goals: a climate-friendly spatial development and transport system, an effective and rational transport system, attractive cities and towns in all municipalities and a strong partnership between adjacent municipalities and regions, by coordination of common strategies and facing common challenges (Buskerudbyen, 2013, p. 15). Five selected areas will “be provided development into concentrated and multifunctional cities and urban settlements, including work places, varied housing, shopping/retail and locations for cultural events. This prioritising at the same time requires refusing of projects outside the selected areas, that weakens the attractiveness of a centre”. In addition, the traffic growth should be handled by walking, biking and public transport (Buskerudbyen, 2013, pp. 17 and 37). Location of industries shall be done after the ABC location principle, or “right business at the right place”. This means that industries intensive of visitors or employed shall be located close to the public transport hubs, B industries primarily within the zone of work places or secondary to other places of public transport connection, and C industries close to infrastructure (road, railway or harbour).

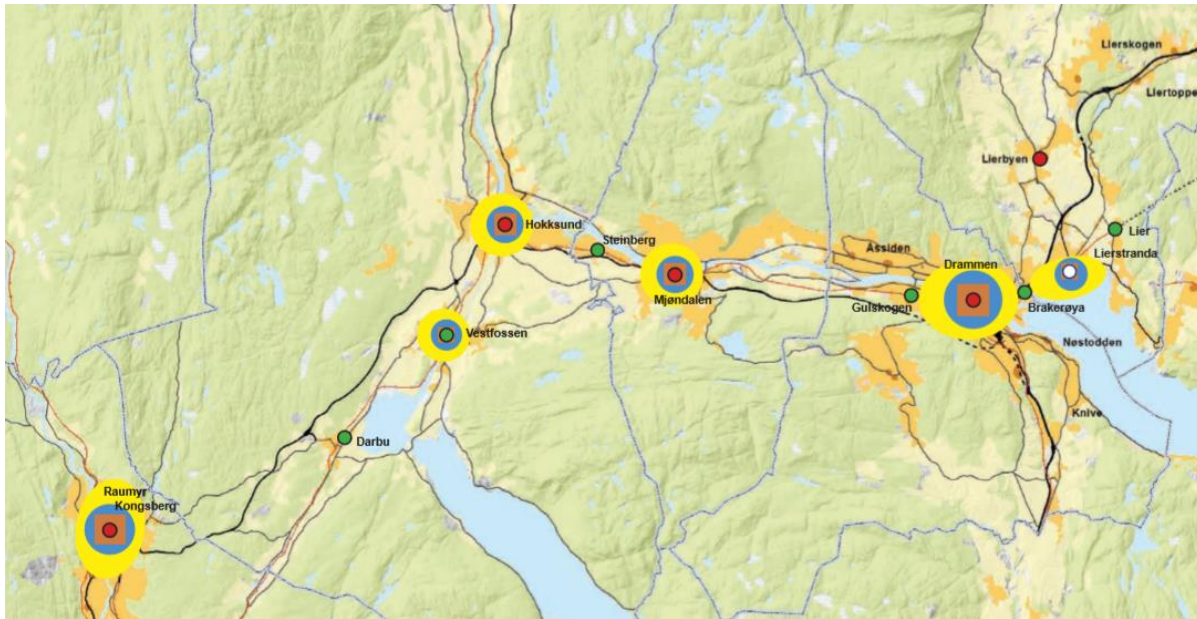


Figure 1: the selected centres for prioritised growth. The yellow area indicates area prioritised for housing, the blue for industrial purposes, the brown central purposes. The red marker indicates municipal admin centre and transport hub, the green indicates other railway stations within the region (adapted from (Buskerudbyen, 2013, p. 32))

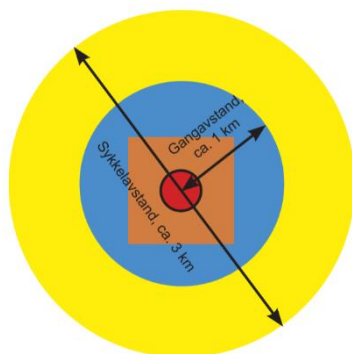


Figure 2: a zoom-in of the principal scheme. The diameter of the yellow area has a determined extension of 3 km and is meant to be in catchment by bike. The blue zone has 1 km extension and is meant to be in catchment for pedestrians (Buskerudbyen, 2013, p. 25)

A plan having a goal of creating a city-region based on five prioritised centres for further development, the realism of such development is of interest. This is due to the area consists of five municipalities. Drammen and Kongsberg are each a core in respective urban areas. Lier, Nedre Eiker and Øvre Eiker all have parts within the Drammen urban area. there are different other factors that determines whether there is realism of developing several centres within the catchment area of an already existing core. Places have different relations to each other, for instance there could be a high net flow from place A to place B, and there are features beyond that could describe such an imbalance. Thus, there of interest whether a regional plan can contribute to change such relations. If a goal is developing a new centre, where people can live and work, what is thus the interest of developers to provide for a development stated by plan? What is their interest of develop work places in a smaller place characterised by high rate of out commuters?

This study mainly focuses on whether the BC plan manages to establish work places

within selected nodes. Promoting a polycentric structure, the policy prescribes common goals on five municipalities and centres differing in size and characteristics. The study will consider the two municipalities Drammen and Øvre Eiker. the centre of the latter named Hokksund. Drammen is the biggest municipality, by almost 70,000 inhabitants, Øvre Eiker the smallest 19,000. They represent what can be considered as opposite points of an entity conceptualised as a city-region, contained by strategies that to small extent account for the differences between the places. This study seeks to reveal how these, presumably with the most extreme characteristics among the six, grasp the objectives and strive for them in potentially different ways. Hence one can assume the two municipalities approach the strategic differently. The following problem is formulated:

***To what extent does the regional plan affect municipal planning, by measure of being partners in a city-region development?***

The presence of industries and what kind of industries that exist on a place, decides its position in a country or a region. Over the years, big cities have changed from being centres of both secondary and services industries, to be more and more dominated of the service sector. The shares between industries will be an indicator of whether a municipality can commit for a centre development. This is because the service industries tend to be located central. In addition, these industries also have the most intensive use of floor and number of employed. So are they well fitted for location within a centre. The shares between the industrial sectors will thus say something about the position of a place and whether it is attractive for a central development. When looking at the municipal level, it says something about where such industries want to establish. Thus, a following question is:

- 1. How does the historical development of Drammen and Hokksund determines their positions in a city-region?*

The Buskerud City plan (abbr. BC) is a strategic planning document. However, the document for instance does not contain specific quantitative goals of the amount of work places or dwellings for establishing within the centres. The BC plan outlines a principal scheme, as the regulatory planning is a responsibility of the municipalities. The centre development goal of the BC plan should hence be implemented and elaborated more in detail within the master plan. To examine how the regional strategic plan affects local regulatory planning, a relevant question is:

- 2. How has land use planning changed related to the regional strategies, and how are the strategies conceived?*

The regional plan outlines objectives the municipalities should strive for. But there is a difference between goals in a plan made of public authorities, and location preferences of private developers. As industrial locations presumably may vary between different places, related to where developers want to develop for given purposes, so is the question:

3. *How do location preferences affect a polycentric structure development?*

## 1.2 Policies for sustainable urban development

### Sustainability and climate in focus

As environmental concerns have become more present in the discourse, first by the conceptualisation of sustainability in the late 1980s (Brundtland Commission, 1987), and later during the last decade by attention around climate change, hence the Climate Policy of 2008, revised in 2012 (Meld. St. 21 (2011–2012); The Norwegian Government, 2014), so has the questioning around the relation between spatial planning and transport behaviour taken place and been introduced in planning.

Approved in 2008 and revised in 2012, the Climate Policy was approved by the Parliament. The policy outlines objectives and measures to reduce domestic greenhouse gases levels. This document stated a strengthening of the reward scheme for public transport measures, particularly those of art contributing to a rise in public transport travel share at the expense of car transport (Climate Policy Partners, 2008). This policy was renewed in 2012, adding the objective of zero-growth in car traffic, meaning all increase in traffic around the big cities should lean on the public transport. In 2008, the first Climate Policy was approved by the Parliament (The Norwegian Government, 2014). An agreement affirmed by the position and opposition in Parliament, the policy outlines goals and measures to reduce domestic greenhouse gases levels. This document stated a strengthening of the reward scheme for public transport measures, particularly those of art contributing to a rise in public transport travel share at the expense of car transport (Climate Policy Partners, 2008). This policy was renewed in 2012, adding the goal of zero-growth in car traffic, meaning all increase in traffic around the big cities should lean on the public transport (Meld. St. 21 (2011–2012)).

## Reduced transport for better cities

First introduced in 2004, the charter of premiums for public transport measures (nor. *belønningsordningen*) was introduced, aimed for a strengthening of the public transport by reasons of better environment, health and spatial use (Norheim et al., 2012; St.meld. 26 (2001-2002)). In 2009, the charter was merged with urban environment packages (no: *bymiljøavtaler*), for more environmental friendly transport as well including toll road-based financing. In 2015 the package system was merged with urban development agreements (no. *byutviklingsavtaler*), into urban growth agreements (no. *byvekstavtaler*), by present covering transport-related issues as well spatial planning (Ministry of Transport, 2017). The focus is on minimising transport by locating work places and dwellings within the same area, aiming for a transport based on walking and biking, public transport being next in order. As city-regions depend on both these factors to serve this function, the thesis will focus on locations of work places within selected centres, based on the fact that the Drammen region is a part of the Oslo region simultaneously as it is seen as an incorporated area, and how it account for the position of being an incorporated city-region strive for this position by creating new jobs in an area by estimated high population growth in competition to Oslo and attractive work areas in Asker and Bærum people rather commute to this area. Drammen and its neighbours strive for work will be investigated.

### 1.3 Metropolitan areas

In 2003, a governmental white paper (St. mld. 31 (2002-2003)) outlined 16 Norwegian metropolitan areas. Each region was defined by a centred municipality of city range (no. *bykommune*) and a selection of hinterland municipalities. The selection was based on former studies defining economic regions and living and labour market regions. Oslo Metropolitan Area, or the Greater Oslo region was defined by 46 municipalities in 6 different counties (Oslo included). The criterias of selection were a mixed use of one former report of economic regions, outlining criteria as commuting, commodity trade revenues and population size in the biggest (Hustoft et al., Rapport 99/6) and a second based on municipalities as census tract, commuting and travel time (Jukvam, NIBR-rapport 2002:20, p. 9). A mix of criteria combined, the latter report by its making had based on a municipality being part of a region by 10% outbound commuting and travel time of 30 minutes. Two metropolitan areas were defined as incorporated simultaneously being part of the Oslo region. The Drammen region was one of these two, justified by distance. The paper as well affirmed the surrounding towns of Oslo for distribution of the population growth within the region. (St. mld. 31 (2002-2003), pp. 68, 141).

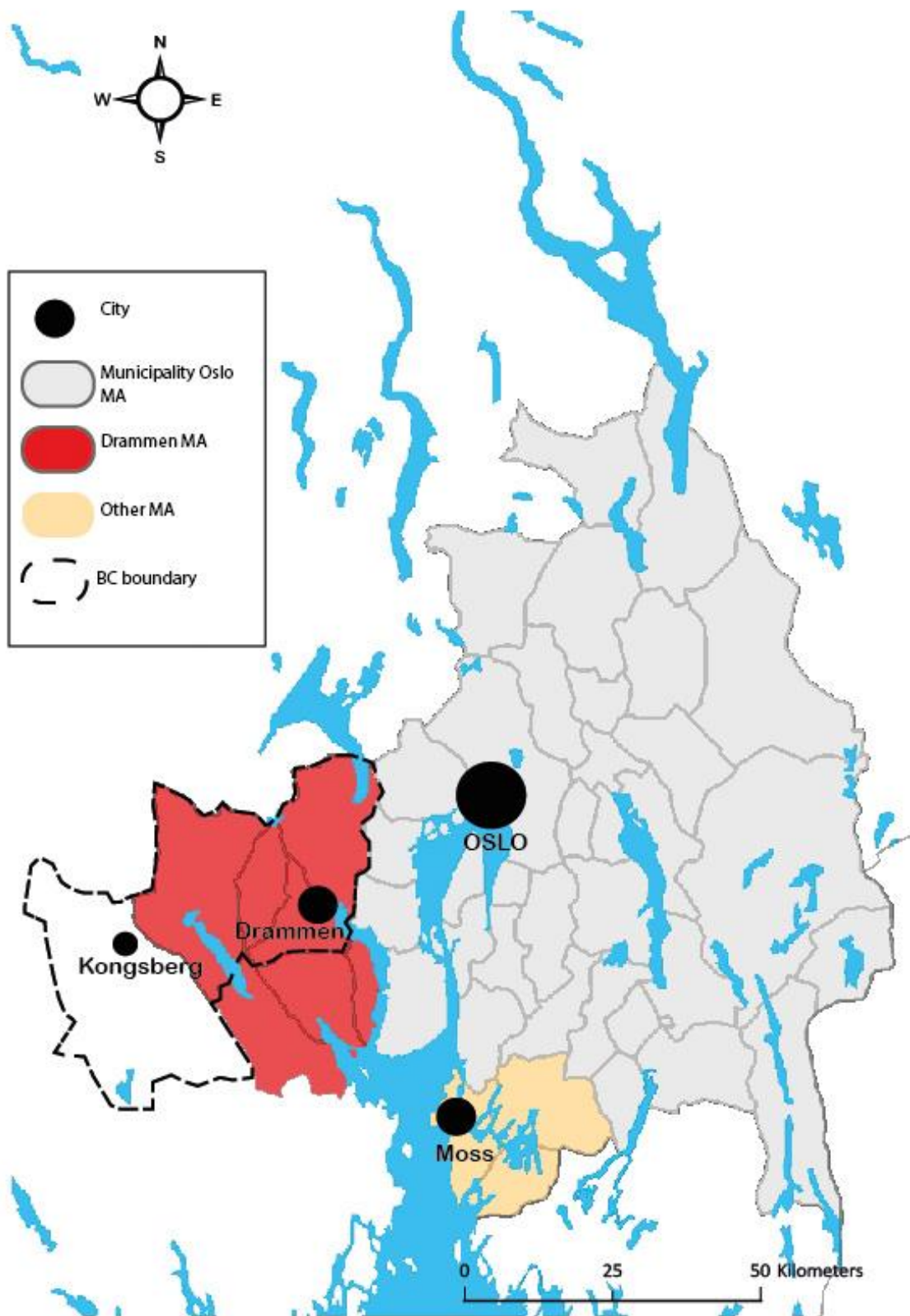


Figure 3: Oslo Metropolitan Area and the two subregions defined by Statistics Norway in 2003. Remark that Kongsberg Municipality is not a part of the metropolitan area (source data adapted from Geonorge (2018b) and (St. mld. 31 (2002-2003))).

## 1.4 Polycentric urban development

The idea of a polycentric structure was earlier launched by Oslo region alliance (2008). A concern of the Oslo region being monocentric, among others the BC area was considered as a centre cluster as one of different cities and urban areas, not only the Oslo region as defined above, but in Eastern Norway. A polycentric development as aimed for is intended to take place in different centres, containing the goals of competitiveness and sustainability. The idea is counteracting a compact monocentric city on the one side and urban sprawl on the other. The goals are to keep the green belt between cities, reduce need for transport and save nature and green areas at the local scale. By distributing functions to different centres, a lot of needs for travel can be reduced. As well a concentrated development at the local scale, substantiate a well-developed public transport between the nodes, thus contributing to reduce car transport (Oslo region alliance, 2008, pp. 29-33).

### 1.1 Buskerud City

The BC partnership were as earlier mentioned established in 2010. Since that year, BC has received money from the reward system, as the public transport is strengthened, as well as infrastructural projects are realised for the public transport, pedestrians and bikers (Buskerudbyen, 2018a).

The plan includes a scheme of act (*handlingsprogram*), for annual revision in the municipalities and final approval in county. The scheme constitutes a list of every subject covered by the plan, the responsible body(ies) and time frame for implementation. This includes strategies for biking, subsidies for public transport, creating a new financial scheme for transport-related infrastructure (*bypakke*) and a new plan for trade and service. Constituting of different items related to transport and coordinated land-use and transport planning, each item is either in common responsibility or delegated to a specific body. The single municipality is responsible for the regulative implementation by their master and zoning plans. A new regional plan for trade and service and public transport subsidising are also matters whose responsibility relies on county. Staying responsible for the act scheme, the county as well is singularly responsible for the public transport and plan for centre pattern, trade and service. In addition, the county is specified as collaborative partner for public transport-related actions induced by a financial scheme for transport infrastructure (*bypakke*), creation of a biking strategy and profiling for industry (Buskerudbyen, 2013 p. 62).



The leadership and decision-making is delegated to different instances, all with their specified function: Project leader and secretariat, Professional Council (*Fagrådet*), Administrative Steering Committee (*Administrativ styringsgruppe*), land-use, transport and environment council (*ATM-rådet*), (LTE committee) (*ATM-utvalg*), and the elected councils of the county and municipalities. The Norwegian Parliament does have a role in decisions related to governmental financing. The administrative steering committee are responsible for preparing decisions The LTE council (36 local and regional politicians) advises the LTE committee (the mayors), the latter taking decisions that must be approved of each municipal council as well the county council (Buskerudbyen, 2018b). The partnership is based on consensus, meaning all partners must agree on concerning matters (Buskerudbyen, 2018a). This complex structure (Figure 4) shows how everything is rooted in both local and professional considerations, synthesised into a structure leading to decision.

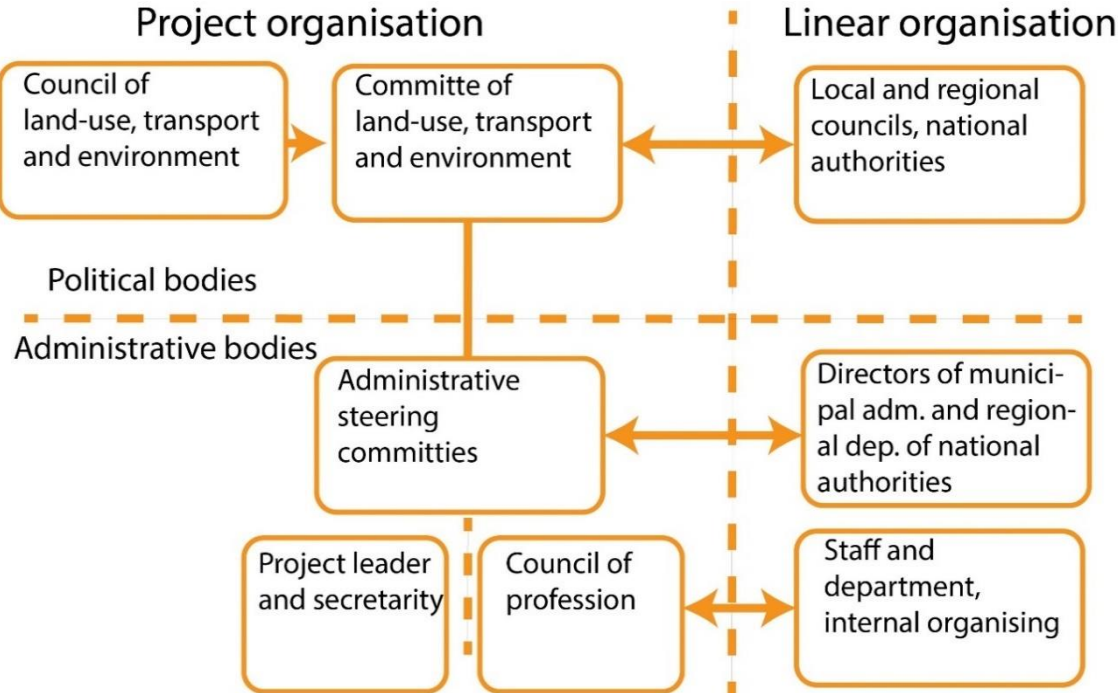


Figure 4: the organisation structure of Buskerud City ( adapted from Buskerudbyen (2013, p. 12)).

## 2. Methodology

### 2.1 Casestudy

In a case study of one or more cases different variables are sampled. The case itself is the frame where data samples will be conducted, contributing to description of a phenomenon (Yin, 2008, pp. 17-18). The variables can be multiple, but they are depended to time and place (Johannessen et al., 2011, p. 90). This study operates with case in two levels. The first is the BC area, the five municipalities, an area described by a plan to become a city-region. Variables are selected to examine to what extent the area constitutes a city-region presently, such as data describing commuter behaviour. Data for the municipalities of Oslo, Bærum and Asker are also included, as all three municipalities and the BC area (except Kongsberg) comprise Greater Oslo Region. At the second level two partner municipalities are selected for a case study. For these cases more variables are examined to gain a deeper understanding of the implications of what is going on a regional perspective. The variables at the first level is based on documents studies, some statistics on all five municipalities as well as interviews of planners of the regional planning secretariat. The municipalities are examined further with regard to the similar features, including some historical information. Interviewees are done of key stakeholders within public and sector, associated with planning and development processes. The master plans of the municipalities are reviewed with an aim to reveal the extent of converge with the strategic regional plan.

### 2.2 Literature reviews

As the focus is the city-region and how it articulates in an actual case, literature on conceptualisations and definitions of the city-region is reviewed. This includes how cities the last century has emerged, altered their structure and terms defining it. The literature of history provides to a picture of what kind of places they are, how they differ and the fundamental underlying factors, i.e. how their different starting points may determine the strive for the BC goals. This is followed by a review of land-use plans dating back to 2006. The plans are selected prior to 2010, the year of the initiation of the BC partnership, as a basis for investigation of how the BC has affected land-use planning. The most recent master plans prior to this year dates to 2006 for Øvre Eiker and 2007 for Drammen, respectively.

The plans are examined with regard to how they account for a general spatial development, i.e. their visions for their centres and how they consider the relation between developing dwellings and industrial purposes, strategies for industrial development and how they view their regional position. These factors are chosen due to their correspondence with the goals of the BC plan: creating as many as possible dwellings and work places within the region and the creation of a considerable city region in Norway. In addition, they may shed light over another main topic of this thesis, namely the importance of industrial presence in a well-functioning city region.

## 2.3 Statistical data

Statistical data constitutes the quantitative factors. Here are measures like population development and commuter data included. For the case municipalities, data of tertiary education and work places development and number of workers within the secondary and service industry are attached. These data are attached for the municipalities due to the later analysis of what kind of development could take place within the two cases. Hence are these data not included for the higher level, as development for the higher level is not considered extensively. Sectors as education, health and public administration excluded, a pre-phase showed those categories had approximate equal shares of working stock within all municipalities, and so data for these categories would not sufficiently serve as contributor of revealing trends of development. As the theory subsequently rely on private sector as a success factor for city-regions (section 3.2), the selected categories of data are considered as useful variables for understanding the context.

Interviews to reveal undocumented knowledge and getting more insight to the processes, relations and dynamics. Complement the other data.

The study scopes on BC, not to be confused with the Drammen region. This regards to the fact that there is one policy covering the five BB-partners where Sande and Svelvik is not covered and then not in a relevant position for the measures concerning BB. In the end however some considerations are done regarding the municipal merging reform.

## 2.4 Interviews

Semi-structured interviews are conducted to reveal information that is not available from documents. An advantage of doing qualitative interviews, are the access for the interviewee to reconstruct actions (Johannessen et al., 2011, p. 145). A semi-structured interview allows for rapport with interviewee (Silverman, 2014, p. 166), a way I found necessary as I would have the flexibility to reformulate questions depending on how they answered. The interviews were done within the period 5<sup>th</sup> March and 16<sup>th</sup> of April. The interviewees were:

05.03.2018: Lene Basma, Head of Planning Department, Drammen Municipality

05.03.2018: Anders Stenshorne, Head of Planning Department, Øvre Eiker Municipality

12.03.2018: Gun Kjenseth, Project Manager for City and Village Development, Buskerudbyen / Jomar Lygre Langeland, Project Manager Land-Use and Transport, Buskerudbyen

16.04.2018: Asgeir Svendsen, Director of Industrial Property, Ticon Eiendom AS

16.04.2018: Nils Ole Kjenner, Director of Development, Union Eiendomsutvikling AS

The interview guides are attached.

## 2.5 Reliability and validity

The material of this study consists of three main sources of information: planning documents, historical literature and semi-structured interviews.

The validity of the data concerns their relevance and representability (Nyeng, 2012). The findings based on the two categories of document sources is thus of high validity, as their topics will be directly connected to the research questions. Also, the semi-structured interviews are essentially of high validity by design, as the possibility for follow-up questions is meant to minimize unclarities and ambiguities. Hopefully, within the limited time-frame of the present study, the chance to miss important material has been ruled out.

To secure reliability – that the source material can be trusted (Nyeng, 2012) – is not straightforward. However, the document material is mostly of academic nature, so the likelihood of misinterpretations is judged as low. The interviews are more prone to somewhat deteriorated reliability due to prejudice by the interviewer and missing questions due to time limitations. Taking these considerations into account prior to the interview and following the guidelines for performing an interview have hopefully minimized these factors, although they can never be completely ruled out. Only further studies can determine whether the present findings will be supported or weakened

## 2.6 Other methodological information

A study concerning on a Norwegian case, some factors must be in mind for reader. For floors, first floor regards to be ground floor, second floor the first floor above ground level. A floor is defined as 3 metres, rounded down, based on different sources compared (Boligprodusentene, 2014; *Byggeteknisk forskrift* TEK17; County Governor of Buskerud, 2016).

Figure 7 and Figure 9 show divisions of A, B and C locations. The grouping is made by my own considerations, based on SOSI-codes. This consideration could be found in the attachment.

### 3. Theory: understanding the city-region

#### 3.1 Introduction

To obtain a basis for an understanding of the empirical work it is of relevance reviewing theory. A study of theory is of relevance to understand the empirical work. Essential key terms within this thesis are city-region, industrial development and strategic planning. The term city-region will be discussed and conceptualised. Characteristics of industrial presence will as well be examined. Since city-region is connected to relations in space, the theory of space of flows will also be reviewed in this chapter. These terms are more of a descriptive character. As a main concern of this is a strategic plan, the study will also review theory of the more planning-specific terms of ABC locations and strategic planning.

#### 3.2 From city to city-region

Until the 19<sup>th</sup> century, cities were recognised as compact cores, where proximity was a crucial factor. This was due to transportation was time-consuming, and hence people had to be close to their work and market for supplies, traders to customers and so on. Due to technological improvements of transportation, introduced 19<sup>th</sup> century, transport became faster, and the need for proximity decreased. Thus, there was made an access for enlarging the city. Cities has so become more interlinked with their hinterland and neighbouring cities due to modern transport; first by railways, later by automobiles, and so has the physical shape of the city changed (Hagget, 1975, pp. 333-336),

The borders between the city, suburbs and hinterland became vaguer, and hence new terms of description emerged in the discourse of planning. As the city has extended from a monocentric structure based on a core, suburbs and a peripheral hinterland, borders between core and hinterland has become vague and larger and smaller cities have clustered together into city-regions (Shields, 2015). Different approaches have denoted the city region as a functional urban area. The phenomenon of the cities growing out of its borders was first recognised by Patrick Geddes (1854-1932). In 1915, he identified a continuous physical urban area, described by the term 'conurbation'. Defining a basis for carrying out civic surveys, Patrick Geddes saw the city in the frame of the region, and as relying on a dependency on its inherent resources. The resources had to be surveyed and from that planning could start ("survey before plan") (Hall, 2002, pp. 143-156).

The conurbation approach is related to special articulation. A city-region can also be seen in according to relations in space. Such way is the functional urban area approach, conceptualising the city-region as urban-centric, whose extension is defined by economic flows. US Census started using a functional urban area approach, based on an area unit of 50,000 inhabitants and a commuting pattern radial from periphery to the centre(s). A city-region does not necessarily limit to economic flows alone, but also interactions of social, cultural and environmental activities. A mapping of such flows would however resulted in a multiplicity of extensions (Davoudi, 2009, p. 126-127). This latter way of mapping the city-region can be justified by the apparent tendency of the centres of developing into a central business district, constituting service industries as trade, banks and offices, surrounded by housing and some industry (Hagget, 1975, pp. 336-338).

Although the first approaches of recognising and describing the city-region took place in the first decades of the 20<sup>th</sup>, a common definition does not exist. According Harrison (2015, p. 24),

‘city-regionalism’ is actually the product of amalgamation of different disciplinary perspectives (economic geography, planning, political science and sociology) and discursive frames.

A city-region serves a function seen of considerable meaning related to their existence in a global view, i. e. a transport hub or an industrial area. The extent of a city-region varies a lot from the one to another, commuting workforce, depending on i. e. the importance of a certain industry, as oil drilling companies might have international commuters. As a place specialises related to a special industry, this subject turn into defining the very region (such as computer science in the Bay Area, hard industry in the Ruhrgebiet). A region by its name derives associations to this industry. The uniqueness is not only associated with identity, but also competitiveness. Hence, municipalities even by a rural character want to take part in a higher economic level scale by making place-brands. Different actors work together aiming for the city region as a collective project. (Shields, 2015, pp. 55-56; Shields et al., 2015a, p. 11).

The city-region relates to a territory where spatial development has considerably depended on the presence of capitalism. Its growth is led by a desire to be competitive to other city-regions, and thus it is more connected to this “hinterworld” rather than its hinterland. An articulation of the grown city, consisting of different economic and social flows, is its physical extent crossing administrative borders and differing in shape related to the specific flow. Along the existence of origin governing bodies underlying these fuzzy structures of undetermined city-regions, an emergence of new regional planning bodies and policies has occurred, whose power has devolved from national authorities (Harrison, 2015, pp. 59-60; Shields, 2015, pp. 20, 28-30).

Emphasising private economy as a key driver for city-regional development, some factors are seen crucial: a diversity of branches, that could act together and create synergies for new businesses and civic capital. Local and regional governance could play a role in such regional economic development, but presence of “vibrant local civic associations” is crucial (Wolfe, 2015, p. 195). In other words, governance cannot alone decide a path of development, presence of civic capital and its skills indeed matter. A strategy of regional development depends on: regional assets, skills of labour market and ability of local enterprisers to respond to changing economic circumstances (Wolfe, 2015, p. 198). The economic winners of metropolitan areas are recognised by a high share of a group of people called the “creative class”. The class is not defined by the extent of possession of economic assets. These people may be anything like engineers or designers, and rely on what they have inside their heads to be utilised for creative matters. There is a tendency of these creative soles to group together. Centres of creativity succeed because people want to live there, not because of access to such as natural resources or transportation routes. In US, metropolitan areas inhering a high share of employment within the creative class tend to be economic winners, bypassing cities more relying upon for instance manufacturing.

### 3.3 Urban realms (in a megalopolis)

As relations between cities have altered, so has the structure of the single city also altered as well, recognisable in the physical pattern. Within a city region, a single district outside the original city core might develop into an “urban realm”, serving specific functions without competing to the main core of the region. An example is Orange County, a part of Greater Los Angeles hosting Irvine Spectrum, a shopping, dining and entertainment area regarded as “the next capital of cool”. The association of the county to LA helps it to be a contributor to economic growth in Southern California (Lang & Knox, 2009).

In the Sun Corridor, Arizona: four types of urban realms are identified in the Sun Corridor, Arizona (Gammage Jr. et al., 2008, p. 29): *urban cores*, *favoured quarters*, *maturing suburbs* and *emerging exurbs*. The identification is not related to boundaries but other factors like history, geography, freeways and economies. Lang and Knox (2009, p. 792) describe the characteristics of the realms. Urban core is the original city centre and downtown, developed early-to-mid 20<sup>th</sup> century. Favoured quarters have a high-end development, typically characterised by attractive businesses and expensive housing. Matured suburbs, developed in term mid-to-late 20<sup>th</sup> century, are extensions of the urban core, obtaining higher densification. Thus, exurbs are new developed, lower-densified settlements. Those located between two urban cores, create the linkages that in next turn the urban cores into parts of a city region. Commuting will arise to both urban cores.

### 3.4 Space of flows and the network city

As showed above one has tried to define the city-region as a functional urban area, by means of the commuting and economic functioning areas (Davoudi, 2009), hence the emphasis of presence of capitalism as a driver (Harrison, 2015; Shields et al., 2015b; Wolfe, 2015). However, these approaches linked to economy, do not capture interactions such as social, cultural and environmental activities, constituting flows. These multiple visible and invisible flows do not necessarily overlap (Davoudi, 2009, pp. 125-127). As a value-free approach of science striving for evidence to explain the world, positivism in planning has seen space as hierarchical consisting of independent elements. A new understanding of the city, related to the emerge of the city-region, relies on a change of scientific scope moving from what is called positivism to interpretivism.. Interpretivism, an approach within social science that focuses and looks for intentions and meanings beyond behaviour and actions, conceptualises elements of space in terms of their relations to each other and understanding (Davoudi, 2012). The positivistic view aims for a hierarchical order of space, hence Christaller's central space theory and a dependency between places. The theory relies on centrality of a place. It does not rely on population size alone, but a larger urban settlement is dependent on smaller towns surrounding the larger in a hexagonal pattern (Harrison, 2015, p. 25). As this theory turned out to not match the reality of dynamics in social and spatial interrelations Christaller's theory has later been refused. For conceptualisation the city-region, understanding of relations is more of importance than land-uses and functions (things) in space (Davoudi, 2012, pp. 433-434).

The change from positivism to interpretivism to understand the city-region, has as well affected the understanding of relations between cities. Even if cities may still order themselves in a rank the range does not rely on hierarchy were a smaller city serves a hinterland function for a larger. The cities instead relate to each other within an unbalanced network of articulated interrelations, together constituting the "network city" (Dematteis, 2000). As cities relate to each other rather by material and immaterial networks than spatial proxies, space is seen as an expression of social practice and "the material support of timesharing social practices" (Castells, 2002, p. 344). What space expresses is a result of interactions served by different flows, contributing to manifestations in space. Space of flows can be described as three layers of material support: (1) the layer of electronic exchanges, (2) the layer of nodes and hubs and (3) the layer of spatial organization of dominant elites. The first layer, related to information technology, a place exists within a network and not by itself, as positions is determined by exchanges in a network of flows. The second layer links places in a network. Whereas a place has its physical location in space, the structural logic of space of flows is placeless. A place is defined by its characteristics. No place exists by itself, as the exchange of flows in a network defines its position. "Both nodes and hubs are hierarchically organized according to their relative weight" (Castells, 2002, p. 345). The third layer relies on the location and requirements of the societal elites, rooted in historical reasons, making the network of cities asymmetric (Castells, 2002, pp. 347-348).



Networks between cities are strengthened by reduced travel times, and so *contactability* between cities relies on travel time. As e.g. the knowledge-based sector requires direct personal contact, and meetings between such groups could happen on irregular basis, those sectors tend to group together in a bigger city for flexibility reasons (like short distance to airport). As contactability between cities increases, for instance by creation of a new airline, will a smaller place be relatively less central (Hagget, 1975, pp. 328-333).

### 3.5 Location preferences and ABC principle

Urbanisation is continued not only by increasing population, but also because benefits of being crowded exceed the costs. Within a small area of catchment, a market can serve a concentrated high-densified area and so reduce costs, for instance transportation. A market functioning like this is called an agglomeration economy. It functions up to a certain point, when for instance the costs of transporting raw materials to such a core from outside exceed the benefits of proximity. This point is reached by approximately 100,000 inhabitants, implicating a medium-sized city can work more efficient than a large metropolis (Hagget, 1975, pp. 322-324).

Firms choose their locations based on different preferences, for instance the employment potential in the region. It is possible to map mobility characteristics of employees, customers and suppliers, and hence choose a location for any kind of firm by using a mobility profile (de Bok, 2004, pp. 3-6). Such a way of deciding locations was first introduced in the late 1980s, by Dutch national authorities of planning. This policy aimed for that firms could be categorised on the background of such mobility characteristics, hence grouped in the categories A, B and C. A represents firms having advantage of being close to public transport, C represents firms depending on private car access, and B is a mixed category of A and C, depending on both (Alpkokin, 2012, pp. 539-540).

### 3.6 Strategic planning

Strategic planning has become an arena for implementation of national issue agendas (Albrechts, 2004, p. 749). Authorities of different levels are hence meeting in joined sessions, where activities of stakeholders are framed, and concerns relevant for a planning outcome can be evoked. The idea of strategic planning leads away from traditional land-use plans, whose contribution is physical solutions to social or economic concerns, towards a framework where stakeholders can meet and come up with “shared concerns about spatial changes” Key factors must be the basis, as well as strengths and weaknesses of different concepts, tools and procedures measured for the single issue. Process, participation and institutional design are emphasised (Albrechts, 2004, pp. 743-749). As values tend to be reconsidered over time, value rationality within strategic planning is important to avoid “a future that extrapolates the past”. He further argues for governance not to be the solution maker, but a contributor who could “substantiate the search for creative and territorially differentiated solutions to problems or challenges ” and a mobiliser of different actors that could even have competing interests, thus shaping a “more desirable future” (Albrechts, 2004, p. 750-751).

## 4. The cases

### 4.1 Drammen region

The Drammen region is in Buskerud County west of Oslo and Akershus. Buskerud County population is around 280,000 inhabitants and the area is 14911 km<sup>2</sup>. The population is very concentrated to the Drammen area: 65% of the population occupy 12% of the land area. Hence it is little more than a tenth of the area that is covered by the BC plan. Buskerud County will in 2020 merge with the counties Akershus and Østfold. Viken will have a total population of 1.2 million. Drammen will be the third biggest municipality in this region, after Bærum and Fredrikstad. Bærum is a possible place for the head of administration (Viken County, 2018; Viken County, n.d.). Both Bærum and the Drammen region is a part of the Oslo region, as well as the metropolitan area of Glomma region (Fredrikstad/Sarpsborg) will be a city-region in the south-eastern corner. There is still to a question of the future the development of these areas after an emerged county has been a reality.

#### History of Drammen region: a region of timber industry

As first traces appear in 13<sup>th</sup> century, timber has been floated from hinterland to Drammen area, by its location close to the sea sawmills and timber processing were certain industries, and the town of Drammen serving the position as an export hub to Europe. The current suburb Konnerud hosted copper mines, and the town of Kongsberg silver and ore. The copper mines were closed in 1913, the silver in 1958. Timber export was the leading industry until the end of 19<sup>th</sup> century, the industry emerged from 1860 by introduce of the steam engine. The population in Drammen increased by the expense of the surrounding countryside. The enter of electricity around turn of century made it possible for the timber industry turning into an industry of paper and celluloses. The era of timber faded during the 1960s and 70s, due to competitive actors abroad (Knudsen, 2001, pp. 63-67; Thorsnæs, 2016; Thorsnæs, 2017a).

As the river was a crucial factor that made the timber industry possible, so was the railway lines opened in 19<sup>th</sup> century essential factor other types of industries, as well gradually replacing the function of the river. The railway from Drammen via Hokksund to Hønefoss opened in 1868, the branch line from Hokksund to Kongsberg in 1871 and from Drammen to Kristiania in 1872 (Knudsen, 2001, pp. 93-94). Timber floating on the river faded in the 1960s as road-based car transport became more efficient (Skeie, 2015b, pp. 106-108).

In Drammen, works of administration, public and private service and trade has replaced the former industries as key bases for employment by 37% of the employees. The employee rate within the industry has declined from 27% in 1980 until 6% in 2015 (Thorsnæs, 2017a). Kongsberg is host city for Kongsberg Gruppen, having a history as a weapon manufacturing factory and today operates within defence equipment and maritime (Kongsberg Sølvverk, 2017; Kongsberg Våpenfabrikk, 2017) Both cities have net-in flow of commuters from different areas, including the three rest municipalities of BC. The river area as well was and still is of valuable farmland.

### Population development

The development of the population indicates to some extent where industrial development has taken place, and hence where the main concentrations of work have been, due to the industrial turnover in the 19<sup>th</sup> century, and that people lived close to work before modern transportation got dominated in the 20<sup>th</sup> century (Hagget, 1975).

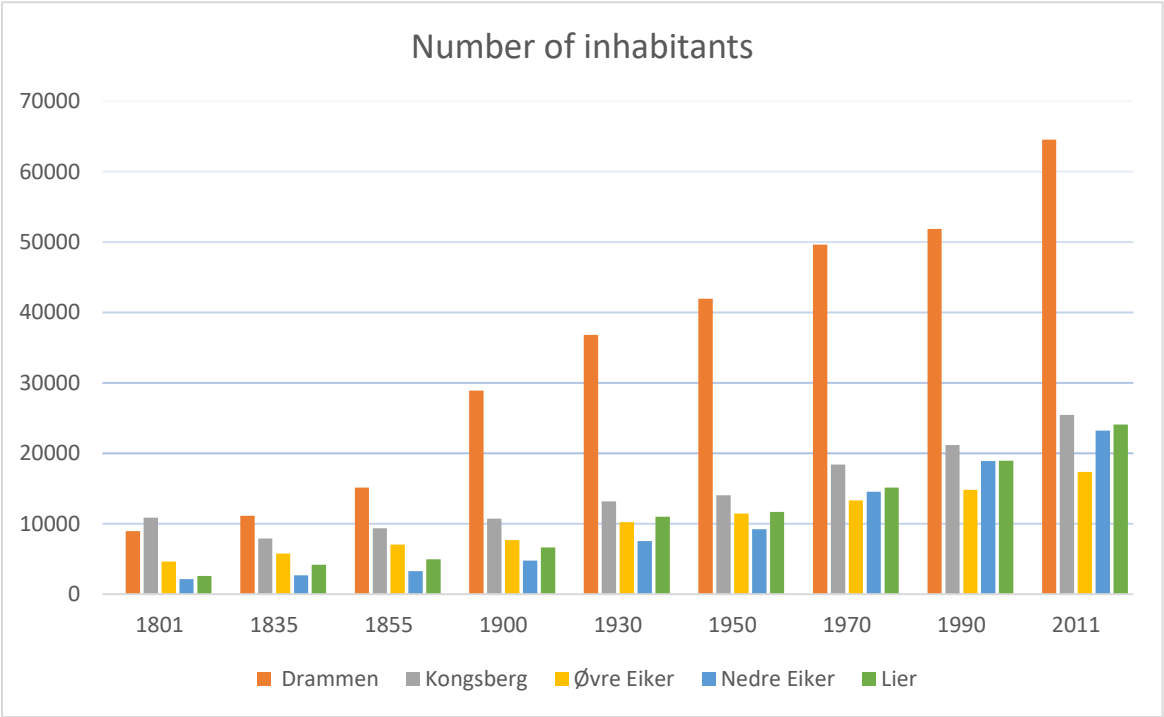


Figure 5: The population development of the five municipalities of the current BC partnership (Statistics Norway, 2018c).

The population of Drammen has increased six-fold in the period. Despite times of industrial recession, the population has kept increasing. The population of Kongsberg has raised by the lowest among the municipalities, i.e. around two and half times. This could be due to a dependency to key industries not having the biggest growth potential, or being located too far away from a market to create good relations.

### Higher education

Higher education is an indicator of what kind of people who are living in a municipality, and is as good indicator of how many belonging to the “creative class” (Florida, 2002) . Table 1 shows the educational levels in each of the Buskerud City municipalities, as well Oslo for comparison. The table shows that the population in general become more educated, in accordance with the general growth of wealth in society. However, there has over the years been a shift in the shares among the municipalities. Of these five, Kongsberg has always been the one with most educated share. Lier is on the second, an indicator of a municipality as a “residential site”. This is linked to its high exchange of commuting ( Figure 6).

		Persons ≥16 years old (%)		
		1970	1990	2016
<b>Oslo</b>	Tertiary education short	8.9	19.1	30
	Tertiary education long	3.5	6.8	19.9
<b>Average BC area</b>	Tertiary education short	5.1	11.7	22.8
	Tertiary education long	1.5	2.7	7.8

Table 1: Educational levels (Statistics Norway, 2018b)

# Employment

The employment level within the different industries says something about the extent of urbanisation. This is due that a lot of big cities have turned from one type of industry to another. A lot of cities have turned from being characterised of secondary industries like manufacturing, and turned in to service industries. This is also the fact for Drammen, and in some smaller extent for the other BC municipalities. This thesis has included the categories of secondary industries and service industries within private sector<sup>1</sup>. This is due to the other sectors, like public administration and health services, have an almost equal share between any of the selected municipalities, and hence have a weak contribution to explain trends at the present levels of study. In Oslo, more than half of the population work within the service industries, compared to one third in the BC area. The secondary industries are much more present in BC than Oslo.

Employed persons (%) (2016)				
	Secondary industries		Service industries	
	As resident	As employed	As resident	As employed
Oslo	9.1	10.2	51.1	52.3
Average BC	23.5	28.7	38.3	34.3

Table 2: Employees in industries (Statistics Norway, 2018e)

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<sup>1</sup> The categories 45-82: trade etc, transport, commercial, finance, estate and business activities of the classification by Statistics Norway.

Share of establishments			
	<i>Oslo</i>	Drammen	Øvre Eiker
	<b>2017</b>	<b>2017</b>	<b>2017</b>
<b>Primary industries</b>	0.4	1.2	15.2
<b>Secondary industries</b>	10.1	15.2	21.8
<b>Service industries</b>	61.9	58.9	44.5
<b>Other (one-man business, culture et</b>	0.4	1.2	15.2

Table 3: (Statistics Norway, 2018d)

## 4.2 The city-region of commuters

As Davoudi (2009) described the city-region in one approach by looking at the commuting patterns, it is such worth approaching the Drammen region and its position by this measure. This due to most of the area is a sub region within the Oslo region, but due to the fact such a sub region exists, the commuting exchanges to and from this area is of interest. As

Figure 6 shows, the commuting flows are running in both directions. The area has a net out flow of commuters in total. By 22,000 out-commuters of an employed resident share of around 80,000, the percentage of out-commuters are more than 25 % and so is the BC area not independent as a city-region. The almost equalised exchange, however, shows a good integration of the area within a bigger area. The region is hence well a part of the Oslo region. Simultaneously, Drammen and Kongsberg could be considered as suburbia/hinterland of Oslo and a centre in a polycentric region at once. Lier, Drammen and Kongsberg have net in-commuting, as Nedre Eiker og Øvre Eiker has considerable shares of net out-commuters. In average the area lacks commuters, but Drammen and Kongsberg are strengthening by increased in-flows.

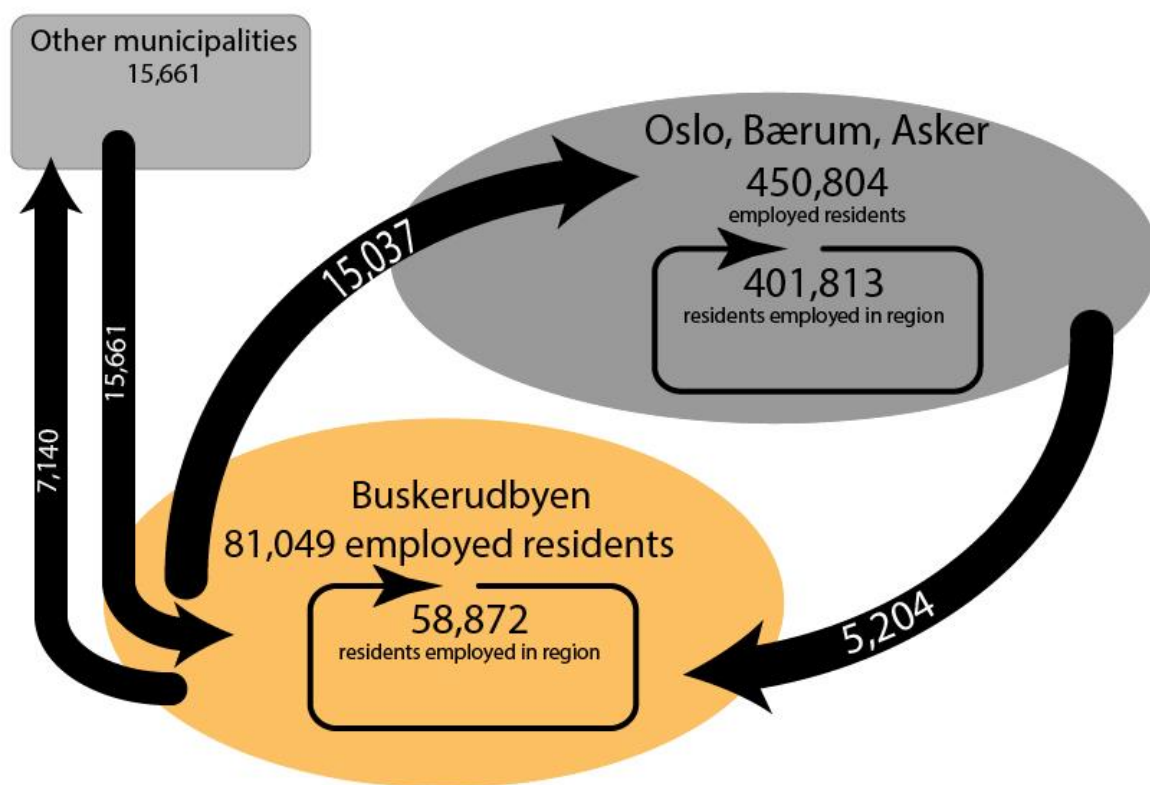


Figure 6: Inbounding and outgoing flows of commuters for the BC municipalities compared (self-made based on data by Statistics Norway (2018a); (2018e)).

Employed persons, by place of residence, place of work, in- and out-commuting (2017)								
Mun.	Employed resident persons in mun.	Resident persons employed in their mun.	In-commuters	Out-commuters	Employed working persons in mun.	Balance outbound subtracted inbound	Commuter balance (by % share of workers)	Commuter balance change since 2010
Lier	13,118	4,716	9,111	8,402	13,827	709	5.1	3.8
Drammen	32,885	17,396	19,003	15,489	36,399	3,514	9.7	1.2
Nedre Eiker	12,245	3,646	4,061	8,599	7,707	-4,538	-58.9	9
Øvre Eiker	9,369	3,528	2,793	5,841	6,321	-3,048	-48.2	-4.8
Kongsberg	13,432	10,458	5,025	2,974	15,483	2,051	13.2	-2.3
<b>Average</b>	<b>16,210</b>	<b>7,949</b>	<b>7,999</b>	<b>8,261</b>	<b>15,947</b>	<b>-262</b>	<b>-15.8</b>	<b>1.4</b>
<b>Total (sum)<sup>2</sup></b>	<b>81,049</b>	<b>39,744</b>	<b>20,865</b>	<b>22,187</b>	<b>79,737</b>	<b>-1,312</b>	<b>-1.65</b>	<b>0.66</b>

Table 4: commuter for each single municipality (Statistics Norway, 2018e)

<sup>2</sup> Internal commuting between the BC municipalities is subtracted

## 4.3 Drammen

### History of Drammen

The urban settlement of the current city Drammen took place in the 16<sup>th</sup> century. The settlement took place on both sides of the river, the north named Bragernes and the south Strømsø. Both these settlements were constituted as market towns in 1715 (Knudsen, 2001 p. 81-82). A market town (*kjøpstad*) had privileges of doing trade at the expense of the villages (Kjøpstad, 2017). In 1811, Strømsø and Bragernes were merged together and named Drammen. In 1837, by the introduce of laws of local executive governance (*formannskapslovene*) and the establishment of municipality, a democratic leadership was established in Drammen. In 1870 the municipality merged with surrounding farms, and in 1964 with Skoger in south. A growing city was in need for more construction sites (Knudsen, 2001, pp. 82-84).

In addition to the timber industry that was crucial for the city as well the villages of the hinterland, a multiple of industries emerged from last part of the 18<sup>th</sup> century, such as ship construction, textiles, cloak processing, distilleries, breweries and different kind of maintenance and manufacturing (like glass). Although the town was into an economic recession after industrial shutdowns, new industries as metal processing and textiles emerged. Around 1920, the Railway Workshop was the biggest place of employment, followed by the Iron Foundry (*Jernstøperiet*). The shipping also turned into decline in their fleet as they did not manage to modernise entirely from sail into motorised traffic, however, in a new epoch the shipowners managed to keep in motion by a reduced fleet (Sælleg, 1997, pp. 129-135). In 1963 Drammen Slip og Verksted was the biggest employer in 1963 by 700 in stock.

The multiply of industries characterised Drammen and Dramselva riverbank until 1970s and latest 1980s (ship constructing), when almost all industry were shut down. (Knudsen, 2001, pp. 61-79). Retail was emerging by establishing of new shops and malls outside the city centre (Sælleg, 1997, pp. 191-195). The river shore has since the industrial shutdown been abandoned sites, or subject for transformation into businesses as storage, logistics and space-requiring industries (Drammen Municipality, 2015, p. 37-38).

### Demographic and industrial characteristics

Drammen is the name of the city as well the municipality. The municipality is 137 km<sup>2</sup> and population close to 70,000. Drammen is the seat of Buskerud County and the County Governor. Main traffic routes by roads are highways E18 (Stockholm-Oslo-Kristiansand), E134 (Drammen-Haugesund). There are railway connections to Oslo, Vestfold and Grenland cities, Kristiansand, Stavanger and Bergen (Thorsnæs, 2017a).



Persons $\geq 16$ years old (%), 2016	
<b>Tertiary education short</b>	23.8
<b>Tertiary education long</b>	8.7

*Table 5: Educational level in Drammen (Statistics Norway, 2018b)*

	Employed persons (%) (2016)			
	Secondary industries		Service industries	
	As resident	As employed	As resident	As employed
Drammen	15.71	14.53	45	43

*Table 6: Employees in industries (Statistics Norway, 2018e)*

Share (%) of establishments (2017)	
<b>Primary industries</b>	1.2
<b>Secondary industries</b>	15.2
<b>Service industries</b>	58.9
<b>Other (one-man business, culture et</b>	1.2

*Table 7: (Statistics Norway, 2018d)*

The service industries host a rate of services higher than the average in BC. In 1970, almost 45 % of the population was employed within the secondary industries. (Statistics Norway, 1956). The city has been into an industrial change, away from what the river could serve, and more into a city of administration.

## Master plans

### Municipal plan 2007-2008

This master plan has the strategy “Drammen shall develop its role as city core by coordinated development of space and transport, industrial and knowledge-based development as well developing cultural life, and public and private services” One of three main fields of action are sustainable development (beside social variety and including and user-friendly services). For *industrial development*, a main strategy is facilitating together with adjacent municipalities, to encourage knowledge- and creative-based enterprisers, as well new trade development business establishments to settle in centres. A concern is put on the need of new and *future-oriented businesses*. Considering themselves as a core as a core within the Oslo region, the town council has strived for the town being a *regional driving force* for common challenges, as well being an international city cooperating internationally, on the fields of spatial development, culture, industry and competence. The plan does consider a challenge about establishing a platform for collaboration with neighbour municipalities.

For specific matters, the plan did not specify any building heights. However, so did the spatial town plan from 2006 applied for construction by different levels, the highest by 16 metres (6 floors).(Drammen Municipality, 2006).

### Municipal plan 2013(15)-2036

The plan strives for being a growth centre for the region (Drammen Municipality, 2013, p. 3). The general spatial development is put on the town as site for the highest prioritised area of housing and industrial establishments. As well, six suburbs by their centres will be developed providing for daily life service. The plan aims for creation of one new workplace by every second induced inhabitant, as well more business should pay off. Business establishments shall base on the ABC-principle. A detailed report outlines specific locations for each kind of industry. For building heights, the plan has guidelines accessing for buildings up to 37 metres. (Drammen Municipality, 2013, pp. 21, 34-36, 39-40, 85).

The structure of centre

Drammen	Year	
Workplaces <1 km from station	<b>2009</b>	<b>2015</b>
<b>Total</b>	2165	2759
<b>By % of total</b>		
Offices	38.5	22.1
Medium	32.2	38.6
Space-requiring	16.0	27.0
Undefined	13.3	12.3

Table 8: Workplaces within 1 km from station (Gundersen et al, 2016)

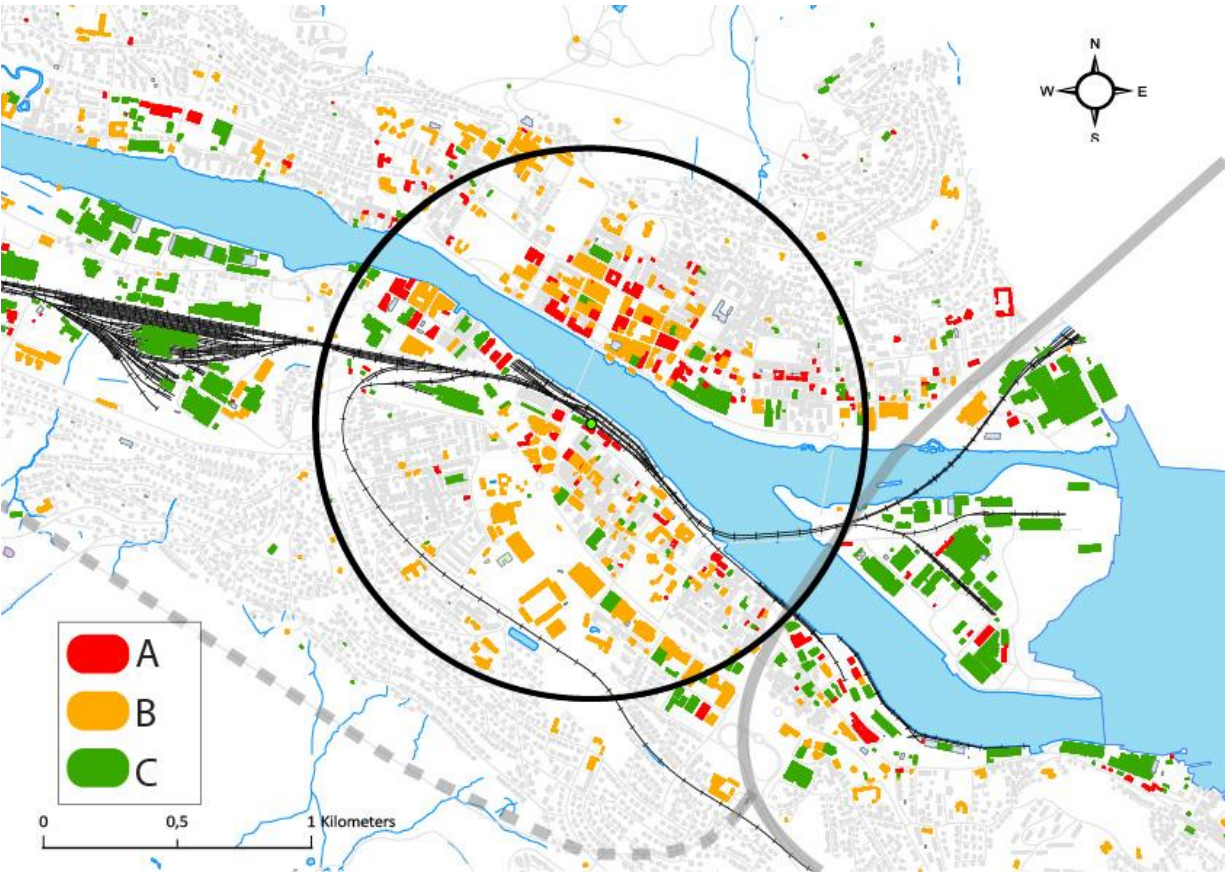


Figure 7: A, B and C locations in Drammen. The circle is 1 km in radius from railway station (adapted from Geonorge (2018a)).

For Drammen municipality, it is of importance to not weaken the town centre. By development in boroughs, the consequences for town centre is taken into account in the single case. For instance, development on Konnerud is considered more sufficient than Åssiden, the latter being closer on town (both are outside the 1 km zone). Together with the county council, it is tried to classify different businesses for different locations (Figure 8) (Basma, 2018).

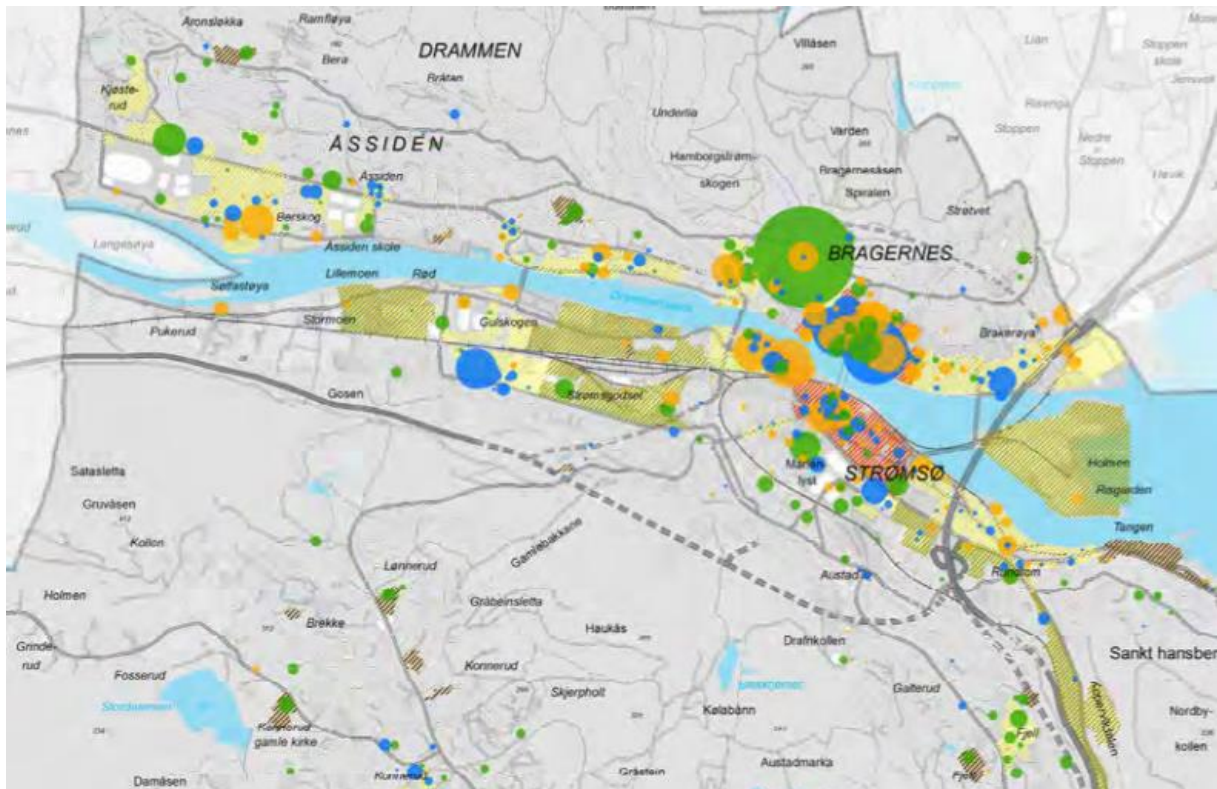


Figure 8: A detailed review of locations in Drammen. The size of circles indicates the number of employees, the colour the branch (green = education and health services, yellow = offices, blue = trade, culture and daily services) the coloured fields type of location (red = A, yellow = B, green = C) (created by Asplan Viak, duplicated from Drammen Municipality (2015, p. 40).

The number of offices has within the term 2009-2015 has raised. The radius within 0-1 km from station has been into a decline, as the zone 1-2 km has raised from 5,000 up to 8,000. The highest hike by relative matters is however in the radius of 5 to 10 km, by 100 % (Gundersen et al., 2016, p. 12). Here is an indicator of a centre that is already developed. The map shows a relatively high share of B-industries. The river shore is changed into residents and industries like trade and offices. Hence is it indicators of more attractive areas outside the core. However, there are still areas close to the city core of C-industries. This is the harbour and railway sites. The harbour is still in use, although the volumes are smaller. The harbour is Norway's biggest gate of import for cars (Drammen Havn, n.d.). This is a kind of infrastructure that is crucial for supplies. A location close on the consumer could be considered as an advantage as it could minimise transport. As there already a high density of buildings within the core, there seems to be a potential for any kind of polycentric development, either in Drammen Municipality or the other BC cores.

The statistics (Gundersen et al., 2016) showed a decline by A-business (including shops of specialised art) in the centre of Drammen. Traders in centre have strived for their presence in competition with malls outside the centre. However, the malls as well strive to keep tenants. A presence of dwelling creations in the town core, such development is considered positive relating to the strive for keeping trade enterprisers in town centre, and hence ensure a supply of costumers (Basma, 2018).

#### 4.4 Øvre Eiker

##### History of Øvre Eiker

The municipality Øvre Eiker was created in 1885 by separation from Eiker. Historically, Eiker had industries like sawmills, mines, and iron manufacturing. In addition, the farmland was on good quality and well-run economically. Hokksund was a transport connecting point and administration centre. Industry turning into large-scale production from the 1860s, the industries were on a decline by production and employees, followed by a populational decline and shrunk by emigration to other regions. The farms did, however, stayed along (Skeie, 2015a, pp. 18-24). The industry, however, did survive by altering into wood manufacturing (*tresliperi*), celluloses and hydropower, mainly based in the villages Skotselv and Vestfossen (Skeie, 2015a, pp. 127-133). The railway openings served the industry and agriculture by transport of wooden products and milk to consumers in an extended market (Skeie, 2015a, pp. 140, 146).

A result of the entry of hydro power, from 1910 the industry was into a considerable increase as well demand increased. The population increased by 13-14% in the period 1910-1930. In the same period, Hokksund become more distinctive in character as a centre (Skeie, 2015a, pp. 199-204). Firms of manufacturing metals and sand, constructing and consume commodities raised in all villages of the municipality. The industry was such based on a multiple of firms, and not one single actor. In Hokksund there were a an electric saw and manufacturing businesses of steel, iron and concrete (Skeie, 2015a, pp. 208-213).

The industry had their top era from 1953 to 1963. The employment had increased until 1953, from that year the employment by absolute numbers reached a top. The industry specialised and need for labour reduced. The growth in the service sector was limited to the conditions of the secondary industries. Øvre Eiker was into an urbanisation by means of villages turning into an urbanisation. An increased population, however, in the beginning of the 1960s there was a high work commuting outbound to the industries in Kongsberg, Nedre Eiker and Drammen (Skeie, 2015b, pp. 120-138).

The decline in wood manufacturing in Norway in the 1970s also affected Øvre Eiker and Drammen region. Most of the wood industry was shut down, however some other industries within electrotechnics and machine contractors established new activity, as well the concrete industry had a raise. Although the population increased, the share of commuter increased as well, in order Drammen, Nedre Eiker, Kongsberg and Oslo (including Lier, Asker og Bærum) Drammen. From 1970 to 1980, the share workers within secondary industry sank from 38 to 26.5 %, within services a raise from 39 to 54 % and the share of employees as commuter raised from 20% to 43%. Norway was in an economic upgoing trend due to oil drilling starting up that decade, and a demand for workers within different private business and the public sector (Skeie, 2015b, pp. 237-245). The commuter share raised to over 50 % in 1990. The outgoing commuters went for industrial work other places, as ingoing commuters kept the public administration ongoing. (Skeie, 2015b, p. 290).

Øvre Eiker does share much of the same industrial history as Drammen, based on activity along the Drammen river. In addition, Øvre Eiker is the 3<sup>rd</sup> largest agricultural site of Buskerud County. Today, preceded by public and private services, construction site work and energy production is the largest employer (Thorsnæs, 2017b).

### Demographic and industrial characteristics

Øvre Eiker is located west of Drammen, as well in Buskerud County. The area is 457 km<sup>2</sup> and has population close to 19,000. The municipal seat is Hokksund, having approximately the half of the inhabitants. As well the municipalities have several other villages: Skotselv, Ormåsen, Vestfossen (as well a development area of BC, but not a main centre) and Darbu.

The secondary industries share more of the employed than the average of BC, and around 10 % more than in Drammen. However, the share of residents within service industries is higher for those as employed. The agricultural sector employs under 2 %, but the number of establishments counts for 15 % of the work places. As the municipality has a high flow of out-commuters, there is an indicator the municipality serves in a higher extent than Drammen as a residential site.

Education level	Persons ≥16 years (%), 2016
<b>Tertiary education short</b>	19.5
<b>Tertiary education long</b>	5.1

*Table 9: Educational level in Øvre Eiker (Statistics Norway, 2018b)*

Employed persons (%) (2016)						
	Primary industries		Secondary industries		Service industries	
	As resident	As employed	As resident	As employed	As resident	As employed
Øvre Eiker	1.7	2.5	26	29.2	34.7	28.3

Table 10: Employees in industries (Statistics Norway, 2018e)

Share of establishments (2017)	
Primary industries	15.2
Secondary industries	21.8
Service industries	44.5
Other (one-man business, culture et	15.2

Table 11: (Statistics Norway, 2018d)

## Master plans

### Øvre Eiker Municipal Plan 2006-2018

For *regional* matters, the plan emphasises to attend in different regional collaborations to position their own “strategic interests”. A main strategy place making based on participation and facilitating for development based on qualities and features of places, as well demands of inhabitants of place. Visions of each place will such create a basement for development by distributing the growth of inhabitants to each village. The inhabitants will be able to meet in public and serve their daily needs. The document as well understates an increase of inhabitants within the centres gives a potential for *more diversified, attractive places* inhering wider service facilities. Such a structure is as well is said *to reduce the requirement of transport and spatial consume*.

Hokksund is considered *for a strengthened trade*. The *plan takes account for densification*, and provide specific numbers for construction heights, in general to be 13 metres, meaning 5 floors.

The *industrial vision* focuses on cooperation and networking. Industries of high spatial requirement shall be located outside the centre area located at Fiskum (Dunserud). More effective utilisation of existing areas. The plan wants to prioritise creation of industrial gardens (no. “*næringshager*”) for small enterprisers to make synergies.

#### Øvre Eiker Municipal Plan 2010-2022

The building heights of 2006 are brought further in the plan of 2010. BC is mentioned as main field of focus and by planning processes the municipality will strive for *regional functions* by developing the railway station, dwellings, trade and public and private services. Emphasis will be put on strengthening hubs, public transport and sustainable physical development strategy. However, the strategy of place making is still a part of the plan.

The *industrial development* is considered as a part of place making. The plan explicitly mentions *the centre areas* for location of offices, trade and employee-intensive work places, and areal-extensive industries to less central areas.

According the collaboration agreement for Buskerud City, business development and business areas will be key areas of action in a common area and transport plan. These commissions will have a decisive impact on Øvre Eiker municipality's work on business development. Goals and strategies will therefore need to be revised as these work is done. It is assumed that the municipal plan's goals for urban development, municipal services and attractiveness will continue to be key areas of action also for business development. (Øvre Eiker Municipality, 2011, p. 26)

#### Øvre Eiker Municipal Plan 2015-2027

The municipality consider themselves as a “regional driving force”. They do relate this to their geographical location in relation to Drammen, Kongsberg and Hønefoss. The plan is concerned of the historical and cultural background of their places, and mention former place making as a well succeeded process. The plan applies for densification in different centres of the municipality, but high density should be prioritised in Hokksund and Vestfossen, mentioning this to be in accordance with BC. For Hokksund, high density for housing is considered as important for the centre-based business. Former *housing projects outside the centres* are as well picked out. Thus, For Hokksund there are specified heights of buildings, provides for up to 17,5 metres. The plan mention that creation of offices, trade and employee-intensive work places primarily should be in *centres*. The industrial development shall be conducted in a coordination by the industry and landowners. They as well see this as a contribution to a “committed regional development”.



A comment on the last municipal plan is a lack of prioritising. There are provisions for any kind of development. Development of Hokksund, by the plan, relies on clarifications related to infrastructural constructions. A centre plan is now (2018) in process of creation. But there is not clear whether this will stop establishments outside the centre.

### The structure of centre

Øvre Eiker	Year	
Workplaces <1 km from station	<b>2009</b>	<b>2015</b>
<b>Total</b>	1015	1998
<b>By % of total</b>		
Offices	31.5	23.4
Medium	55.6	50.6
Space-requiring	12.7	24.7
Undefined	0.2	1.4

*Table 12: Workplaces within 1 km from station (Gundersen et al, 2016).*

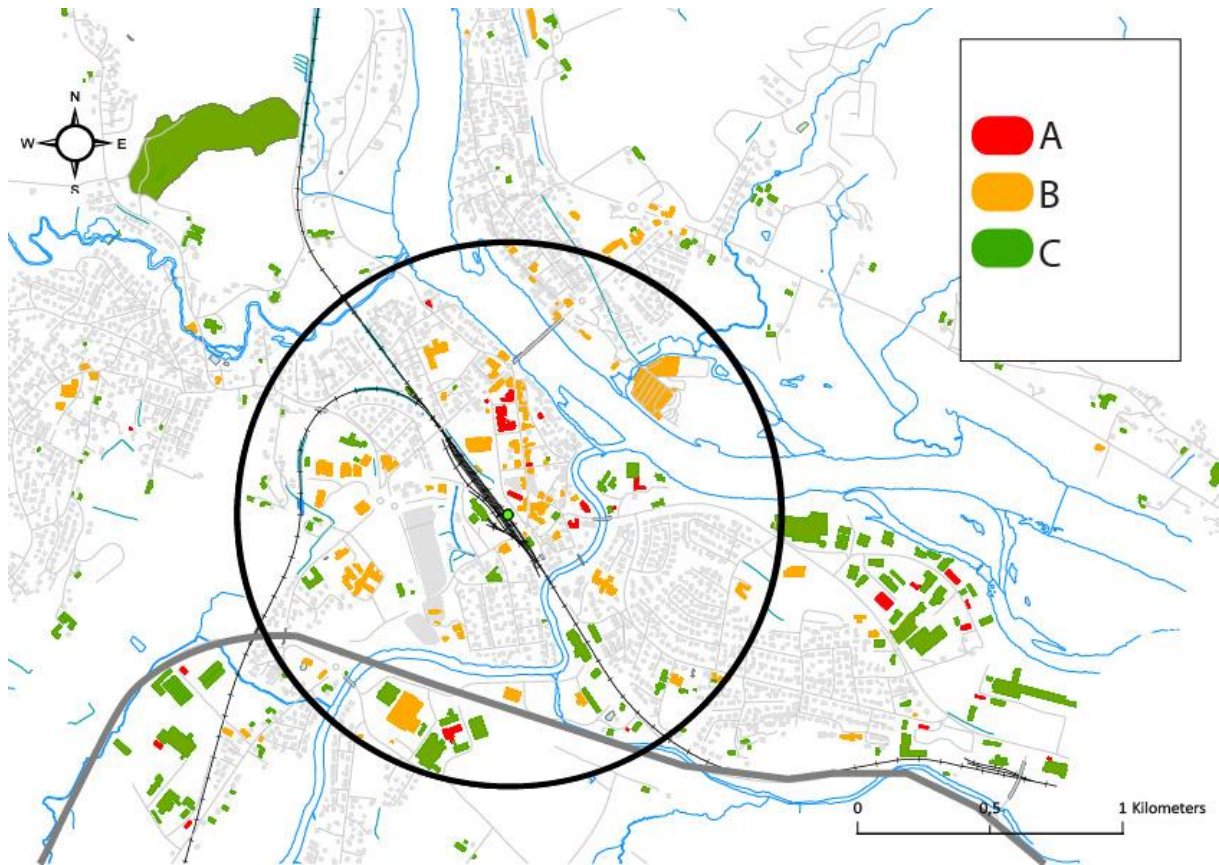


Figure 9: A, B and C locations in Hokksund. The circle is 1 km in radius from railway station (adapted from Geonorge (2018a)).

Within the period from 2009-2015, the inner zone had a hike of offices, from 300 to 450. In comparison, Hokksund has an equalised share of offices within this zone as Drammen, but also have a high share of medium and areal-requiring businesses as well. The number of B-industries increased by almost the double from 500 to 1000. Close to city-centre there are a significant share of C-industries, and this category raised from 170 to 500. (Gundersen et al., 2016, p. 10). In other words, what could be C-locations have increased three times more than A-locations within what could be seen as A-location area. B and C industries increase thus much more frequent than the A close on the centre. The rise of B industries is not in contradiction with the BC plan, but still the share of A is very low compared, and there are locations outside the 1 km core even the centre is sparsely utilised.

## 5. Analysis and reflection

In Section 1.1, one problem formulation and three research questions were introduced. The three research questions will in this part be answered, that will contribute to an answer of the problem formulation in the end. The problem formulation was:

***PF: To what extent does the regional plan affect municipal planning, by measure of being partners in a city-region development?***

In this chapter the research question will be answered, and substantiate an answer to the problem formulation in the conclusion. In Chapter 4, the industrial history was drawn up, first in general of all the five municipalities, thus of the municipalities of Drammen and Øvre Eiker. This was followed by a review of their master plans before and after the entry of the BC plan, and the industrial development in a six years term. In this chapter, an analysis is drawn based on the first and second research questions.

### 5.1 The conditions for a polycentric development

In this section, an answer to the first subquestion is drawn:

- 1. How does the historical development of Drammen and Hokksund determines their positions in a city-region?*

The spatial character of the current BC conglomerate is a city-region of five centres for development. The sea, river and railway were parts of networks that, together with a natural basement of the hinterland, made it possible for the region and these five centres to take part of a development within the secondary industries that started in the 19<sup>th</sup> century. It has a weak net out-flow (-1.65%) of commuters out of the area. The city is a core city in a metropolitan area named Drammen, as well a part in Oslo region (St. mld. nr. 31 (2002-2003)). Drammen has a net in-flow and could be considered as a centre. As Knudsen (2001) described, Drammen has succeeded by altering into the service industry. The city is seat of Buskerud County and public institutions, including a department of University of South-Eastern Norway. By these key facts we could state Drammen is a centre in a region aiming for being polycentric (Oslo region alliance, 2008). As Drammen could be considered as a centre in a bigger region, it is as well aimed for being one of five centres within the smaller BC region. Thus, the next to consider is whether the case of Hokksund in Øvre Eiker has the potential of being such a centre.

According to Skeie (2015b), in Øvre Eiker the secondary industries have either shut down or found new ways to create revenues. As the secondary industries have decreased, an increased population has led to a net flow of commuters out from the municipality. According to Hagget (1975), this change has been possible as transport has modernised, became faster and made the expansion of the traditional city possible. In other words, Øvre Eiker was a municipality where people dominantly live close to their work, today keep a position where inhabitants in large extent are commuters. Hence, by understanding the position of Øvre Eiker today, there is a need to understand its relation to adjacent areas, by commuter flows. In accordance with Davoudi (2012), such relations are more of importance than physical containments of a place.

The expansion of the city Hagget (1975) describes, has in turn led to the conceptualisation of the city-region, whose function is due to relations (Davoudi, 2009). Such relational dependencies are constituted by flows. By Castells (2002) description of the space of flows, the railway can be viewed as such a flow, a line in a network, connecting the centres together. It constitutes the physical articulation of commuting. The 150 years old structure was once a basis contributing to a growing society in towns and villages, crucial for the industry expanding their market and their transport of goods. An interdependency that in the past relied on resource supplies from hinterland, the transport connection is a remaining element, considered for new matters, commuting and person transport, to connect a polycentric city-region of five centres with itself and the rest of Oslo region, in the end a basis of relation for a further spatial development.

As showed, the city-region is a transformation of the traditional compact core-based city expanding into its districts, hence the importance of distance become smaller as travel time declined. A possible description is the opportunity of the core city to connect with commuters beyond its extension. This tendency of urban development is showed by Hagget (1975), as well as the conceptualisation of the city-region has been defined upon such characteristics (Davoudi, 2009). Based upon these features, the development of city-regions has in general been monocentric. This was also the concern of the Oslo region alliance (2008). This trend of urban development in the 19<sup>th</sup> century, is now supposed to alter. Locations of high concentrated work places, a development that has taken place in cities (as to some extent in Drammen after the shutdown of the secondary industries), is now supposed to take place in the smaller places as well, like Hokksund, places that after the reduced activity of secondary industries, served more the function as and commuter residential area. The railway has sustained as an underlying structure. The idea is the railway can be upgraded by a double track and number of train departures doubled from once to twice an hour. An underlying assumption is that such improvement can be a driving force:

The potential of more travellers by train, also internal Buskerud City, is considerable if Buskerud City also to a higher degree concentrates dwellings and work places to cities and villages with railway stations. A condition for this is a simultaneous development of the railway to become the backbone of the transport system that it has the potential to be, regarding transportation of people between hubs within Buskerud City, as well as stronger connection of the entire region to the rest of the Oslo region. (Buskerudbyen, 2013, p. 10).

A railway upgrade itself is not a guarantee for the wanted development of the centres. Drammen has, to some extent, been through an alteration from secondary industries to service industries. Such a development has by much smaller extent taken place in Øvre Eiker and Hokksund. An indicator here could be the tendency of those working in the same sector grouping together, as well the need for contactability with other cities (Hagget, 1975). Drammen has been a town for several hundred years, there were industries located close together, close to labour and good access to the market, domestic and international. Thus, by concentration of people and capital divided on different industries, there were a potential for new actors to settle as well and integrate in a city where people lived and there was a presence of multiple functions. By Castells (2002) the number of exchanges in a flow is one that determine the hierarchical range of a place. Drammen has historically had good connections, or contactability by access to the ocean as well closer to Oslo. In a modern time, the city has good contactability by railway connections and having a meeting point between two major Norwegian highways and good railway connection to Oslo, Oslo Airport, as well the Vestfold and Grenland cities, Kristiansand, Stavanger and Bergen.

The village Hokksund could theoretically strengthen its position when the railway is upgraded for two tracks. But, because Drammen is more central, by meaning of their existing base of work places, and a railway station where trains anyway run more frequent than every half an hour, in other words a node in a flow where the exchanges are higher than Hokksund will have after a railway upgrade, Drammen will still be in a superior position by the strength of their hub function, and so attract more settlers of dwellers and businesses. A linked factor could be travel time. By Davoudi (2009) 40-45 minutes have been argued for being a maximum commuter distance. Such a factor would not make sense if the assumption is commuting could take place within the polycentric region, as travel time from Drammen to Hokksund is 15 minutes. However, travel time could be an indicator related to contactability and the need for flexibility. Drammen is by fact closer to Oslo, closer to the airport, as well more frequent connections. There is also a need to emphasise that individual car transport since the 1960s has become a more essential type of person transport than the railway itself. The factors of well-developed infrastructure and time is to same extent valid for road-based transport too, Drammen having a four-lane freeway to Oslo (and the airport). The development of railway is not only a strategy for an assumed change of business locations, it is also a factor intended to reduce the share of car travellers. Independent from the latter, there is another question whether a polycentric industrial development is realistic. This is due to that the location preferences of property developers do not necessarily consider a railway station as the only factor by seeking for a site of location.

## 5.2 Conceiving regional strategies in the municipalities

### 2. *How has land use planning changed related to the regional strategies, and how are the strategies conceived?*

As a regional overarching plan has been into entry, there is of interest how the goals are recognisable or to any extent is implemented in the municipal master plans. This is due to fact the regional plan is strategic, and hence does not give any support to what exact development should take place in a specific geographic site. The regulatory planning, the physical change in space, is a task of the municipalities.

As the municipalities of Drammen and Øvre Eiker differ in characteristics of employment and presence of industry, so it is presumable the municipalities take on the BC by different approaches. This is due to the goals of BC are outlined generally, hence there is no one-way of implementing the goals. A principal sketch, of where work places and dwellings should be prioritised, and hence the goal of locating as many as possible within this principle area, there is of interest examining what kind of work places are located. Offices and industries of the A-category is the one should be prioritised if the aim is “as many as possible” locations.

The municipalities of Drammen and Øvre Eiker have been into some of the same kind of industrial development based on presence of secondary industries: by shutdowns within their industries, Drammen succeeded by creating new work places within the service industries, and has a net ingoing flow of commuters. Øvre Eiker has, to some extent, created new work places by the secondary industries changing fields of activity. However, an induced population has resulted in a flow of net outgoing commuters.

### The assessments of industrial locations in Drammen

The master plans of Drammen have over the years changed in detailing. The ABC-principle is within the plan of 2015 implemented and hence more consideration is put on what to build where. The concern of reduced home to work travels are as well included, not only for the city centre, but is as well in scope for the development of the suburbs. According the 2007 plan the suburbs should consist of limited functions due to basic demands. Within the 2015 plan, the suburbs should rather be centres in a polycentric development within the municipality, and could hence be a distinction away from Buskerud City plan. The suburban development is however assessed against its potentially negative affect on business located in city centre:

The land-use plan that was adopted in 2015 (...) has taken up the main points from (...) LTE for Buskerud City (...) we have the centre of Drammen, but by the plan the municipality has defined several centres. Then we have some transformation areas, (...) where we work to create variety in housing offerings, and facilitate the development of suburban centres, hence reducing transport for daily activities. (...) Even if the city core is as big as it is in Drammen, it's a challenge to develop suburbs so we are working to figure out how big it can be without breaking the city core. It's a balance in every single case. (...) It is important to think that we are now working on the municipal merging process, all places cannot have the same services, they will not be equal, so it's about defining what types of services should be what /where.(Basma, 2018).

Drammen justify this kind of development by distribution of the growing population and, to some extent, as it is justified professionally, polycentric locations of functions related to services and work. Aiming for business to settle in town, a provision of trade within the suburbs is a question for consideration by each case separately, by measuring the extent of competing with city centre. (Basma, 2018; Drammen Municipality, 2015). Hence, there is an underlying implication of consideration proximity between home and work by means of reduced transport. The view of not develop too much of industrial activity by Konnerud shows awareness of that workers do not necessarily choose to settle in short distance from their work. Their current concern of town-based businesses also affects their considerations on where certain industries should be located, due the fact the town-based business itself strive for their existence by working through an association of town activity ("*Byen vår Drammen*") (Basma, 2018; Svendsen, 2018). Implementing the goals of BC plan, Drammen as well aims for a business development strategically based, as concerns of business actors in centre is taken into account for development outside the city core.

### The efforts of Øvre Eiker attracting central located enterprisers

Approximate the year of 2000, Øvre Eiker municipality has planned for their villages having diverse functions and hence contain a pluralism within their borders. Hokksund was aimed for being town, the smaller should serve as villages with their own character: the village of culture, the village of being in the green, the village within the cultural landscape etc. (Stenshorne, 2018). By this view, there should be arguments in favour transforming Hokksund into a more densified site. As well in accord with BC, such prioritisation might sign they strive for accomplishing the aims of the regional plan.

A change of planning from 2006, the 2015 plan approves for one more floor in new buildings. This is a light change. It seems like this plan and the proposed town plan (Øvre Eiker Municipality, 2018), take account of the recent past: in 2012, majority of council in a single case approved three floors even the master plan applied for four (including the factor of protesting detached house owners) (Hansen, 2012). In 2013 a proposed project of 6 floors met resistance in a public meeting (Bratvold & Nebell, 2013). The committee proposing the town plan might seem to account for former debates and unsuccessful realisations from past.

As applied heights for buildings seem to be based on public opinions, the municipality has an added concern about attracting businesses to settle for long term. Together with proprietors, the municipality found it sufficient for activities located on central plots to establish at first floor, and the floors above applied for dwellings. Struggling for business tenants to settle, business floor is financed by dwelling apartment holders. The property developer has so no specific interest of keeping business tenants if they do not pay a good rent (Stenshorne, 2018). As the BC goal aims for number dwellings and work places be as "high as possible", Øvre Eiker providing for activities only at first floor might be what they found the highest as possible. This indicates a sublevel of strategic planning; an account for the realities of business development. By consulting enterprisers, an accordance is traced to Albrechts (section 3.6 this thesis), where planning authority is not supposed to be the solution-maker, and should include stakeholders in planning.

What is challenging when we are developing housing – that is a very large commitment in Hokksund – then it also implies a great deal of ground floor activities, and comprising several thousand square metres. And to fill up those ground floors with commercial activities, that is challenging and demanding, as we are requiring that in the city centre all ground floors facing the street have to house commercial activity. Windows have to be open, enlightened, showing activity inside. Thus, we have had a discussion with the businesses, with proprietors, about how strong requirements to set, as we know that other cities, are requiring office space and businesses in the first floor, e.g. doctors, physiotherapists, dentists and similar. But we have not put up requirements for that stuff here. There will be so many square meters, that we think they are sufficient. (Stenshorne, 2018).

The master plans from 2010 and 2015 put a further concern on locations. In contrast to Drammen, the plans do not mention the ABC-principle and thus do not provide any substance for exact locations of any kind of business. Some verbal considerations is however implemented. The 2006 plan focused on establishing space-requiring industries outside the central area, as the plans of 2010 and 2015 explicitly mention a wish of space-intensive work places to be in centres, implying that a stronger focus has emerged with regard to strengthening the centre. This is also followed up by the town plan proposal.



## A continued strategic approach at the local level

BC is goal-focused, created by local, regional and national authorities in common, published as a strategy document for implementation in master plans and zonings. The BC secretariat is thus not an authority of planning. The secretariat has a role of coordinating the partners. A main driver for the initiative is establishing of a strengthened public transport within the conglomerate. This is not a field of responsibility of the municipalities, but coordination is needed as for instance the municipalities are the regulatory authorities. Hence, they have an approving authority of single projects that cover for instance the infrastructure, although the initiatives are coming from another instance, like the county council or Road Administration. The BC secretariat does not pursue planning at the single place, but is considered for prestudies and outlining a basis to work further on:

By examining the spatial development in relation to transport solutions, you need some broader view of perspective and agree to some principles for how should development be pursued (...) We re-examine the present plans (...) we do not make concrete plans, we coordinate, bring up initiatives and try to mutually communicate. (Kjenseth, 2018).

The strategic plan does have a strategic functional organisation around it. There are committees of politicians and planning employees. The civic society by the regional departments of Confederation of Norwegian Enterprise (NHO) and Norwegian Confederation of Trade Unions (LO) and the municipal-based business chambers, was until 2015 represented in the administrative steering committee, and hence been organised in a separate committee of enterprise. The collaboration was considered to be the best through such reorganisation (Buskerudbyen, 2016, pp. 6-7). Such an alter of organisation is not necessarily negative. As Albrechts (2004) has put awareness of not letting the powerful actors being too dominant, his four-track model has an access for limiting the position of enterprisers. Buskerud City has as well, in accordance with the fourth track, facilitated for public participation, as late as the current year (Buskerudbyen, 2018d).

A weakness of the strategic plan, could be its basic structure lack of an account for the differences between the places. The plan concerns about the centre structure and to what extent such a structure exists, but the qualitative differences and a way to go around this fact is not an inherent concern. The idea of establishing “as many as possible” of dwellings and work places might be a strategy, although it is a subject of interpretation put on municipal authorities and politicians. The idea itself seem to be a part of a national or international trend. This is however not something to blame the local or regional authorities, as the strategic plan itself is a result of a process initiated by national authorities, and an eliciting mean for local authorities to receive funding for public transport investments. The strategic planning document has dedicated a sheet for each of the five places within the conglomerate, hereby describing the features of the places. But the descriptions are very general in its character. Hokksund is described as a place having “an established centre structure and good conditions for a continued growth of housing and work places” as well having a connecting point for transport in direction Hønefoss. The conditions for a further development has its substance from “an established centre structure” (not further explained). The fact that the municipality still has a higher share of work places and firms within the secondary industry, is not discussed. As Lang and Knox (2009) shows, different parts of a city-region rather could change into different urban realms. Such urban realms do not necessarily consist of a core, but entirely of its own featured character. By the features of Lang and Knox, Øvre Eiker and Hokksund seem more to be of an exurban area, where commuting is headed in direction of two cities, in this case Drammen (and Oslo) and Kongsberg. A related founding of this thesis is that beyond the aim of regional plan establishing a polycentric structure, the case municipalities aim for a polycentricism within their borders as well. This is also about substantiate underlying features of these villages.

A development based on places for specialisation and base on existing features, is hereby not stated as an argument to contradict a development of densification and reduced demand of transport. It is more about accounting for realities, if the fact is that facilitated industrial areas within centres remain unoccupied. The BC plan has outlined general principles for different places. As Øvre Eiker has based their former development on specialising their villages, so could BC, at the regional level, account for these differences between places.

### 5.3 The location preferences of developers

The preceding section drawn on different places might have different features and conditions determining what kind of business that will locate in a specific city or town. This section will elaborate more in detail what property developers consider when sites are chosen for development. The question to be answered is:

### 3. *How do location preferences affect a polycentric structure development?*

A polycentric development is a move away from a monocentric development, meaning functions or establishments based in one core, are meant to establish in several. As a type of development strived for within regional policies and strategies, an assumption is this kind of development does not take place by itself, in other words it is not necessarily a matter of property developers. Location preferences might relate to features in a place. Considering the realism in city-regional development, the location preferences of such actors are of interest:

The starting point for us is the mantra that is known worldwide in the real estate industry as 'beliggenhet, beliggenhet, beliggenhet' or location, location, location. Thus, you must find locations having their advantages. We have properties centrally located in the centre of Drammen, having their fortunes because they are, for example, closely linked to a good public transport. (Svendsen, 2018).

and

Next to infrastructure, it is neighbourhood, what kind of offers there are nearby, service offers and what you can take advantage of in the lunch break, the opportunity to have lunch out and the opportunity to meet customers outside the office.(Kjenner, 2018).

Beside good connections of transport, the need for quick interaction with customers and partners in the local area is as well important. Transport itself is not sufficient, as such interactions could occur spontaneously. What a place consists of on the permanent basis, will be a matter of consideration. As well, there will be an importance of being where customers tend to look for their demands:

In the end, you often see a tendency for business clusters having dining on one side of the street, so it often appears on the other side too. The same applies to trade. Businesses in the same industry tend to concentrate. They kind of close together and that is what you see, it is global. So, if you travel to Istanbul or Berlin or wherever you are, in this way establishments often take place. (Svendsen, 2018)

The last quote relates to location assessments based on presence of customers in the small scale, when it is already decided that for instance a restaurant will locate in a specific city. As there is a demand for being close to those of same trade in the small scale, so it is reasonable such assessment will be reliable as well when zooming out. This is due to that specific areas within different city-regions are in different cases associated with a special character, a favoured quarter, like Silicon Valley outside the core of San Francisco (Lang & Knox, 2009). Keeping this in mind, Drammen is as well a core in a smaller city-region, a part of the Oslo region (St. mld. 31 (2002-2003)). In this way, it seems more likely for Drammen to find a speciality of their own, rather than striving for diverse establishments. The next point of interest is whether a polycentric could take place in the smaller centres within the Buskerud City. A location in a smaller centre, by means of making it to a core in a polycentric region, will by assumption rely on effort of an actor to commit for such development. The realism of such commitment could be read out from this:

We are concerned for a location that attracts the most attractive tenants, which investors next value highly, which in turn means we get the highest possible selling price for the properties when completely developed. (...) It might be possible in some industries for spread locations, but not in others due to the type of tenants. Most tenants attractive to a site, apply for the place of largest selection, and an area not having more than 20,000 inhabitants will never appeal to the most attractive tenants, it's just a law of nature. (Kjenner, 2018).

This means that size of a place is crucial for establishments, beside proximity and good connections. If we can conclude that size matter as a factor for location, what is so considered for location in a centre explicitly?

Our view is when we develop real estate, it must be more than just the physical property we build, of course, it must be in an attractive location, so we get rented out for the levels needed to recoup invested capital. At the same time there must be a dimension related to property, so, like Bangeløkka, there are 80,000 cars every day, and you are easily accessible to and from the main road corridors. Then we have gone out and been lucky or successful with our work, targeted work and a total cluster of tenants in the new building, which otherwise had to have much unnecessary transport through the centre of the city (...) When you have 50 [service technicians] and 20 min [transport through the core] every day you can multiply and find the number of hours they save on transport. It is expedient for them, so you can see the amount of pollution etc., the stress at the centre that avoids when driving to and from. By such dimensions, you can both create a good location for accessibility but also help to reduce the load at the centre. (Svendsen, 2018).

In the case of presence of a good highway, railway is not an indispensable factor to attract property development. As Hagget (1975) described, the benefit of a central location can be exceeded when a city reaches the size of 100,000 inhabitants. As Drammen is close to this size (68,713 inhabitants in 2017 (Statistics Norway, 2018g)), meaning the city is close to transcend the limit of taking advantage from a central location. Hence it is attractive to locate close to a highway to avoid losing time for travel through a city centre. However, Hagget does not widely account for what type of businesses is located where. As specific firms are more depended on cars than others, locations outside a centre should not solely rely on the size of an urban agglomeration. In Hokksund, an urban settlement of 8,000 inhabitants (Thorsnæs, 2017b), an industrial site is located outside the core and close to the highway. In this case the proximity of a good road connection, in other words the preferences of either employees or customers, is the assumed factor of location replacing centrality (Stenshorne, 2018). This is also in line with the ABC-principle. The study of Gundersen et al. (2016), presented in Table 8 and Table 12 showed locations of A-businesses located outside the 1 km radius and close to a main road connection. The same study admitted they had only accounted for intensity of workers, and not visitors. A reason for such a location as Svendsen (2018) said: the example he used (location outside the 1 km radius) was based upon work places of offices, but since there also were workers who did not use the location as their only site of doing their work, and therefore were dependent on car, there was an advantage of being located outside the centre.

Drammen has succeeded well by developing their former industrial areas into new areas of dwelling and work. The city has altered from being dominated by secondary industries into a town more based on service industries (Knudsen, 2001, p. 79). The actual development relies on factors of location preferences of developers such as highway connections, and to some extent size and what a place consists of.

Tenants look to fulfil their demands where the selection is the best. This in turn leads the real estate industry to develop the areas where tenants will look for what they want, for their demands, and so will presence and proximity of a specific feature, attract more of the same. A polycentric development is not unrealistic, but such a development is more likely to occur by substantiating existing features of a place. This means that if a place does not consist of for instance office-based work places, a possible preferred category if the target is “a high as possible” number, so it is likely for offices to pop up where offices already dominates.

In summary, the situation for Hokksund may be that it is not central or large enough for developers. Another explanation may be that there are relatively small properties in possession of proprietors. In Drammen, on the other hand, the former paper factories have been converted into new purposes. (Kjenner, 2018). The situation of Hokksund may thus be that the proprietors consider the market only for the existing purpose. There is no apparent interest, either by themselves or potential developers to transfer the purpose of these plots. Hence, a circle is completed: development take place where there is a market. And the market is where potential customers want to be, or where the exchanges in a network of flows are the most frequent.

## 6. Conclusion

The present study has showed that the strategic plan is accounted for, at least mentioned, in the master plans. A challenge is rather related to features of the municipalities and hence the realism of creating cores that together will constitute a polycentric city-region. Before the transport infrastructure expanded and the flows advanced, cities and places were depending on local resources. As these dependencies faded, due to societal changes, anew kinds of dependencies emerged, i.e. by relations and interconnectivity. Cities and villages have obtained their size according to their history. The order inherited from the past decides to a large extent the position cities and villages today have in a network. In this way the bigger cities have benefited by simply being bigger. Places depends on different relations, such as commuter flows. Employed residents of Hokksund may as well commute to Oslo as Drammen or Kongsberg, either by car, bus or train.

In a regional perspective, the Drammen region in a national or international context, does not have to be considered as a setback area, although it is also a part of the Oslo region. The city of Drammen has altered through industrial change, and kept its position of being the biggest city and municipality among the surrounding municipalities. Drammen already consists of typical centre features. A challenge may however lie in the ambitions of the region to become considerable in a national context, like an economic winner according to Florida (2002). It is more likely to evolve into an as described by Lang and Knox (2009) but centred around a city core.

Øvre Eiker has also taken part in the industrial change by a turn into service industries. This has happened to a lower extent than in the case of Drammen. This is due that Drammen already in the past developed into a city. Furthermore, an increased population of Øvre Eiker has acquired work in adjacent municipalities. To counteract these trends, one may assume the positioning of towns to be changed through planning, that is indeed an underlying purpose for developing the railway. But even if places do not relate to each other in a hierarchy, there are still structures of the hierarchy from past determining where different kinds of development will be located. In addition, the diminishing importance of proximity between demands and users justifies the development as it is occurring: as people as commuters relate to other places, there is not necessarily any demand from the people for change. The relatively short distances between Hokksund, Drammen and Oslo are obviously not seen as an obstacle, if people are satisfied by living in a less urbanized area and still having the possibility to work in another. The focus on participation and recession against high buildings is an indication of such an attitude. The evident tendency is that the population has grown even if the number of work places have declined. Such development has manifested itself because of good contactability (Hagget, 1975) between where people live and work.

The Buskerud City partnership has since 2013 in common strived for pursuing a strategic planning policy, aiming for implementation of a polycentric city-region development, including five main centres and hubs. Drammen strives for strengthening its position, but the potential of work and living within smaller nodes of the municipality is also considered. Øvre Eiker also refers to the BC plan, but rather as a mere reference. Their main concern is creating convenient areas for living. Furthermore, developers are not primarily interested in establishing in such a place because of its location implying lower rates of exchanges in the network.

A polycentric structure where centres develop along the same patterns is not compatible with the findings of this thesis. Due to factors that the municipalities are not in power of, the goal of more balanced relations between places is not realistic when looking at the historical development and demands of developers.

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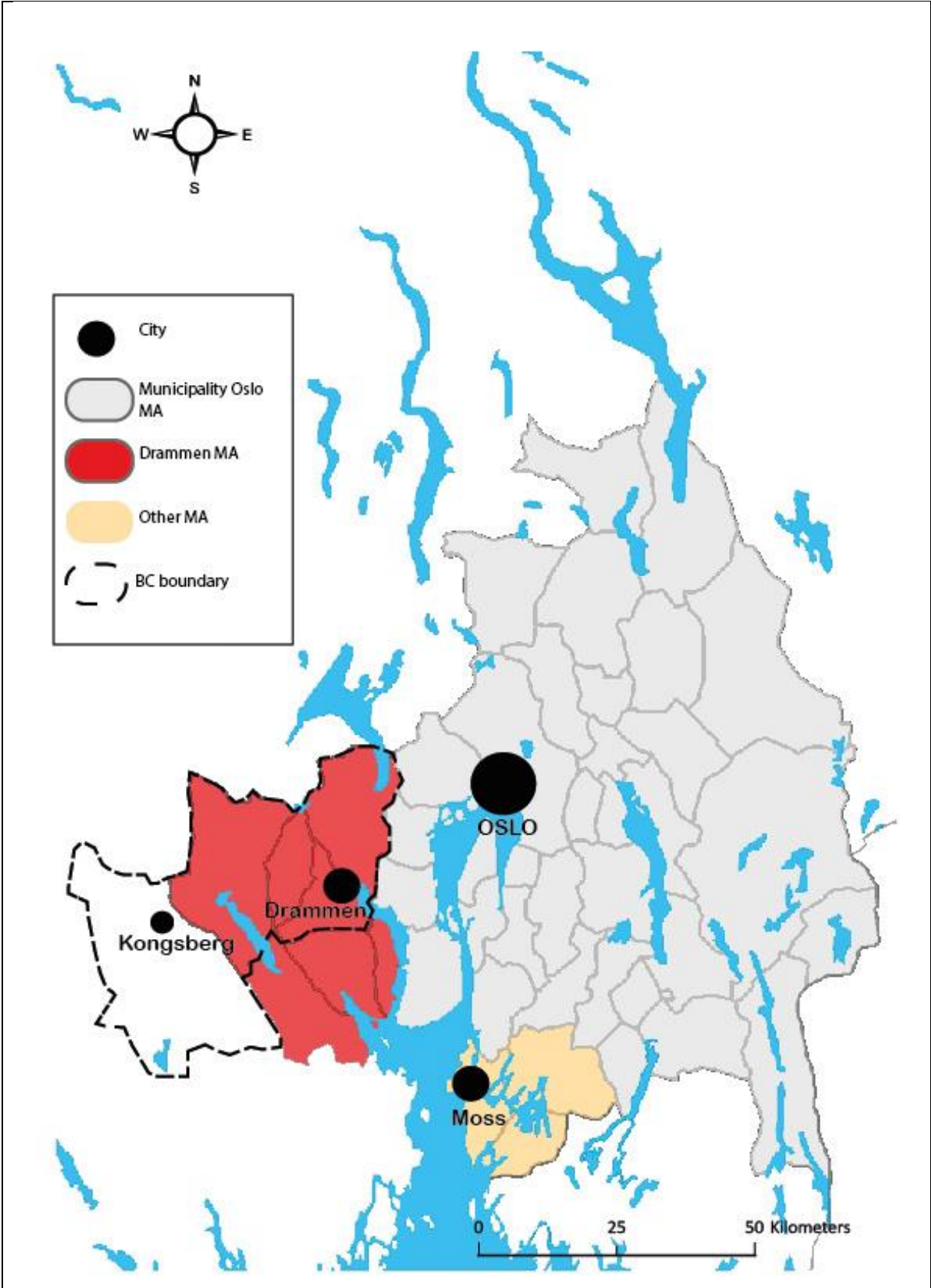


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## Statistics Norway, categories of industry used in tables

Category	In thesis mentioned as
<b>01-03</b> Agriculture, forestry and fishing	<b>Primary industries</b>
<b>05-43 Secondary industries</b> Mining and quarrying  Manufacture  Electricity, gas and steam  Water supply, sewerage, waste  Construction	<b>Secondary industries</b>
<b>45-82 Service industries</b> Wholesale and retail trade: repair of motor vehicles and motorcycles  Transportation and storage  Accommodation and food service activities  Information and communication  Financial and insurance activities  Real estate activities  Professional, scientific and technical activities  Administrative and support service activities	<b>Service industries</b>

## A, B and C groups used in maps of Drammen and Hokksund centre

SOSI (NS3457) group	Type	Classified as A, B or C business
111-199	Housing	<i>grey</i>
211-249	Manufacturing	C
220	Energy supply	C
230	Storage building	C
240	Fishery and agriculture	C
311-319	Office	A
321-330	Commercial	B
412-449	Transport and communication	C
511-539	Accommodation and restaurants	B

611-679	Culture and science	B
719-739	Health	B
821; 822	Emergency and public security	C
For entire list, see: <a href="https://kartverket.no/eiendom/saksbehandling/veiledning-og-kurs/veiledning-for-lokal-matikkemyndighet/foringsinstruks-matikkelen/9-Vedlegg/93-Bygningstyper-basert-pa-NS-3457---fullversjon/">https://kartverket.no/eiendom/saksbehandling/veiledning-og-kurs/veiledning-for-lokal-matikkemyndighet/foringsinstruks-matikkelen/9-Vedlegg/93-Bygningstyper-basert-pa-NS-3457---fullversjon/</a>		

## Interviewguides

For heads of planning, municipalities

- 1. Hvordan har Buskerudbyen areal- og transportplan påvirket den regulative planleggingen?**
- 2. Hva gjør du i din jobb for å utvikle tettsteder etter planen?**
- 3. Hva er din visjon for næringsaktivitet i sentrum?**
- 4. Hva gjør dere for å få til næringsaktivitet i sentrum?**
- 5. I Buskerudbyen-planen står det: Prioritering av utvikling i utvalgte byer og tettsteder innebærer samtidig behov for å si nei til prosjekter og utvikling utenfor de prioriterte utviklingsområder og som svekker sentrums attraktivitet. Hvordan har man etter Buskerudbyen-planens ikrafttreden endret på saksbehandlingen av prosjekter?**

For managers, Buskerudbyen

1. Hvordan kom denne planen i stand?
2. Hvordan går dere frem når dere planlegger strategisk?
3. Hva ønsker dere å oppnå med strategisk planlegging? (istedenfor regulativ planlegging)
4. Hva er deres oppgaver i utviklingen av tettsteder etter planen?
5. Hvordan tilrettelegger dere for næring?



## For property developers

1. Hva slags kriterier ser dere etter for lokalisering av næring (f eks stedets befolkningsstørrelse, nærhet til infrastruktur, annen type virksomhet som befinner seg i nærheten)?
2. For utvikling i et sentrum, hva slags kriterier ser dere etter (kan være de samme faktorene som i spm 1)?
3. Hvilken betydning har Buskerudbyens areal-, transport- og miljøplan hatt for lokalisering av næring?





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