



Affordable housing production for low income groups by land use zoning plans in harbor areas of Copenhagen

Suheyla Turk

To cite this article: Suheyla Turk (2021) Affordable housing production for low income groups by land use zoning plans in harbor areas of Copenhagen, Urban, Planning and Transport Research, 9:1, 233-256, DOI: [10.1080/21650020.2021.1914150](https://doi.org/10.1080/21650020.2021.1914150)

To link to this article: <https://doi.org/10.1080/21650020.2021.1914150>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 21 Jul 2021.



[Submit your article to this journal](#)



Article views: 1408



[View related articles](#)



[View Crossmark data](#)

Affordable housing production for low income groups by land use zoning plans in harbor areas of Copenhagen

Suheyla Turk

Department of Human Geography, Lund University, Lund, Sweden

ABSTRACT

Housing expenses have the highest share in household budgets of low-income groups in Copenhagen leading to affordability problems. To provide affordable housing (AH) for low-income groups, the municipality developed a zoning plan in 2015 aimed to reserve up to 25% of land for new AH production. This qualitative case study compares the affordability of homes produced by private sector and nonprofit housing associations for low-income young groups at the risk of poverty and families in North and South Harbor areas of Copenhagen. Also, this paper explores local housing partnership agreements since 2009 and zoning plan developments in Copenhagen since 2015. Findings present the role of local governments in shaping socio-economic structure and partnership agreements that led to the development of AH by land use zoning in Copenhagen. In North Harbor, there were no AH units for families and young groups until 2020 when they were produced according to this zoning plan. The discussion presents the AH development in the higher property value harbor areas as a small but promising solution and a leading example for other Scandinavian countries.

ARTICLE HISTORY

Received 16 November 2020
Accepted 1 April 2021



KEYWORDS

Zoning plan; affordable housing; harbor areas; poverty; Copenhagen

1 Introduction

Housing expenses are unaffordable for many people, despite welfare subsidies provided to lower income residents of many countries (Sonia Alves & Andersen, 2019; Hochstenbach & Musterd, 2018). Neoliberal housing policies in various countries in Europe included large scale Affordable Housing¹ (AH) stock privatizations in city centers; abolishment of rent controls and removal of land provision for AH production below market level in the 1990s (Calavita & Mallach, 2010; Scanlon et al., 2015). Neoliberal housing policies have led to growing housing production prices observed with an increase in housing expenses which is particularly problematic for the budgets of low-income families (Hochstenbach & Musterd, 2018).

However, ‘actually existing neoliberalism’, has been observed since the 70s with reductions in public budgets, privatizations and deregulations in housing policies and supported with changes in policies aligning with local characteristics leading to declining number of AH production (Calavita & Mallach, 2010; Brenner & Theodore, 2017, p. 1). In some countries, to cope with increasing housing expenses, AH is produced with

CONTACT Suheyla Turk  suheyla.turk@keg.lu.se  Department of Human Geography, Geocentrum 1, Sölvegatan 10, Lund, Sweden

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

coordination between local governments, private companies and housing associations by planning agreements and zoning plans (Calavita & Mallach, 2010; Freeman & Schuetz, 2017; Turk & Altes, 2014). However, zoning plan requirements are criticized as a part of neoliberal housing policies that attempt to solve the AH problems while creating capital for private investors (Calavita & Mallach, 2010). Also, housing produced by zoning plans located in city centers is limited and still not affordable for low-income groups (Calavita & Mallach, 2010).

The growing housing expenses in household budgets has led to an increase in the need of AH, mainly for people who are at risk of poverty. Local governments have required a specific number of AH units from the private sector in planning agreements and using zoning plans since the 1970s in alignment with neo-regulations in housing policy since the 1970s in San Francisco and Washington D.C. in the US, and in the 1990s in the UK (Badcock, 2018; Calavita & Mallach, 2010; Freeman & Schuetz, 2017; Li & Guo, 2020). A main problem for AH development is in regards to the effects of land use zoning in large cities pertaining to reluctance of developers to implement projects that include AH units for lower income groups. In London, land use zoning plans require 15–25% of new housing production consisting of affordable rental housing for low-income groups (Li & Guo, 2020). (Freeman & Schuetz, 2017)

However, developers are not willing to implement AH or provide the obligated number of AH units within the same location of market rate housing developments. Reasons include higher income groups being unwilling to purchase homes in neighborhoods that accommodate AH for lower income groups, who are at the risk of poverty, and developers being reluctant to include AH onsite because profit margins of housing developers often decline (Li & Guo, 2020). Therefore, AH by land use zoning in London is often placed in neighborhoods that have higher poverty and unemployment rates (Li & Guo, 2020). In the US, in Brooklyn, New York, a housing project was planned to be produced with 20–35% of the floor areas consisting of 8500 units constructed as AH rental accommodation (Gibbs, 2020). However, the project completed in 2015 consisted of homes affordable for higher and middle-income groups but not for a high proportion of low-income groups (Gibbs, 2020).

Different from the UK and US examples, AH has been integrated in port areas where the property prices are very high in the large cities of Norway and Sweden. In Sweden, Gothenburg municipality requested housing production with reduced rent amounts from private developers for a temporary period, 15 years, in 2015 (Gibbs, 2020). In Oslo, Norway, the City Council required that 10% of the housing in the harbor areas of Bjørvika with the Fjort City port project would be available with affordable rental rates in 2010 (B. Andersen & Røe, 2017). However, because of the reluctance of private developers, the requirement of 10% AH for low-income groups changed to 5% student housing (B. Andersen & Røe, 2017).

Rent for AH in some central areas of Copenhagen in 2005 were only 2% less per square meter than privately rented homes of equal value to rents of homes produced in the private sector (Scanlon et al., 2015). Growing rent amounts is due to a change in rent regulation in 1991 and increasing costs of new AH production (Scanlon et al., 2015). Also, in the 1990s, large scale rental housing privatizations and restrictions for construction of new AH emerged in Copenhagen, while the abolishment of rent controls were observed in Denmark (Sónia Alves & Andersen, 2015). To create AH more effectively,

Denmark established a national law to provide AH production by land use zoning plans, predominantly implemented in Copenhagen and Aarhus (Interview, 2020). Copenhagen Municipality developed the first land use zoning plan to reserve land for AH production in 2015 (Interview, 2020; LBKNo.119, 2019). Municipality aims to expand AH by zoning plans with a rent amount equal approximately to 3400 DKK (456 Euro, 520 USD)² in central areas of Copenhagen that is lower than the market rents.

The first objective of this paper is to give historical information about local governmental strategies, housing policies, power relationships and conflicts since the 1970s that led to the development of land use zoning in Copenhagen. The starting period of neoliberal housing policies since 1970 was selected to explain the role of governments in AH production that shaped the socioeconomic structure of the city. A zoning plan in Copenhagen developed in 2015 to reserve land for new AH production and its implementation process is evaluated in this study through 2020. Therefore, the article addresses the local housing agreements since 2009 and zoning plan developments in Copenhagen since 2015 including AH production for low-income groups and young people at the risk of poverty in harbor areas. Harbor areas are situated in the central city area that have good connection to the city center and the highest property values. The second objective is to analyze affordability levels of housing produced by zoning plans and private housing in the harbor areas of central Copenhagen was compared where the zoning plan was first implemented. These objectives, to assess the zoning plan and analyze the affordability, are linked to assist in understanding the changes in strategies of local governments in AH production.

The following section of this paper consists of methods, followed by the third section that includes a history of AH production and socio-economic details of Copenhagen. Findings consist of an assessment of AH production with partnerships and land use zoning in Copenhagen. The findings also provide comparison of affordability of private housing and housing produced by zoning plans in the South and North Harbors of Copenhagen. The paper concludes a description of the AH development by zoning plans in the higher property value harbor areas as a small but promising solution and a leading example for other Scandinavian countries.

2 Materials and methods

This qualitative case study explores the development of the 2015 zoning plan, the role of local government and partnership agreements established to implement the zoning rules and produce AH in Copenhagen to investigate and compare the affordability of production with the new zoning rules. Two main research questions are developed to gather information. The first is what is the role of local governments in shaping socio-economic structure and partnership agreements that led to the development of AH by land use zoning in Copenhagen? Two supplemental questions are used to generate findings for this first question. What is the socio-economic structure in Copenhagen leading to housing affordability problems? What partnership agreements were used and implemented before the land use zoning rule that led to the development of zoning plans?

The second research question is what are the affordability levels of private housing and AH units produced after the zoning plan in the harbor areas of Copenhagen? Materials for this study include primary data sources such as, planning policies, legislation and

public announcements and information gathered from interviews with institution representatives, scholars and professionals in the fields of local planning and AH. Legislation and public announcements include Almene Boliger Act No. 221 (2015), Tillæg 6 (2015), Tillæg 44 (Tillæg 44, 2015) and Københavnskommun (2015b) that contain information pertaining to the implementation regulations of AH by zoning plan. Also, secondary sources included scientific articles and thesis materials that were reviewed to understand recent developments in AH production in Copenhagen.

In addition to gathering information from the policy and legislation documents, semi-structured interviews with actors, which were conducted between 2016 and 2020, one year after the AH zoning plan was established in 2015, to further understand the implementation, processes and effects of the city plan in Copenhagen (AlmeneBoligerActNo.221, 2015; Kobenhavn_Kommun, 2015). These semi-structured interviews were held with three officers from the Great Municipality of Copenhagen, including a municipal officer from Sydhavnen district and one officer from one housing association in Copenhagen. An interview was also conducted with one officer from Real Dania, a consultation firm that works in coordination with Copenhagen Municipality. Five scholars who have conducted and published studies on AH in Copenhagen were also interviewed.

Interviews included written open-ended questions. The first interview was with a professor from Roskilde University and Copenhagen City Council, who provided names for additional interviews. Using these names, a snowball approach was adopted to select participants who accepted requests and could be available for interviews. The second interview was conducted with the International Federation of Housing and Planning (IFHP), an NGO, member, who provides consultations for By & Havn, the municipal-state company.

Interviews were conducted with questions aimed to acquire information on affordable housing problems in Copenhagen; as well as the legal background and implementation process of AH production by zoning plan. Housing needs of low-income groups and changing socio-economic structure of Copenhagen were discussed during the interviews. Interviews were transcribed, and memos were written during interviews, to be coded according to the themes after each interview (Flick, 2013). The coding process involved matching responses to the themes (Flick, 2013).

2.1 Evaluation method of housing affordability

This study uses two measures of housing affordability. A first measure of housing affordability is the rent to household income ratio (Leishman & Rowley, 2012). According to Stone (2006), Leishman and Rowley (2012), and Oswald (2002), affordable rent is equal to or less than 30% of total income, otherwise housing becomes an unaffordable burden that leads to households lacking resources to afford remaining basic expenses. The second measure of housing affordability is associated with the geography of land. Affordable housing should be in a reasonable and adequate location for households because transportation costs to commute to work and to reach market spaces affect the amount spent on housing (Tighe & Mueller, 2013). Thus, ideal AH includes service options, job opportunities and transportation facilities located nearby (Yang, 2014). Also, poverty levels and welfare benefits given to low-income groups are

considered in this study to assess and compare affordability of homes produced with zoning plans for low-income groups.

2.1.1 Consideration of poverty levels in Copenhagen and Denmark

One effect of high housing expenses has been the increase of poverty rates in large cities of many European countries (Hochstenbach & Musterd, 2018; Winke, 2020). As of 2018, the rate of people at risk of poverty in Europe increased from 16.2% to 30.7% after housing expenses are deducted from the disposable incomes (EUROSTAT, 2020). This demonstrates the increasing number of people who do not have enough financial resources to afford their basic needs such as health, education, food and transportation after they spend on housing (Eurostat, 2018a). Monetary poverty throughout the EU is measured by total income compared to basic living expenses and people who earn less than 60% of median equivalized income of a country are considered as being at risk of poverty (Eurostat, 2018a p. 35; 2018b).

In cities of Denmark, poverty rates after the deduction of housing expenses were the fourth highest in Europe in 2018 (EUROSTAT, 2020). Similar to other European cities, the rate of people at risk of poverty increased from 15.9% to 38.7% after housing expenses were deducted from household budgets in 2018 (EUROSTAT, 2020). The EU at risk of poverty threshold is used to calculate poverty level in Denmark. The at risk of poverty threshold is measured by equivalized household disposable income at 60% or below national median income in the EU, with total incomes including social transfers such as welfare benefits³ (EUROSTAT, 2020).

The poverty line for people living in Copenhagen was 11,416 DKK (1,531 Euro, 1807 USD) in 2018 and increased to 12,236 DKK (1,641 Euro, 1,871USD) in 2020, while the poverty line in Denmark was 11,836 DKK in 2020 (1587 Euro, 1,810 USD)– an indication that living expenses in Copenhagen are higher than the country average (Statbank, 2020a). An average monthly disposable income for people working and living in Copenhagen, according to Danish Statistical Institute was 19,028 DKK (2,473 Euro, 2,918 USD) in 2018.

The average monthly disposable income amount for 2020 was calculated with added annual income increase, amounts to 20,427 DKK (2,740 Euro, 3,123 USD), as shown in Table 1 (Statbank, 2020a). This household income amount was used to define the low-income salary of an employed person for this study because there is no established low-income amount in Denmark. Employees earning a monthly middle-income salary as given by Statistics of Denmark website was approximately 27,172 DKK in 2019 (3,639 Euro, 4,076 USD) (“Statbank,” 2020b).

Table 1. Change of poverty line and average monthly disposable income of people living in Copenhagen (Statbank, 2020a; 2020b).

People living in Copenhagen	Monthly poverty line	Monthly average disposable income
2018	11,416 DKK (1,531 Euro, 1807 USD)	19,028 DKK (2,473 Euro, 2,918 USD)
2019	11,836 DKK (1587 Euro, 1,810 USD)	19,727 DKK (3,639 Euro, 4,076 USD)
2020	12,236 DKK (1,590 Euro, 1,813 USD)	20,427 DKK (2,740 Euro, 3,123 USD)

2.1.2 Consideration of welfare subsidies in Denmark

To analyze housing affordability for the youth population at risk of poverty and low-income families were defined for this article to explain the policy context of Denmark and to evaluate affordability of housing produced by zoning plans in harbor areas. Welfare income and minimum salaries were used to define household incomes to calculate affordability levels of housing. People having temporary cash assistance as an unemployment subsidy from A-kassen was not considered in this study. According to Danish welfare regulation in 2016, which is Kontanthjælpsloft, to have welfare benefits, a person, who is not a student, should have at least 225 employment hours in one year within 3 years or actively seeking a job or having vocational training (BEKNo.1400, 2016). Types and amounts of cash and education assistance, integration, housing, and special support were explained on the Ministry of Finance web page [Borger.dk](http://borger.dk). The welfare amounts defined for single mothers with two children and families based in Copenhagen were found on the web page of the Ministry of Finance (Borger, 2021).

Households considered in this study consisted of young single students, single parents with two children, families with two children, who receive welfare benefits. However, students receiving education study grants are ineligible to receive housing benefits (*boligstøtte*) (Ec.europa.eu, 2019, p. 46). The first type of household is defined as a low-income single person, below 30 years old, without children, receiving subsidies for municipal employment benefits with vocational training programs and unemployment insurance benefits referred to as integration benefits (Kontanthjælpsloft, 2016; Statbank, 2020c). The average monthly aid to support vocational education for a single person below 30 years old in Denmark was 10,698 DKK (1,435 Euro, 1,636 USD) in 2020, accepted in this study as the lowest income of the youth people, which are at the risk of poverty (Borger, 2021). The welfare benefits for young people were less than the poverty line, which was given under the section consideration of poverty levels in Copenhagen and Denmark.

The second type of household is defined as a low-income single parent or a single mother, above 30 years of age, with two children. The monthly welfare benefits provided by the state of Denmark defined for single parents were 16,387 DKK (2,225 Euro, 2,537 USD) in 2020 (Borger, 2021). Welfare amounts are higher than the poverty line and lower than the average disposable income in Copenhagen (Borger, 2021). The third type of household is defined as a low-income family, two parents, with two children. When one of the two parents is unemployed and the second employed earns a low income, the family is eligible to receive welfare benefits. This type of household income calculated as the lowest number of wages earned and welfare benefits received in total was 35,231 DKK in 2020 (4,726 Euro, 5,387 USD) (“Statbank,” 2020b; Borger, 2021). These household types and income levels were defined to be used for rent analysis methods.

2.2 Rent analysis method

To evaluate zoning plans in the harbor areas of Copenhagen whether to provide housing affordability, rent analysis was done using three datasets of rents. Three types of data set included rent of non-profit, Basis Bolig and private houses in nearby locations in South and North Harbour obtained from data available as of 2020. Also, national average disposable income and welfare subsidies were considered for 2020. The first set of data

Table 2. Comparison of rents in South Harbor and North Harbor, Copenhagen based on 2020 (Danmarkbolig, 2021; Findbolig.nu, 2021; kab-bolig.dk, 2019, 2019b).

	AH for families	Private rental	Basis Bolig 35–42 square meters
Recent AH consisting of 106–111 m ² , 3 room flat produced in Teglholmen South Harbor that was produced in 2014 before zoning plan	9,289 DKK (1,246 Euro, 1,420 USD)	13,772 DKK (1,847 Euro, 2006 USD)	Does not exist
AH production by zoning plan in Teglholmen, South Harbor	Does not exist- only youth housing	Does not exist	3,377 DKK (35 m ²) (453 Euro, 516 USD)
Recent AH consisting of 104 m ² , 3 room flat in Århusgadekvarteret, North Harbor that was produced before zoning plan	Does not exist	18,858 DKK (2529 Euro, 279,883 USD)	Does not exist
AH production by zoning plan in Århusgadekvarteret, North Harbor	10,603 DKK (1422 Euro, 1621 USD)	Does not exist	4,083 DKK (43 m ²) (547 Euro, 624 USD)

collected from a report of a nonprofit housing association, KAB and a web page called Danmarkbolig.dk that has rent levels of housing units produced by non-profit housing associations (Danmarkbolig, 2021). Second data set consists of information about rent amounts for the smallest youth housing units called Basis Bolig homes in South and North Harbour, which was collected from a report of KAB and Danmarkbolig.dk web page. The third data set includes rent amounts for privately owned rental homes collected from the Findbolig.nu (Kab-selvbetjening, 2018) website. Rent amounts are listed on Table 2 (Kab-selvbetjening, 2018).

3 Institutional structure of AH production and socioeconomic pattern in Copenhagen

Sweden and Denmark have the fourth and fifth largest AH stocks in Europe, mainly developed between world war periods by state loan support (Esping-Andersen, 1990; Jensen, 2013; H. S. Andersen, 2012). Institutional structure of AH in Denmark consisted of AH units are produced by private non-profit housing associations,⁴ which are financed with loans and tenants deposit contribution (J. Andersen & Pløger, 2007; Larsen & Lund Hansen, 2015). Non-profit housing associations borrow 10% of the construction price from municipalities (J. Andersen & Pløger, 2007; Larsen & Lund Hansen, 2015). The budget of each non-profit housing associations is controlled yearly by the city council and an elected board consisting of AH tenants govern non-profit housing associations (Engberg, 2000). Tenants contribute to the finance of AH production consisting of 2% of construction price by paying deposits (Engberg, 2000).

The state has never provided direct finance for AH production but provided loans (Velfærdsministeriet 2009). State contribution with loan provision to AH production in Denmark declined from 17% in 1982 to 4% in 1989, which then completely cut in 1990 (Transport, 2018; Turk, 2019 ; Velfærdsministeriet, 2009) . To compensate for this state

financial cut, non-profit housing associations borrowed more private loans (Transport, 2018; Turk, 2019; Velfærdsministeriet, 2009). The share of loans to produce one building consisting of AH units was 75% in 1982, increased to 90% in 1989 and reached 94% in 1990, while the payback period was 40 years (Transport, 2018; Turk, 2019; Velfærdsministeriet, 2009). Furthermore, municipalities have been providing loans that increased from 4% in 2001 to 7%, which doubled to 14% in 2007 and stabilized to 10% in 2016 (Transport 2018; Turk 2019; Velfærdsministeriet 2009).

3.1. The role of local governments to produce AH in Copenhagen metropolitan area

In the past, Copenhagen city had a lot of major industries that led many industrial workers and people on welfare benefits settled in the city (Interview, 2016b). Municipalities in western part of Copenhagen metropolitan area and central Copenhagen allowed the production of many AH units (Andersen, 1991). According to the study of Andersen (1991), there was a tendency of northern municipalities to give very few permits to open manufacturing facilities in Copenhagen Metropolitan area. Moreover, municipalities in the north of Copenhagen metropolitan area did not authorize construction permits for AH production between 1995 and 2005 (Sónia Alves & Andersen, 2015).

Instead, the preference of northern municipalities had been to accommodate middle and high-income residents in this area (Andersen, 1991). Therefore, the Northern part of the city consists of a majority of privately owned housing residing higher income earners who paid at least 15% more income taxes to municipalities than lower income groups in late 1990 (Andersen, 1991). The highest income holders reside in the Northern part of Copenhagen metropolitan area, while the majority of lower income holders settle in the western areas (Andersen, 1991).

Western municipalities in Copenhagen metropolitan area, such as Ballerup, Herlev, Arbertslund, Hvidovre and Glostrup had the majority in the number of AH produced in the early 1990s, similar to their past activities in the 1970s (Andersen, 1991; Boligstat, 2019). As a result, the development of the socio-economic structure of the Greater Copenhagen, as shown in Figure 1, is shaped in parallel with AH stock, commonly developed to accommodate low-income holders (Scanlon et al., 2015). Population in the Copenhagen metropolitan area was approximately 1,850,000 governed by 34 local municipalities (RegionHovedstaden, 2019).

In 2019, the AH share of total housing stock of Greater Copenhagen from highest to lowest included 66% in Brøndby, 17% in Dragør, and 6% in Gentofte (Transport-ogBoligudvalget, 2019). In the same year in central Copenhagen, AH stock consisted of 20% total housing (Transport-ogBoligudvalget, 2019). Also in 2019, the western municipalities had the largest share of AH stock, 58% in Ballerup, and 58% in Albertslund. The remaining three largest AH stocks include 56% in Herlev, 42% in Hvidovre and 46% in Glostrup (Transport-ogBoligudvalget, 2019).

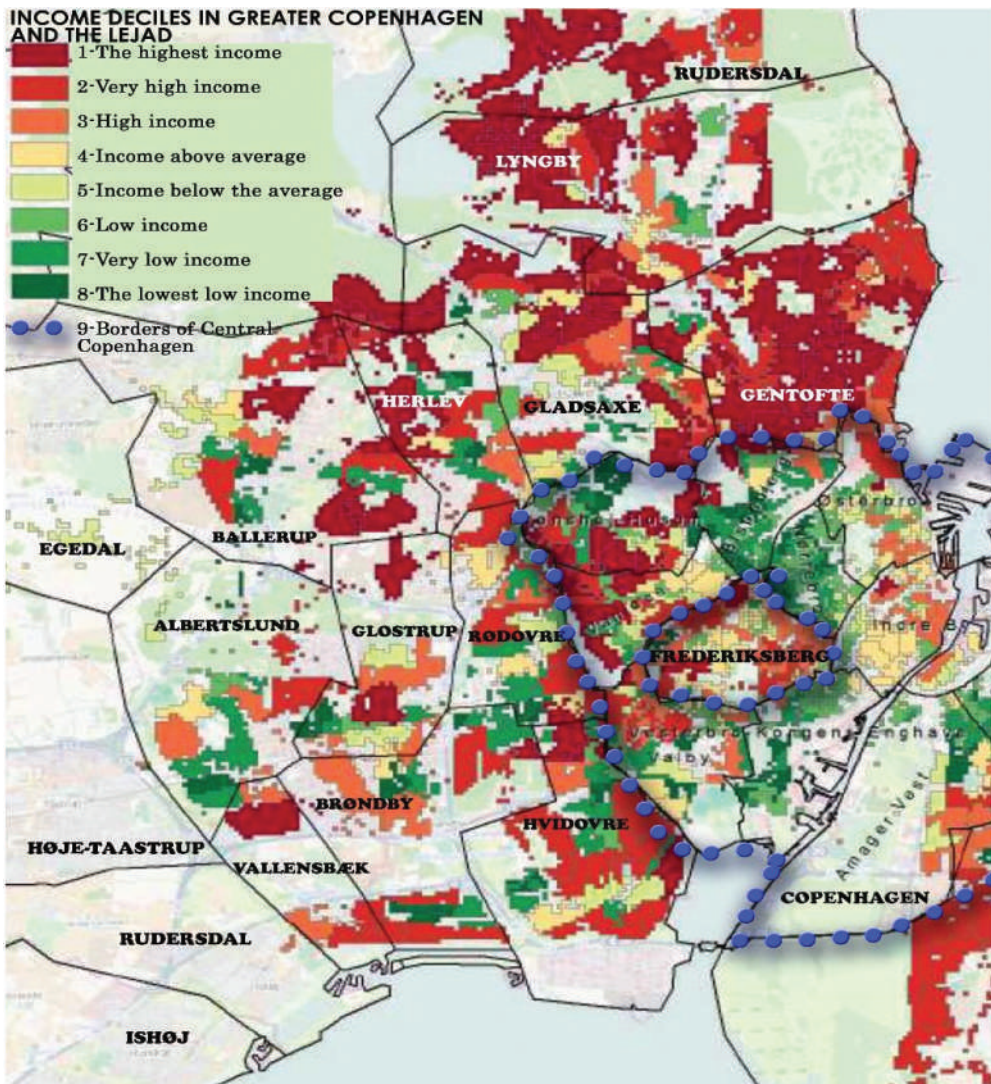


Figure 1. Socio-economic structure in Greater Copenhagen area in 2014 (Ministeriet for By, 2014, p. 7).

3.2 The role of national government to shape socio-economic structure in Copenhagen central area

In the early 90s, Copenhagen municipality was almost bankrupt (Andersen, 1991; J. Andersen & Pløger, 2007). Since 2000, national policies have aimed Copenhagen aimed to attract high skilled workers for knowledge based economic growth and capital accumulation (J. Andersen & Pløger, 2007; Andersen & Winther, 2010; Cole & Etherington, 2005). However, national strategies designed to create a knowledge-based

economy in Copenhagen led to socio-economic changes in the city observed with reduced number of low-income groups.

In Copenhagen during 1995 and 2013, the number of people between 20 and 64 years old with higher education increased from 23 to 41% (Økonomiforvaltningen, 2014). Also, in 2018, the number of people with an income less than 200,000 DKK (26,832 Euro, 31,661 USD) halved in comparison to their number in 2000. In contrast, the number of people with income more than 600,000 DKK (80,496 Euro, 94,985 USD) almost doubled in 2018 in comparison to 2000, shown in Figure 2 (Statbank, 2018). Poverty rates in Copenhagen have increased from 12.5% in 2005 to 17% in 2017, which is almost two times more than the national level (OECD, 2017). The national level poverty rate grew from 6% in 2005 to 8% in 2017 (OECD, 2017).

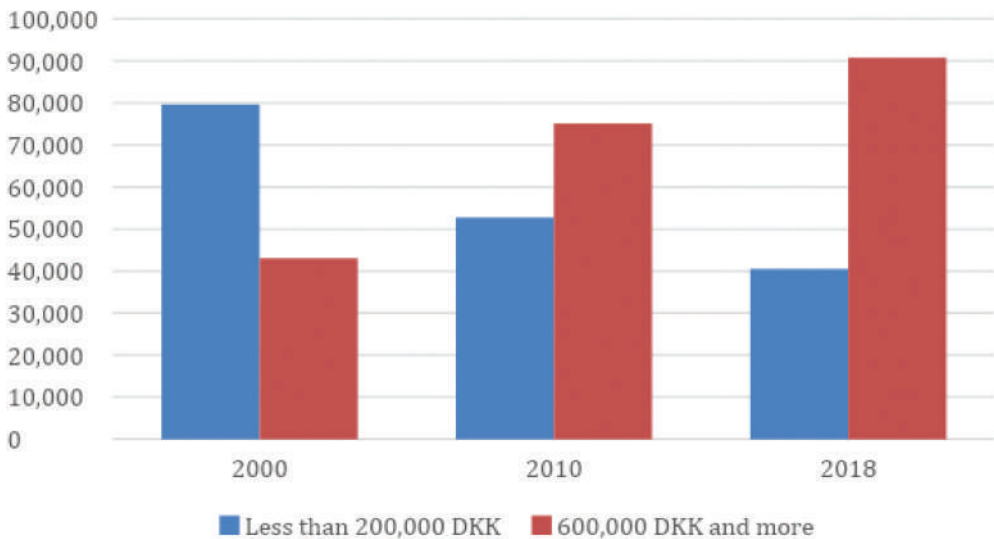


Figure 2. Changes in the number of people earning annually less than 200,000 DKK (26,832 Euro, 31,661 USD) and 600,000 (80,496 Euro, 94,985 USD) living in Copenhagen in 2000, 2010, and 2018 (Statbank.dk, 2018).

Residential differentiation is observed in Copenhagen. Adult people living in Northern Harbor and newer parts of Southern Harbor had the highest disposable annual income level, where privately owned housing has the highest percentage in these areas (Københavns_Kommune, 2018b). People living in harbor areas have the highest income by 250,000 DKK (33,457 Euro, 39,3577 USD) or more per year after taxes in 2018, as shown in Figure 3 (Københavns_Kommune, 2018b). However, the majority of groups that have been affected from increasing housing expenses have been youth aged between 18 and 24 as well as low-income single parents with dependent children in Denmark (Eurostat, 2018a, p. 37).

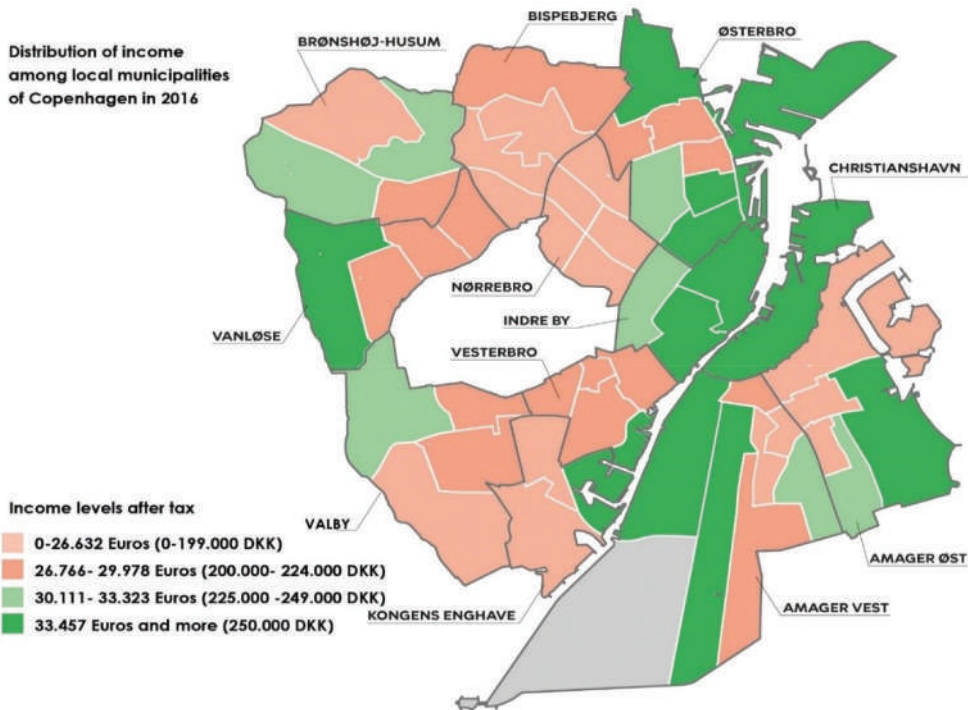


Figure 3. Net annual average income (after tax) of households living in Copenhagen in 2016 (Københavns_Kommune, 2018b, p. 13).

4 Findings: copenhagen city zoning plan strategy

Rent amount of AH has increased in years due to increasing land prices after the abolishment of the regulation to sell land to non-profit housing associations by a national law and regulation of rent control for houses produced after 1991 in Copenhagen (Scanlon et al., 2015). AH in Copenhagen maintains a ratio of 20% of the housing stock; while the number of privately owned housing units increase, so does the number of AH units with zoning plans (Interview, 2020; Tillæg 44, 2015). The Copenhagen municipality targets to produced AH in housing areas that reside higher income holders, as explained by a planner at the municipality of Copenhagen as;

‘Central parts of the city are very attractive for many people and students as well. Students have lower income than people working 40 hours a week, but also, we have other citizens who are on welfare. For that reason, it’s important to mix new housing types so that we will not get a very polarized city. We have the problem of large differences in housing areas. The older parts of Sydhavn have low incomes but not in the newer parts of Sydhavn, because there are mostly privately owned apartments and people living there have double incomes. The research of the Ministry of Urban, Housing and Rural Affairs in 2014 found that the most divided city of Denmark is Copenhagen’ (Interview, 2016a).

The city plan strategy has a zoning plan that gives an opportunity to transform locally planned industrial, businesses and commercial areas for these housing purposes (LBKNO.1116, 2017; Tillæg6, 2015). Particularly central parts of Copenhagen have less AH, see [Figure 4](#). An interview with an officer of the urban planning department from the Municipality of Copenhagen states as follows:

‘We want to build public housing [AH] in a way that leads this city as less segregated as possible. We have been looking into the school districts. See how high is the percentage of the public housing in each school district. And you can see the dark green areas on this map are areas with less than 20% public housing; light green is between 20 and 30; the other areas with more than 30%. So ideally, we want to build in the light green areas. If we want to build in this yellow area, we have to be careful about how they [AH] interact with the rest of the city’ (Interview, 2016a).

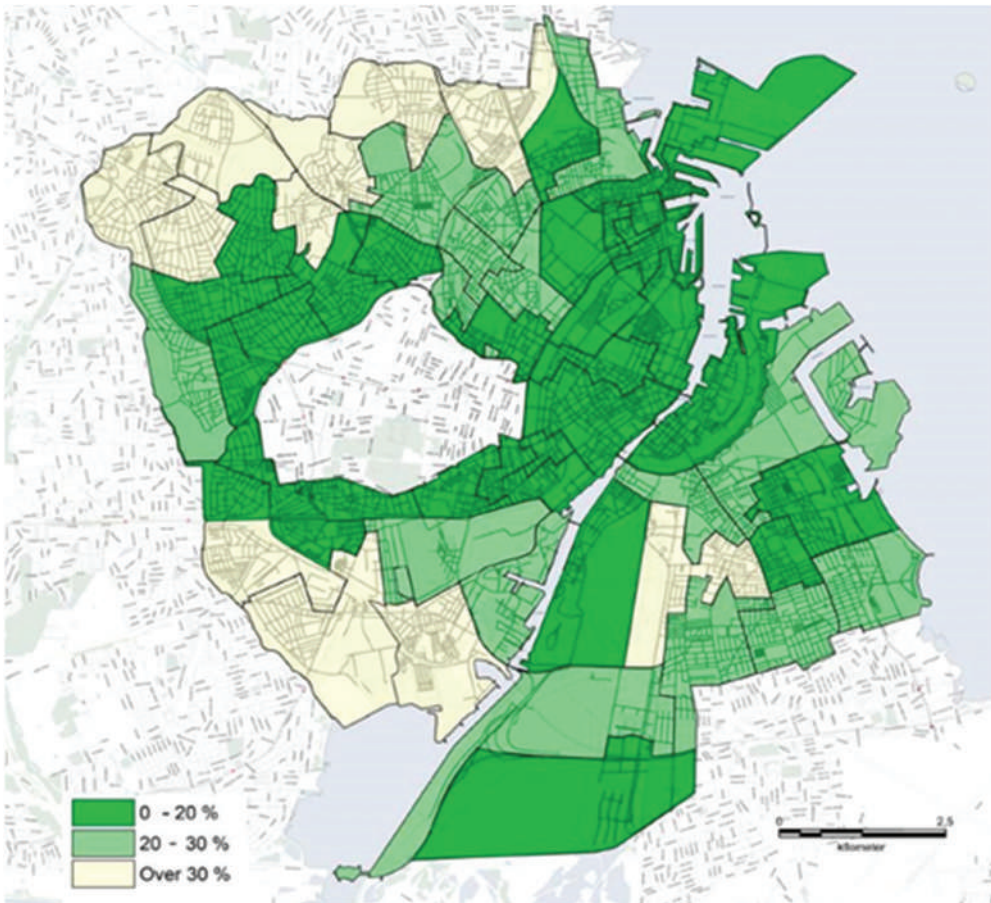


Figure 4. The density of AH units (Almene Boliger) in school districts of Copenhagen (Københavns Kommune, 2015a, p. 5).

The density of AH units (Almene Boliger) of school districts in Copenhagen is considered by the municipality. The municipality has planned approximately 2,371 new AH units to be produced in Copenhagen every year (Københavns_Kommune, 2019b). Municipality has been in negotiation with private developers to implement this rule and to produce 140 AH units on private land (Københavns_Kommune, 2019b). Since 2015, 24 local plans have been developed with the zoning plan, which includes 220.000 square meters reserved for AH in the area (Interview, 2020). So far about 48% this reserved area is tied to AH projects, which are being built and the rest is still unused (Interview, 2020). Copenhagen municipality has the highest rate of AH production using the zoning plan in the country (Interview, 2020).

4.1 Partnerships for the development of AH in Denmark

Before the development of the land use zoning plan in 2015, local partnership emerged to produce AH with a private housing fund in Copenhagen after conflicts between liberal government seated in 2001 and non-profit housing associations in Denmark. Financial resources of associations were reduced in 2002 and a law enacted to privatize AH units in 2004 (Larsen & Lund Hansen, 2015). Furthermore, due to national neoliberal housing policies to increase the number of owner-occupied housing, during a 10-year period between 1994 and 2004, almost 40,000 rental housing were transformed into cooperative and owner-occupied housing (Scanlon et al., 2015; www.information.dk, 2005, 20). Meanwhile, between 1993 and 2003, Copenhagen city had 34,375 migrant residents, many who were young, were in urgent need of rental housing (www.information.dk, 2005, 20). Therefore, the city needed rental housing stock to meet the needs of newcomers and low-income groups in Copenhagen.

The former City Mayor of Copenhagen removed the restrictions, dated from the 1970s that were created by local governments in the metropolitan Copenhagen area, rejecting AH construction applications in 2004 to promote new AH production (Sónia Alves & Andersen, 2015). Also, in the election campaign of 2005, the elected City Mayor of Copenhagen promised to produce 5000 private AH units and to establish a private housing fund to produce AH (Sónia Alves & Andersen, 2015; Møller, 2006). These 5000 housing units consist of a new type of prefabricated housing, each unit having 100 square meters, rented for 5,000 DKK (670 Euro, 838 USD) monthly in 2005 (Sónia Alves & Andersen, 2015; Møller, 2006).

However, only 12 homes with affordable rents and 38 cooperative housing units out of 5000 were actually produced in 2008 (BygherreForeningen, 2008; Scanlon & Vestergaard, 2007). Although the total number of units were not produced, the goal behind the idea of the mayor of Copenhagen had been to inspire and create a base for continued production of cheaper dwellings using these prefabricated units. One of the planners at the municipality of Copenhagen explained the difficulties in meeting the goal to produce 5,000 AH units as follows:

“Ritt Bijegaard [City Mayor of Copenhagen] had a vision of building family housing with a rent of 5,000 DKK. The aim was to produce 5,000 units and that was very difficult. I mean it was a period of very high activity in the housing market; it may be for that reason that the land prices went up. This didn't make it possible to build a lot of public houses. That's part of the

story of the mission to make public housing with even lower rents” (Interview with municipality, 2016)

In 2009, the municipality of Copenhagen created a partnership with the non-profit housing association called KAB, for the construction of AH units called AlmenBolig+ homes (Kobenhavn Kommun, 2010). AlmenBolig+ consists of housing units that do not have maintenance fees. The maintenance of houses such as cleaning of common parts belong to the tenants. The areas of housing units are between 80 and 125 m² (KAB, 2018a). In 2009, AlmenBolig+ modules were produced in Køge, Hvidovre, Copenhagen, Herlev, Hillerød, and Århus (BL, 2009). Between 2010 and 2013, 557 AlmenBolig+ homes were produced; in 2015, 282 units were produced (Kofod, 2016). Then, in 2017, 168 AlmenBolig+ homes were produced in Copenhagen (Kofod, 2016). AlmenBolig+ homes were designed especially for families with children (Annex401, 2018; KAB, 2009; kab-bolig.dk, 2019c; Københavnskommun, 2016).

The Municipality of Copenhagen and KAB had another agreement in 2015 for the production of at least 10% of reserved area for small housing units, referred to as BasisBolig⁵ homes, with a rent of 3200 DKK (428 Euro, 565 USD) consisting of 35 square meters in 2015 (Kofod, 2016; Schouenborg, 2015; Københavns_Kommune, 2013). Later in 2019, the portion of reserved land increased to 20% to include AH for families in addition to young people with an area consisting of 45–50 square meters (Københavns_Kommune, 2020). The rent is aimed to be kept around 3,400 DKK per month in 2020 (442 Euro, 503 USD) (Interview, 2020). Generally, average rent in Copenhagen for a room in a shared apartment for individuals is 4,000 DKK (456 Euro, 519 USD), single family units’ range between 7,000 (939 Euro, 1070 USD) and 12.000 DKK (1609 Euro, 1835 USD) in 2020 (international.kk.dk, 2021).

The BasisBolig concept was developed based on research that analyzed housing preferences of young people in Copenhagen (Hansen et al., 2014). The research target group was young people looking for jobs after completing university or college education, young people entering higher education and disadvantaged young people who have problems, such as criminal, addiction, mental health, or related severe crises and trauma backgrounds that have been documented (Hansen et al., 2014). The most important feature of a house for a young person in the target group is its location to their education or job and its affordability (Hansen et al., 2014). Figure 5 illustrates AH construction projects by zoning plan, the red local plan areas consisting of AH construction that has recently started, while the yellow local areas have 90% construction rate of AH (Kommun, 2015). The planner from Copenhagen Municipality explained this change as in the interview as,

“To ensure that public housing is also built for vulnerable Copenhageners, part of the public housing is targeted at those who need housing the most. For up to 20% of the new public housing, requirements may be made that the housing can be used to a special extent for the social housing directive. Homes for young people must have a maximum rent of DKK 3,400⁶ per month” (Interview, 2020).

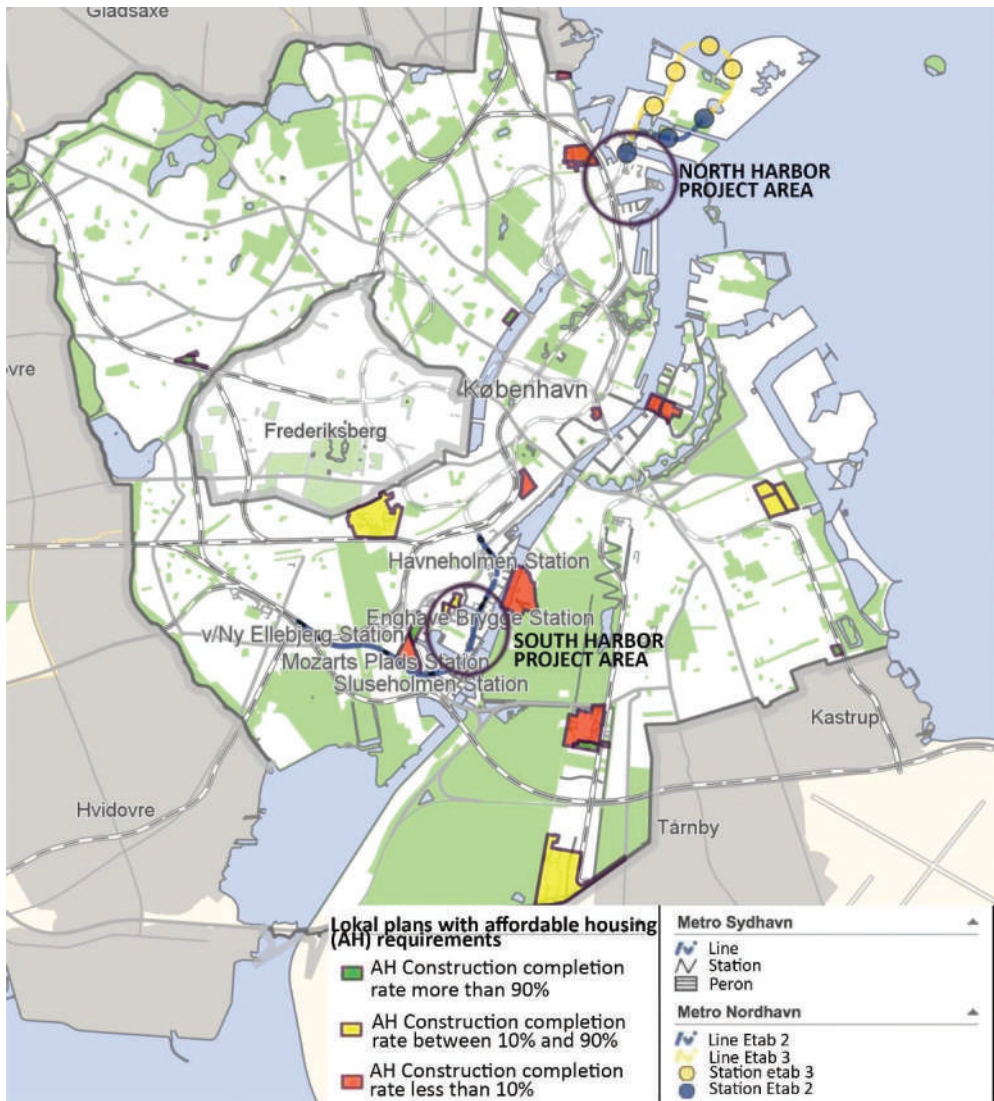


Figure 5. AH planned and produced through a zoning plan of 2015 demanding AH production by reserving 10% and up to 25% of the land in 2020 (Københavns_Kommuneplan, 2020; Kommun,2015).

4.2 Partnership examples in south harbor and north harbor

Copenhagen City Plan of 2015 has included a project by zoning plan on AC Meyers Vinge street in Teglholmen provided youth housing, family housing and BasisBolig respectively (plandata, 2016). In the North Harbor area, affordable housing units were planned to be used as family, youth and BasisBolig homes (kab-bolig.dk, 2019d; Kab-bolig.dk, 2018). Teglholmen project completed by a partnership between a private company and a nonprofit housing association, producing a tenant mixed project, including 8 BasisBolig within 107 youth housing units (kab-bolig.dk, 2019, 2019d, 2019d).

Affordable homes on A. C. Meyers street of Teglholmen in South Harbor are planned to produce BasisBolig homes currently available to be rented, as of 2020 (kab-bolig.dk, 2019, 2019b). This partnership project includes 105 private homes planned in 2016 and finished in 2020, as shown in Figure 6 (3B, 2016, p. 3; kab-bolig.dk, 2019b).



Figure 6. Project area of AH by zoning plan in South Harbor Area, Teglholmen (3B, 2019, p. 3).

In North Harbor, Århusgadekvarteret area has been developed with housing consisting of Basis Bolig, family and larger youth housing units, shown in Figure 7 (Københavns_Kommune, 2018a; PlanAnnouncement, 2019). The land belonged to By&Havn (the state and Copenhagen Municipality owned company) and purchased by a non-profit housing association (BL, 2020; Københavns_Kommune, 2015b). A total of 131 AH units were planned, 95 housing units for families, 12 for youth, and 24 units produced as BasisBolig homes in 2020 (BL, 2020; Mahler, 2020, 20).

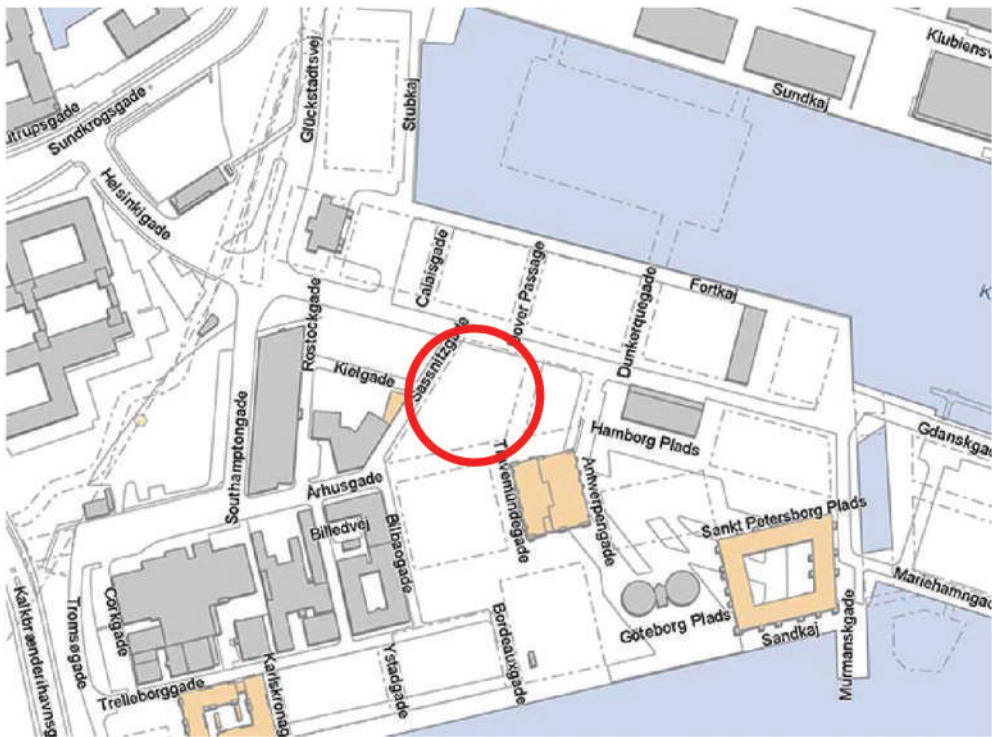


Figure 7. Project area of AH by zoning plan in North Harbor (PlanAnnouncement, 2019).

4.3 Analysis of findings for the affordability of housing in southern and northern harbor

In South Harbor, AH produced by a nonprofit housing association in 2014 was found as the most affordable by 26% for a low-income couple with two children (one of them is working full time with lowest income and the other has welfare subsidies and working part time), while private homes in the same area have 84% affordability level. In Nordhavn, in Århusgadekvarteret, AH by zoning plan for families produced in 2020 and housing affordability was calculated as 30% that is acceptable, while the affordability level of private housing was 53% that is higher than the acceptable affordability level.

In the South Harbor area, BasisBolig homes in the Teglholmen neighborhood are at the second lowest affordability level, 32% for low-income young groups. The rent amount at this affordability level is higher than the acceptable ratio of housing affordability. The affordability rate is a maximum of 30%. BasisBolig homes in Nordhavn, in Århusgadekvarteret have a 38% affordability level for a one room apartment consisting of 42 m².

Affordable homes produced by nonprofit housing associations in harbor areas were found as unaffordable for people who are single parents with two children. In South Harbor, for a single parent older than 30 years old with two children, working part-time, and is

living in a house produced by nonprofit housing associations recently has an affordability level of 56%, much higher than the acceptable rate of affordability, which is 30%. In North Harbor, Århusgadekvarteret area AH has been produced by nonprofit housing associations recently, and has an affordability level at 64% a single parent older than 30 years old with two children. This affordability level is also high for single parents having two children.

5 Discussion and conclusion

This study contributes an assessment of the implementation of the first zoning plan of Copenhagen and an analysis of affordability of the AH produced with this zoning plan. The assessment of housing affordability includes the geography analysis of housing that should be close to business districts and schools because transportation costs to commute affect the amount spent on housing. In addition, rent to household income ratios should be the same or less than 30% to define a house as affordable.

The Copenhagen zoning plan was developed considering school areas and plans provided reserved land for AH production. This paper analyzed housing affordability in harbor areas of Copenhagen where the zoning plan was implemented. AH by zoning plans were implemented in the central part of Copenhagen, harbor areas that are close to the central business district and schools. Therefore, low-income groups have adequate access to business areas, schools and metro.

Findings were compared to traditional AH units and private rental homes in harbor areas of Copenhagen. This paper does not support the previous findings regarding rent amounts AH produced before zoning plans and private rental housing in Copenhagen are slightly different (Scanlon et al., 2015), which were very different in 2020. In South Harbor, housing affordability for homes produced by nonprofit housing associations before zoning plan was found as 26% for a low-income couple with two children, while private homes in the same area had 84% affordability level in 2020. In Nordhavn, housing affordability was calculated as 30% for homes produced by zoning plan, while the affordability level of private housing was 53% that is higher than the acceptable affordability level. Also, in North Harbor, there was no AH for families and young groups before the zoning plan that was produced in 2020. AH produced with a zoning plan is affordable for low-income families.

However, in South Harbor area, AH for young low-income groups referred to as Basis Bolig homes produced by zoning plans in the Teglholmen neighborhood have an affordability level that is higher than the acceptable ratio. Also, in North Harbor, the affordability level for similar small youth homes, Basis Bolig homes, produced by zoning plans in Århusgadekvarteret are higher than the acceptable ratio of housing affordability for low-income young groups who are getting integration and education benefits.

In Copenhagen, young low-income groups and single parents with children have been mostly affected by high rent. However, housing by zoning plan in both harbor areas of Copenhagen is still not affordable for a single mother with two children or young low-income groups. Therefore, more strategies through zoning plans should be developed to provide housing affordability for single parents with children and young low income in Copenhagen. Even though the number of produced AH by zoning plans is still small,

selection of the highest income areas having close connection to the city center to produce AH is an effective and promising outcome.

Notes

1. Affordable housing as defined in this study consists of rental units that have a rent amount not exceeding 30% of household income and households are given rent subsidies by state.
2. Currency conversion was done for this paper considering European Central Bank's currency exchange values. In average, 1 DKK was equal 0,13,419 Euro and 1 Euro was equal to 1,25 USD in 2005. 1 DKK was equal 0,13,419 Euro and 1 Euro was equal to 1,25 USD in 2005. 1 DKK was equal 0,13,383 Euro and 1 Euro was equal to 1,32 USD in 2015. 1 DKK was equal 0,13,416 Euro and 1 Euro was equal to 1,18 USD in 2018. 1 DKK was equal 0,13,394 Euro and 1 Euro was equal to 1,12 USD in 2019. 1 DKK was equal 0,13,415 Euro and 1 Euro was equal to 1, 14 USD in 2020 (ECB, 2021).
3. In Europe, people at risk of poverty are people having less than the income and resources that are 'thought to be adequate or socially acceptable in the society in which they live' (COE, 2017).
4. There are approximately 650 housing associations in Denmark that are financially independent, with about 7000 local housing estates (BL, 2018). Housing estates are managed by housing associations, but the housing associations cannot transfer money to housing estates in order to produce AH, also associations cannot subsidize estates and neither do estates (BL, 2018). There are 47 housing estates that manage 64 340 flats in Copenhagen (BL, 2018).
5. BasisBolig is also called as servicelovs boliger.
6. 3,400 DKK equals 442 Euro and 503 USD in 2020.

Acknowledgments

The author of this article is thankful academicians working at the Institute for Building, City and Environment (Institut for Byggeri, By og Miljø, 'Build') and the research director of the institute, Hans Thor Andersen, who have provided information during interviews, valuable feedback, and discussions during the development of the article. Also, many thanks to four anonymous referees for their comments and suggestions that significantly contributed to the final result.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

- Almene Boliger Act No.221 (2015) Lov om ændring af lov om almene boliger m.v., Ministry for Housing, Urban and Rural, Copenhagen.
- Alves, S., & Andersen, H. T. (2019). The role of the welfare state and housing policies as a medium and outcome of rising inequality in the cities. In T. H. E. Bargelli, H. Simon-Moreno, & C. Vazques Varela (Eds.), *Housing policy and tenure types in the 21st century. A southern european perspective* (pp. 73–108). Pisa University Press.
- Alves, S., & Andersen, H. T. (2015). *Social housing in portugal and denmark: A comparative perspective*. Paper presented at the ENHR-European Network for Housing Research Conference 2015.
- Andersen, B., & Røe, P. G. (2017). The social context and politics of large scale urban architecture: Investigating the design of Barcode, Oslo. *European Urban and Regional Studies*, 24(3), 304–317. <https://doi.org/10.1177/0969776416643751>

- Andersen, H. S. (2012). *Housing policy in the Nordic countries and its implication for the housing of immigrants*. SBI forlag.
- Andersen, H. T. (1991). The political urbanization fringe development in Copenhagen. *Espace, populations, sociétés*, 9(2), 367–379. <https://doi.org/10.3406/espos.1991.1476>
- Andersen, H. T., & Winther, L. (2010). Crisis in the resurgent city? the rise of copenhagen. *International Journal of Urban and Regional Research*, 34(3), 693–700. <https://doi.org/10.1111/j.1468-2427.2010.00984.x>
- Andersen, J., & Pløger, J. (2007). The dualism of urban governance in Denmark. *European Planning Studies*, 15(10), 1349–1367. <https://doi.org/10.1080/09654310701550827>
- Annex 401. (2018). Draft legislative proposal amending the Housing Act. 401, Samling 2016–17 Alm.del bilag 401, 29. <http://www.ft.dk/samling/20161/almdel/tru/bilag/401/index.htm>
- Appendix 44 (2015): Social housing general conditions and preferences “Almene boliger generelle bestemmelser”.
- B. (2016) (TEGLHOLMEN - BYGGEFELT B 04.03.2019). <https://docplayer.dk/68970753-Teglholmen-byggefelt-b-praesentation.html>
- B. (2019). Støberigade MARTS 2019 Boligforeningen 3B and KAB. <https://www.3b.dk/Files/Files/KAB-BOLIG.DK-dokumenter/Boligs%C3%B8gende/Pjecer/Udlejningspjece/Stoeberigade-udlejningspjece-foereloebig.pdf>
- Badcock, B. (2018). *Urban planning and the housing market. international perspectives for policy and practice*. Taylor & Francis. ISBN 0811–1146
- BL. (2009). *Klimabolig- Fremtidens byggeri. Vol. Klimaforum09* (p. 36). Boligselskabernes Landsforening.
- BL. (2018). BL - Danmarks almene boliger. about 530 housing organizations are members of BL - Denmark 's general housing. Boligselskabernes Landsforening, BL, Copenhagen [Access Date 11.08.2018]. <https://www.bl.dk/>
- BL. (2020). Over 100 almene boliger indviet i Nordhavnen. Boligselskabernes Landsforening, BL, Copenhagen. <https://fagbladetboligen.dk/artikler/2020/februar/over-100-almene-boliger-indviet-i-nordhavnen/>. Access Date: 15.07.2020
- Boligstat. (2019). Nye almene boliger. Bolig- og Planstyrelsen, Copenhagen. Retrieved https://boligstat.dk/SASStoredProcess/guest?&_PROGRAM=/Boligstat/OutputFrontEnd&menu=2#. Access Date: 13.11.2019
- Borger, Dk. (2021). Kontanthjælpsloftet for modtagere af uddannelseshjælp. Digitaliseringsstyrelsen, Copenhagen <https://www.borger.dk/arbejde-dagpenge-ferie/Dagpenge-kontanthjaelp-og-sygedagpenge/Kontanthjaelp/Kontanthjaelpsloftet>
- Brenner, N., & Theodore, N. (2017). Actually existing neoliberalism. In Damien Cahill M. C., Konings Martijn, Primrose David (Ed.), Chapter 1: Actually Existing Neoliberalism (pp. 1–29)
- Ministeriet for By, B. o. L. (2014). Segregering i de fire største danske byområder. Ministeriet for By Bolig og Landdistrikter -Ministry of City, Building and Landscape, Copenhagen: Access Date 14.11.: <https://www.ft.dk/samling/20131/almdel/byb/bilag/57/1348122/index.htm>
- Calavita, N., & Mallach, A. (2010). *Inclusionary housing in international perspective: Affordable housing, social inclusion, and land value recapture*. Lincoln Institute of Land Policy.
- Cole, I., & Etherington, D. (2005). Neighbourhood renewal policy and spatial differentiation in housing markets: Recent trends in England and Denmark. *European Journal of Housing Policy*, 5 (1), 77–97. <https://doi.org/10.1080/14616710500055703>
- Danmarkbolig, D. (2021). Q&A: Questions and answers. Denmark's largest public housing web site
- Ec.europa.eu. (2019). Your security rights in Denmark. In Directorate General for Employment, Social Affairs and Inclusion (pp. 63). European Commission, Brussels. <https://ec.europa.eu/social/main.jsp?catId=1107&langId=en>
- ECB. (2021). Danish krone to Euro and USD exchange rates. European Central Bank. Frankfurt. Accessed 16.02.2021. https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/eurofxref-graph-dkk.en.html
- Engberg, L. (2000). Social housing in Denmark: (Research Papers no. 6/00). In: Roskilde Universitet, Institut for Samfundsvidenskab og Erhvervsøkonomi

- Esping-Andersen, G. (1990). 4 The Three Political Economies of the Welfare State. *International Journal of Sociology*, 20(3), 92–123. <https://doi.org/10.1080/15579336.1990.11770001>
- Eurostat. (2018a). Living conditions in Europe (E. D. Meglio, Ed.). Publications office of European Union. <https://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-DZ-18-001> Access Date: 13.11.2019
- Eurostat.(2018b), (11.11.2020). People at risk of poverty or social exclusion by household type. European Commission. Brussels. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Living_conditions_in_Europe__poverty_and_social_exclusion#Poverty_and_social_exclusion
- Eurostat. (2020). EU statistics on income and living conditions (EU-SILC) [https://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_\(EU-SILC\)_methodology_-_monetary_poverty](https://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology_-_monetary_poverty)
- Freeman, L., & Schuetz, J. (2017). Producing affordable housing in rising markets: What works? *Cityscape*, 19(1), 217–236. ISSN 1936-007X. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2851175
- Gibbs, J. (2020). Integration through affordability-exploring inclusionary housing strategies in New York City and Gothenburg. (Masters Thesis). Chalmers University, Department of Architecture and Civil Engineering (ACE). <https://hdl.handle.net/20.500.12380/301378>
- Hansen, K. E., Højring, L. H., & Blach, V. E. M. (2014). Ungdomsboliger i lille størrelse. -Youth Housing in Small Size. Aalborg University, Department of Construction, Urban and Environment, SBI 2014: 23
- Hochstenbach, C., & Musterd, S. (2018). Gentrification and the suburbanization of poverty: Changing urban geographies through boom and bust periods. *Urban Geography*, 39(1), 26–53. <https://doi.org/10.1080/02723638.2016.1276718>
- Interview. (2016a) . 25% rule/Interview with Copenhagen Municipality Interviewer: S. Turk
- Interview. (2016b) . 25% rule/Interviewer: S. Turk. Interview with academicians from Danish Building Institute, Aalborg University, Copenhagen
- Interview. (2020). 2.11.2020 Affordable housing production with 25% rule/ Interview with Copenhagen Municipality Interviewer: S. Turk
- Jensen, L. (2013). Housing welfare policies in scandinavia: a comparative perspective on a transition era. *LHI Journal of Land, Housing, and Urban Affairs*, 4(2), 133–144. <https://doi.org/10.5804/LHIJ.2013.4.2.133>
- KAB. (2009). God plads, høj kvalitet, rimelig leje - 1.000 nye lavenergiboliger på vej. KAB Bolig, Copenhagen 11.12.2020 Retrieved from Copenhagen: https://www.kk.dk/sites/default/files/edoc_old_format/Borgerrepraesentationen/26-08-2010%2017.30.00/Referat/01-09-2010%2010.31.36/5491931.PDF
- KAB. (2018a).AlmenBolig + is a modular building where you get a “shell” that you create. AlmenBolig +. KAB Bolig Copenhagen <https://www.kab-bolig.dk/om-kab/by-og-boligudvikling/almenbolig>. Access Date: 16.06.2018
- KAB. (2018b). BasisBoligen er en lille, billig ungdomsbolig til maksimalt 3.200 kr. om måneden. KAB Bolig Copenhagen Retrieved, from <https://www.kab-bolig.dk/om-kab/by-og-boligudvikling/basisboligen>. Access Date: 23.06.2018
- kab-bolig.dk. (2019).AC Meyers Vinge. KAB Bolig Copenhagen <https://www.kab-bolig.dk/boligsoegende/boliger-paa-vej/a-c-meyers-vaenge>. Access Date: 22.11.2019.
- kab-bolig.dk. (2019b).Boligselskabet AKB, København opfører 82 almene boliger i Teglhølmkvarteret i Københavns Sydhavn. Teglværksgården (tidl. Vestre Teglgade). KAB Bolig Copenhagen <https://www.kab-bolig.dk/boligsoegende/boliger-paa-vej/teglvaerksgaarden-tidl-vestre-teglgade>. Access Date: 21.11.2019.
- kab-bolig.dk. (2019c).Fleksible kriterier. KAB Bolig Copenhagen <https://www.kab-bolig.dk/boligsoegende/venteliste-og-ventetid/fleksible-kriterier>. Access Date: 15.11.2019.
- kab-bolig.dk. (2019d, 13.08.2020).Ministerpremiere i Sydhavnen. KAB Bolig Copenhagen <https://www.kab-bolig.dk/nyheder/2019/ministerpremiere-i-sydhavnen>. Access Date:

- Kab-bolig.dk. (2018). BasisBoligen is a small, cheap youth home for a maximum of DKK 3,200 a month. Basic Home "Basis boligen". KAB Bolig Copenhagen <https://www.kab-bolig.dk/om-kab/by-og-boligudvikling/basisboligen>. Access Date: 16.06.2018
- Kab-selvbetjening. (2018). AlmenBolig+. Retrieved 16.01.2021 from <https://www.kab-selvbetjening.dk/Ansoger/Find-bolig#!?geografiskPlaceringKodeId=6799&geografiskPlacering2KodeId=6806&geografiskPlacering2KodeId=6807&geografiskPlacering2KodeId=6808&geografiskPlacering2KodeId=6809&geografiskPlacering2KodeId=6810&geografiskPlacering2KodeId=6811&geografiskPlacering2KodeId=6812&medtagUngdomsboliger=false&medtagAeldreboliger=false&medtagFamilieboliger=false&antalLejemaalGrupper=60&rumMin=1&rumMax=2>
- Københavns_Kommune. (2013). "Basisboligen" Partnerskabsaftale mellem Københavns Kommune og KAB, Copenhagen Municipality, Copenhagen Retrieved from <https://www.kk.dk/sites/default/files/edoc/e19fb5ee-414c-44a9-b31f-779c04262eb2/b710f37c-14ab-468c-a13e-7baeff0ff82c/Attachments/10572675-10456908-6.PDF>
- Københavns_Kommune. (2018a). Lokalplan Århusgadekvarteret i Nordhavn tillæg 3 vedtaget. Copenhagen Municipality, Copenhagen. <https://www.kk.dk/nyheder/lokalplan-aarhusgadekvarteret-i-nordhavn-tillaeg-3-vedtaget>
- Københavns_Kommune. (2018b). Verdensby med ansvar. Copenhagen Municipality, Copenhagen. https://www.kk.dk/sites/default/files/uploaded-files/planstrategi_2018_0012_opslag.pdf
- Københavns_Kommune. (2019b, 09/05/2019). Several public housing on the way to Copenhagen, Copenhagen Municipality, Copenhagen. <https://www.kk.dk/nyheder/flere-almene-boliger-paa-vej-til-koebenhavn>. Access Date: 14.11.2019
- Københavns_Kommune. (2020, 09.05.2019). Almene boliger i København. from <https://kk.dk/artikel/almene-boliger-i-koebenhavn>
- Københavns_Kommune. (2020, 09.05.2019). Almene boliger i København. Copenhagen Municipality, Copenhagen. <https://kk.dk/artikel/almene-boliger-i-koebenhavn>. Access Date: 14.11.2019
- Københavnskommun. (2015b). Københavns Kommunplan -Copenhagen's city plan, Copenhagen Municipality. Den sammenhængende by
- Københavnskommun. (2016a). Status on Copenhagen: Key Ratio for Copenhagen 2016. Copenhagen Municipality, Copenhagen: <https://www.kk.dk/sites/default/files/Status%20p%20C3%A5%20K%C3%B8benhavn%202016.pdf>
- Københavnskommun. (2016b). Teglværkshavnen local plan number 310. Copenhagen Municipality, Copenhagen: <https://www.kk.dk/sites/default/files/edoc/ab54d9ca-220a-486e-b3aa-6fa20e3b07a9/5c5ee794-756f-4ffa-a208-6d1bd974f022/Attachments/10437858-10320440-1.PDF>
- Kofod, S. (2016). Historien om nytænkning af det almene boligbyggeri. KAB Bolig, Copenhagen. Retrieved from https://forsoegspuljen.almennet.dk/media/564475/almeboligplus_bog.pdf
- Kommun, K. (2010). Udvidelse af Boligpakke 1 Principiel beslutning om opførelse af nye boliger på. Copenhagen Municipality, Copenhagen
- Kommun, K. (2015). Forslag til tillæg til kommuneplan 2015 almene boliger i serviceerhvervsområder generelle bestemmelser. Copenhagen Municipality, Copenhagen: <https://www.kk.AlmenBolig+dk/sites/default/files/edoc/de4dcf8b-3030-4e04-802d-3fba7499d773/259312d5-4455-4915-8e51-23b5abd071e1/Attachments/17666489-22720309-1.PDF>
- Kontanthjælpsloft. (2016). Boligstoette-eksempler-paa-kontanthjælpsloft. Danish Ministry of Employment, Copenhagen <https://www.borger.dk/-/media/borgerdk/Dokumenter/Udbetalingdanmark/Boligstoette-eksempler-paa-kontanthjælpsloftpdf.pdf>. Access Date: 28.07.2017
- Larsen, H. G., & Lund Hansen, A. (2015). Commodifying Danish housing commons. *Geografiska Annaler. Series B, Human Geography*, 97(3), 263–274. <https://doi.org/10.1111/geob.12080>

- LBKNo.119. (2019). The public housing act - executive order on the housing act. Ministry of Transport, Building and Housing. Copenhagen. Issue 01.02.2019
- LBKNO.1116. (2017). Executive Order of the Housing Act, etc. CX000173, 1116. <https://www.retsinformation.dk/Forms/R0710.aspx?id=192386>
- Leishman, C., & Rowley, S. (2012). Affordable housing. In *The SAGE handbook of housing studies* (pp. 379–396). Sage Publications. London. ISBN:9781847874306
- Li, F., & Guo, Z. (2020). Will mandatory inclusionary housing create mixed-income communities? Evidence from London, UK. *Housing Policy Debate*, 1–22. ISSN: 1051–1482
- Mahler, S. (2020, 20.02.2020). De første almene boliger i Nordhavn indviet. <https://www.domea.dk/nyheder-og-presse/nyheder/2020/2/de-foerste-almene-boliger-i-nordhavn-indviet/>. Copenhagen. Access Date: 15.07.2020
- Møller, J. N. (2006). *Fonden for billige boliger in Copenhagen Januar 2006 (The Cheap Housing Fund in Copenhagen)*. Copenhagen: Publisher: Jorgen Nue Moller m.fl. https://www.kk.dk/sites/default/files/edoc_old_format/Teknik-%20og%20Miljoeudvalget/08-02-2006%2015.00.00/Dagsorden/07-02-2006%2017.02.35/Billige%20boliger%20bilag%201.PDF .
- Økonomiforvaltningen. (2014). Settlement in Copenhagen “Bosætning i København”. En analyse af bosætningsmønstre og boligpræferencer, 62. Center for Urban Development, Finance Administration, Copenhagen Municipality. Byudvikling, Økonomiforvaltningen <http://forsoegspuljen.almennet.dk/media/560352/analyse-af-bosaetning-i-koebenhavn-web.pdf> Access Date: 29.03.2018
- OECD. (2017). OECD Income Distribution Database (IDD): Gini, poverty, income, Methods and Concepts. Organisation for Economic Co-operation and Development, Paris. Retrieved <http://www.oecd.org/social/income-distribution-database.htm>. Access Date: 17.07.2017
- Oswald, A. (2002). The Great 2003–2005 Crash in Britain’s Housing Market’. November <http://www.oswald.co.uk>
- PlanAnnouncement. (2019). Kobenhavns Kommunes Horingsportal. Copenhagen Municipality. Copenhagen. <https://blivhoert.kk.dk/>. Access Date: 21.11.2019
- plandata. (2016). Forslag til tillæg nr. 6 til lokalplan nr. 310 i supplerende høring. Copenhagen Municipality Planning Department Copenhagen http://dokument.plandata.dk/20_2969820_1476429704232.pdf
- RegionHovedstaden. (2019). Population of Copenhagen Region data. Retrieved 25.01.2021 from <https://www.regionh.dk/om-region-hovedstaden/fakta/befolkning/Sider/Befolkning.aspx>
- Scanlon, K., Fernández Arrigoitia, M., & Whitehead, C. M. (2015). Social housing in Europe. (pp. 1–12). Swedish Institute for European Policy Studies, LSE Research Online, London Access Date: 05.02.2016
- Scanlon, K. J., & Vestergaard, H. (2007). The solution or part of the problem? Paper presented at the Enhr 2007 International Conference ‘sustainable Urban Areas’, 25–28/06/2007
- Schouenborg, D. M. (2015). Background note to the Municipal Plan 2015. 2014–0176948, 2014-0176948-1, 16. <https://www.kk.dk/sites/default/files/edoc/Attachments/13079765-14509558-1.pdf>
- Statbank. (2018). Income by income interval, family type, owner/tenant of dwelling, unit, region and time database. Retrieved, from Statistics Denmark, Danish Statistics Institute, Copenhagen <https://www.statbank.dk/statbank5a/SelectVarVal/saveselections.asp>. Access Date: 12.06.2017
- Statbank. (2020a). Average disposable income in Copenhagen and Denmark database. Danish Statistical Institute, Copenhagen. <https://www.statbank.dk/statbank5a/SelectVarVal/saveselections.asp>. Access Date: 13.07.2020
- Statbank. (2020b). Income database. Danish Statistical Institute. Copenhagen. Retrieved, from <https://www.dst.dk/en/Statistik/emner/arbejde-indkomst-og-formue/indkomster>. Access Date: 13.07.2020
- Statbank. (2020c). Social expenditure by type of benefits, measure and time database. Danish Statistical Institute, Copenhagen <https://www.statbank.dk/statbank5a/selectvarval/saveselections.asp>. Access Date: 13.07.2020

- Statbank.dk. (2018). Equivalised disposable Income in decile groups, by municipality,decile average and time database. Danish Statistical Institute. Copenhagen. Retrieved <https://www.statbank.dk/statbank5a/SelectVarVal/saveselections.asp>. Access Date: 12.07.2020
- Stone, M. E. (2006). What is housing affordability? The case for the residual income approach. *Housing policy debate*,17(1), 151–184. ISSN: 1051-1482
- Tighe, J. R., & Mueller, E. J.(2013). The affordable housing reader. (1st ed.). Routledge. <https://doi.org/10.4324/9780203722671> ISSN 0415669375
- Tillæg6. (2015) 0060235–1 Supplementary documents of municipal plan of Copenhagen, Copenhagen Municipality, Copenhagen
- Tillæg 44. (2015). Announcemenet of municipal role on social housing Supplementary documents of municipal plan of Copenhagen. Copenhagen Municipality. Copenhagen 2015–0218799. <https://www.kk.dk/nyheder/bekendtg%C3%B8relse-af-kommuneplantill%C3%A6g-om-almene-boliger>. Access Date: 10.06.2018
- Transport, D. M. o. (2018). Landsbyggefondens økonomi.Transport,Bygnings og Boligministeriet. Retrieved 05.09.2018 from <https://www.trm.dk/-/media/files/publication/2018/analyse-af-land-sbyggefondens-oekonomi-februar-2018.pdf>
- Transport-ogBoligudvalget. (2019). TRU alm. del spørgsmål nr. 16: Bilag 1. <https://www.ft.dk/samling/20182/almdel/tru/spm/16/svar/1586304/2070502.pdf>
- Turk, S. (2019). Private finance integration to affordable housing production: a comparison between Copenhagen and Istanbul. *Journal of housing and the built environment*, 1–22. ISSN: 1566–4910
- Turk, S. S., & Altes, W. K. K.(2014). The applicability of inclusionary housing (IH) in Turkey. *Journal of housing and the built environment*,29(3), 507–520. ISSN:1566-4910.
- Velfærdsministeriet. (2009). Den almene boligsektors finansiering (The general housing sector's financing, Issue. <http://www.ft.dk/samling/20081/almdel/bou/bilag/71/658881.pdf>
- Winke, T. (2020). Housing affordability sets us apart: The effect of rising housing prices on relocation behaviour. Online first article *Urban Studies*. ISSN 0042–0980 doi:10.1177/0042098020943482
- www.information.dk. (2005, 20.10.2005). København mister tusindvis af lejeboliger: Copenhagen loses thousands of rental homes. *Information Online Newspaper*. <https://www.information.dk/2007/07/koebenhavn-mister-tusindvis-lejeboliger>. Access Date: 3.11.2020
- Yang, Z., & Chen, J. (2014). *Housing Affordability and Housing Policy in Urban China*. Springer ISBN 3642540449