

COPENHAGEN: RESILIENCE AND LIVEABILITY

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Christianshavn and bicycles
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KEYWORDS

- LIVEABLE CITY
- INCLUSIVE CITY
- INTEGRATED URBAN PLANNING

In the past 30 years, Copenhagen has undergone a great transformation. From an ageing, indebted city with fleeing industries and inhabitants, it has become one of the happiest cities in the world according to different city rankings. Copenhagen has based its resilience on a dynamic economy and a green and inclusive urban environment for its inhabitants. This has materialized through a comprehensive urban development strategy. The city has launched the revitalization of several declining neighborhoods over the course of decades with the objective of building a liveable city with ambitious economic, social and environmental objectives and that offers every citizen a homogenous urban and social fabric. The aim of Copenhagen is to make the city liveable, so all aspects of citizens' lives are taken into consideration in an inclusive strategy of urban planning, making cities and inhabitants more resilient to shock and stresses.

INTRODUCTION

The city of Copenhagen has undergone a massive transformation in the past 30 years, going from a declining city to one that is often depicted as one of the happiest, most prosperous cities in Europe. Thanks to an innovative and ambitious revitalization scheme, the city has managed to reverse the dangerous trend where declining fiscal resources and high social and infrastructure maintenance expenditure can lead cities to bankruptcy. The city has launched the revitalization of several declining neighborhoods with the objective of building a liveable city: one with ambitious economic, social and environmental objectives and that offers every citizen a homogenous urban and social fabric. The liveable city as conceived in Copenhagen is aligned with what is generally meant by resilience. Indeed, communities in such an environment tend to have the inner strength to resist future stresses or shock, which is at the core of resilience.

1. COPENHAGEN'S TRANSFORMATION SINCE THE 1980S

In the 1980s, the city of Copenhagen was suffering from the decline of its port and its industries. Unemployment reached 17.5% in the city and its annual deficit hit \$750 million. The city was stuck in a vicious circle of deindustrialization, unemployment, high welfare costs, suburbanization, an outdated housing market and strong segregation.

Yet, today Copenhagen and Denmark as a whole have a remarkably low unemployment rate – 4.4% at the end of 2017. The financial and economic crisis starting in 2008 had a relatively low impact on the city compared to other European cities and it recovered quite quickly. In 2008 and 2009, GDP shrank by respectively 1.8% and 1.1% and started growing again in 2010.

Copenhagen's attractiveness is witnessed by the fact that its population is growing again. Compared to the late 1980s, there are 40% fewer old people and 40% more young people, and there are also 20,500 more families with children now than in the years 2000. The city is even attractive to foreigners as there are today 37,000 more international residents than 10 years ago.

Copenhagen has become one of the “best cities” to live in according to international rankings. It is often on the top of lists of most liveable city, whether it is the UN's happiness index or the most liveable city ranking by the magazine Monocle. This is generally explained by its scale, its architecture, green public spaces, and its efficient transportation system and bicycles. But the key to the city's transformation is a comprehensive urban strategy that mixes economic dynamic, social inclusion and environmental concerns coming together in the concept of “liveable city”.

2. LIVEABILITY AT THE HEART OF THE CITY'S URBAN PLANNING

The aim of Copenhagen is to make the city liveable, so all aspects of citizens' lives are taken into consideration in an inclusive strategy of urban planning. That includes jobs and affordable houses but also a green environment and citizens' health and lifestyles.

Copenhaguen city life - ©Kontraframe



“COPENHAGEN IS CONTINUOUSLY RATED AMONG THE MOST LIVEABLE AND GREENEST CITIES IN THE WORLD. TODAY OUR HARBOR IS SO CLEAN WE CAN SWIM IN THE WATER AND MORE THAN 62% OF COPENHAGENERS RIDE THEIR BIKE TO WORK OR SCHOOL EVERY DAY.”

Frank Jensen, Lord Mayor of Copenhagen

2.1. GREEN INFRASTRUCTURE AND CLIMATE STRATEGY

Climate change in Denmark is predicted to increase rainfall to such an extent that current infrastructure would be unable to cope. Flooding could become common place, and predictably extremely costly. In 2011, a particularly heavy rainfall caused over \$1 billion in damage and “100 years” rainfalls have happened twice in the past five years.

Therefore, climate adaptation is an important pillar of the climate strategy of Copenhagen. The city pilots the redevelopment projects occurring in the city, and therefore has the capacity to impose green, forward-looking infrastructure. One of the most striking examples of this is the integration in neighborhoods of green spaces that can retain water when rainfalls cause risks of flooding. In the neighborhood of Osterbro, a park was opened in 2015 that fights soil waterproofing and heat islands. When rainfalls are too heavy, the water is retained in parts of the park and then slowly redirected to the city's water system and is also used in the summer to water the plants of the garden.

Mitigation is also an important side of the climate strategy of Copenhagen. The city plans to be the first carbon neutral city by 2025 and has dedicated \$472 million through to 2025. And if the private sector is included, \$4.8 billion will be invested. To reach this target, the construction, transportation, waste management and energy sectors are concerned. The city has already made significant progress, reducing CO₂ emissions by 21% from 2005 to 2011.

Energy is one of the main areas of work to make the city carbon neutral and in particular electricity generation and heating systems. Three quarters of the efforts planned to reach carbon neutrality by 2025 will target these two domains. Regarding energy generation, the objective is to move away from coal to wind turbines and biomass. Wind turbines supply one third of the country's electricity and the city plans to add above

100 turbines. As for heating, 98% of households are connected to the district heating system that uses waste heat from power plants to warm houses. For the transportation sector, fostering cycling is a major element of the climate neutrality plan but public transportation is also involved. By 2025, 75% of all trips should be made by bike, foot or public transit and all buses will be replaced by electric buses. Lastly, private cars are targeted and already 85% of the city's cars run on electricity and hydrogen.

2.2. FOSTERING SOCIAL BONDS AND HEALTHY BEHAVIORS

In Copenhagen, the meaning of liveable cities goes beyond affordable housing, clean air, jobs and transportation infrastructure. It also means creating physical spaces in the city where people can meet, gather, play, and engage as active citizens. This has the purpose of building and maintaining the social fabric that is so fundamental to resilient societies. And even more so in cities, where social bonds tend to fade away. One example of this approach is the Superkilen park in Nørrebro. The park is divided into three zones dedicated to sports, games or outdoor activities and is a symbol of the "living together" approach. Another example is the swimming possibilities in the harbor of Copenhagen, which are the result of the climate prevention infrastructure that has been put in place. Today, both Copenhageners and tourists enjoy the opportunity to swim in the city's harbor. Last summer (2017), the Harbor Baths received over 150,000 visitors.

Health is also a key determinant in any happiness index and a strong emphasis of the city of Copenhagen. The intervention of the city on health is twofold. Denmark has (1) a notoriously generous social welfare system with preventive actions and (2) the city of Copenhagen encourages healthier choices by making them the most desirable ones. Regarding preventive actions, Copenhagen



Green building - ©Kontraframe

made the headlines by launching clinics to treat stress, anxiety and depression in 2014, spending around €800,000. On encouraging healthy behaviors, one of the most visible side of this policy is cycling. In Copenhagen, above 40% of all commutes are made by bike. This is unheard of in most other European capitals. People do it not because it is the healthy choice but because it is the easiest and most convenient choice. This is the result of an urban transportation policy that systematically prioritizes bikes over cars. DKK 2.7 billion (€362 million) were invested on cycling and 375 km of cycle paths were built. Beyond bike lanes, traffic lights are programmed according to bike speed rather than car speed, bike lanes are cleared before roads when there are snowfalls etc.

3. CHALLENGES AHEAD

Even if Copenhagen has managed to turn around a declining situation into a thriving city, there are challenges arising as the city grows. The two main challenges are the housing market and the growing social needs of its population.

The first challenge is the housing market. As the city grows and attracts inhabitants, the housing market is under pressure and property prices are rising. In 2013, Copenhagen was one of the European cities where prices rose the quickest. And property prices have increased fourfold since 1993. The city needs 45,000 new homes by 2027 and many buildings need to be renovated, both of which will require significant investments. The city will need to spend around DKK 500 million (€67 million) to renovate buildings to meet the maintenance deficit.

In this context of rapidly rising property prices, making sure housing is affordable for the entire population becomes challenging. Many growing cities experience gentrification and exclusion of poorer populations to the outskirts of the city. Already some neighborhoods are concentrating vulnerabilities; for example, if Nørrebro was a separate municipality, it would be Denmark's poorest. If this were to become generalized, it would throw some populations into a circle of vulnerability accumulation. To avoid this, the city intends

"I WANT COPENHAGEN TO MAINTAIN AND FURTHER DEVELOP THIS POSITION AS A GREEN AND LIVEABLE CITY. OVER THE LAST DECADE, WE HAVE INVESTED MORE THAN €100 MILLION IN BETTER BICYCLE INFRASTRUCTURE. WE HAVE MORE THAN 435 KM OF BIKE LANES, BRIDGES AND HIGHWAYS MADE ESPECIALLY FOR BICYCLES."

Frank Jensen, Lord Mayor of Copenhagen

DEVELOPMENT AND RENOVATION OF COPENHAGEN'S DISTRICTS

The North Harbor district is Copenhagen's future sustainable district and should be completed in 2050. It is Copenhagen's flagship project for renewable energy and optimal resource use. It should be home to 35,000 Copenhageners and host 35,000 jobs. U.N. buildings will be located in this new neighborhood. In a space-constrained city, the North Harbor district is built on surplus soil excavated during the metro construction. The district will be a city within the city, hosting commercial, residential and office space and state-of-the-art transportation and energy efficient buildings. A few other districts like Gronttorvet, Orestad and Carlsberg are being renovated to become residential and commercial areas with public spaces at their heart, whether sport or cultural infrastructure, education centers or large green areas.

to build 25% of social housing in all revitalized neighborhoods. Currently, central Copenhagen is underprovided in social housing compared to the suburbs of the city, but 8,200 social housing units were built between 2011-2015 and 9,000 new units will be built between 2015-2027.

As the population grows, so do social needs. Overall, newcomers to Copenhagen are less wealthy than the current population and even more so when compared to the Copenhageners that move out of the city (the difference is around DKK 70,000 - €9,300 - in annual income). On the other hand, the social needs of the growing population are increasing as there are more families with children, more students and more elderly people. Those populations have high social needs but the fiscal basis to fund that social expenditure is not increasing.

To meet those challenges, Copenhagen has, like many other cities, based its model on strong growth to increase fiscal revenues.

"IN COPENHAGEN WE BELIEVE THAT CITIZENS HAVE A RIGHT TO CLEAN AIR AND WE CONTINUOUSLY TRY TO IMPROVE AIR QUALITY. WE ARE REPLACING ALL BUSES WITH ELECTRIC BUSES BY 2025 AND SOON WE WILL OPEN NEW METRO LINES. FURTHERMORE, WE ARE WORKING TOWARD MAKING NEW ENVIRONMENTAL MEASURES FOR ALL TYPES OF DIESEL VEHICLES."

Frank Jensen, Lord Mayor of Copenhagen

The city has advertised an ambitious growth policy, the "Business and Growth Policy". The objective is to reach 5% of annual growth by 2020. This strategy relies on being attractive nationally and more importantly internationally to create 20,000 new jobs and attract investments and skilled professionals. It is competing with other cities like Stockholm and Hamburg to attract workers and international companies. The city is grounding its attractiveness on growth and quality of life going hand in hand. It is also working on reaching critical size through the greater Copenhagen metropolitan region. Greater Copenhagen is a platform for regional collaboration and economic growth that spans 79 municipalities in Denmark and Sweden and is home to 4 million people.

Harbour baths swimming - ©POLFOTO



CONCLUSION

Copenhagen has based its resilience on a dynamic economy and a green and inclusive urban environment for its inhabitants. The two building blocks of this strategy are green "future-proof" infrastructure and an inclusive social fabric. This has materialized through comprehensive urban planning. Renovated and newly built neighborhoods are thought through to reach economic, social and environmental objectives. This means that urban areas mix shops, working spaces, housing and green areas, which reduces the exposure of each neighborhood and its inhabitants to localized shocks.