



The Density Dividend: solutions for growing and shrinking cities

Appendix

Case study: Stockholm

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This report

ULI Europe has identified *density* as a major theme for its content programme. This report is the second of a series of studies into the impact, implications and importance of density in today's cities.

The first report, *Density: drivers, dividends and debates (June 2015)*, examined what we mean by the term *density*, and explored the long term benefits density offers to people, the environment and on investments. This was done through consultation with ULI members, city experts, and industry leaders.

This report explores the question of density and urban change by looking more closely at the experience of six European cities. It examines how density may play a role in helping cities in cycles of growth or shrinkage to adapt, prepare and succeed in the future. The six case study cities – **Birmingham, Dresden, Istanbul, London, Stockholm and Warsaw** – cover a wide span of population trends, political frameworks and spatial evolutions. Together they offer many lessons for cities in different cycles of development.

Methodology

For this report, we initially undertook historical research on each of the six cities to understand the development path they have taken and what this means for the appetite of their residents and leaders for city living and future densification. Then, we developed detailed case studies for each of the six cities, which each identify the key drivers, enablers and attitudes to densification, and feature timelines of change. We identified and spoke with four to six specialists in each city – including city planners, academics, architects and development professionals – in order to clarify and calibrate these cases.

The case studies were used as the basis for discussion with ULI members at workshops that took place in each of the cities, except for Dresden where the workshop took place in Berlin. The feedback from the workshops was used to update and improve the case studies as well as to inform the summary report.

Authors

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Executive Summary

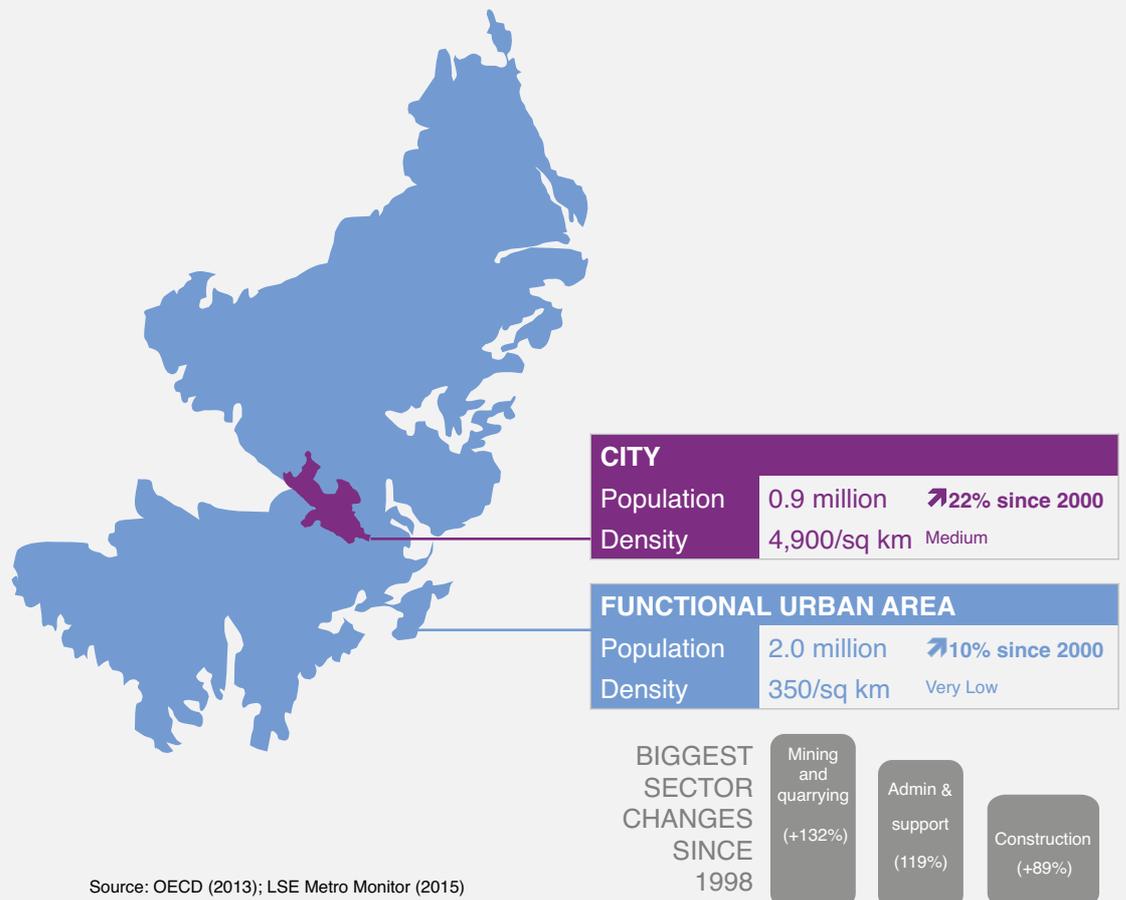
Stockholm has an excellent record of compact city development that it has actively pursued for the last 30 years. Despite its own brief cycle of postwar sprawl, the city has a well-defined urban structure that has evolved in tandem with public transport. The city has pioneered a model of densification that emphasises historic character, public dialogue and extra green space to compensate for loss of land. Stockholm today has a ring of distinct suburbs that encircle a large city centre which itself concentrates an unusually big share of business activity.

The re-urbanisation of Stockholm saw the city surpass its historic population peak in the mid-2000s. The whole of Stockholm County is now outgrowing the counties around it at a record rate. Demand from young families, people migrating from rural areas, refugees, asylum seekers, and international professional talent, makes it urgent for

Stockholm to provide attractive locations for growth that offer alternatives to the central core. The city has to find innovative solutions to accelerate housing growth in the inner city fringe. It needs 140,000 units by 2030, and Stockholm stands out for having achieved cross-party consensus around the housing supply need that it must address.

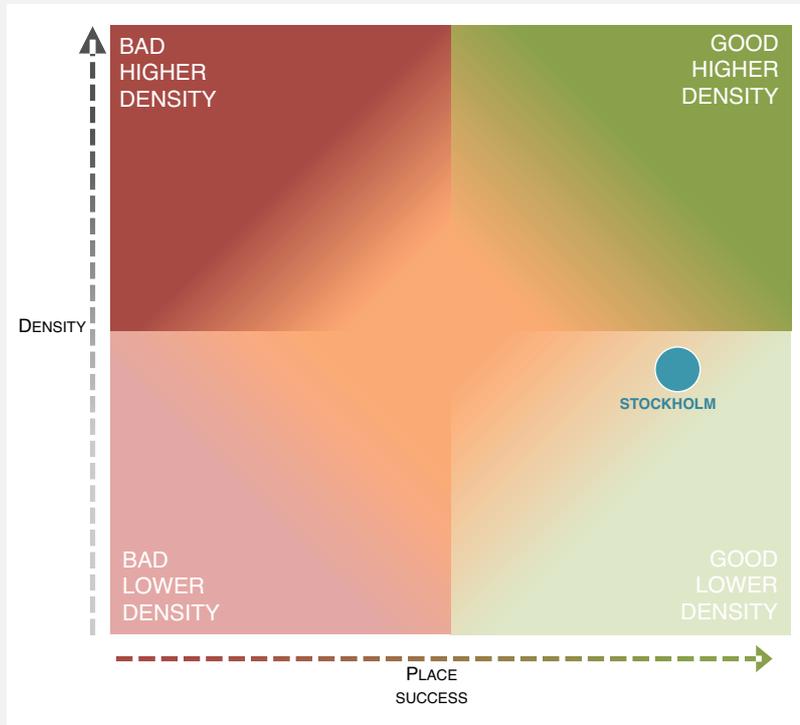
Stockholm's first cycle of densification is now coming to fruition. Inner city projects begun in the 1980s and 1990s, such as Hammarby Sjöstad, Västra Kungsholmen and Liljeholmen have largely been a success. They have used density to pay for the high costs of decontamination, and have managed to appeal to families and in some cases offer the vibrancy to appeal to younger generations.

Figure 1 Population, economy and density in Stockholm's city limits and functional urban area



Source: OECD (2013); LSE Metro Monitor (2015)

Figure 2 Stockholm's current density profile



Like many fast growing cities, Stockholm is finding the next cycle of development projects more complex to assemble and deliver. Although political decision-making is subject to U-turns and delays, in the new cycle some suburban municipalities (e.g. Nacka) are taking the initiative to speed up housing construction, driven by the appetite and readiness for investment and branding.

Over many political cycles the City of Stockholm has built a largely shared vision for future growth, a compelling narrative about how Stockholm can become an open international city (the 'Capital of Scandinavia'), and a high investment equilibrium in transport and social infrastructure. These represent the 'fundamentals' that allow the city to make progress on densification (see Figure 3). The city is now beginning to be more tactical about where and how to densify in different cycles, and high quality architecture and design is encouraging residents to enjoy high density interaction and exchange.

Figure 3 Stockholm's ingredients to achieving progress on density

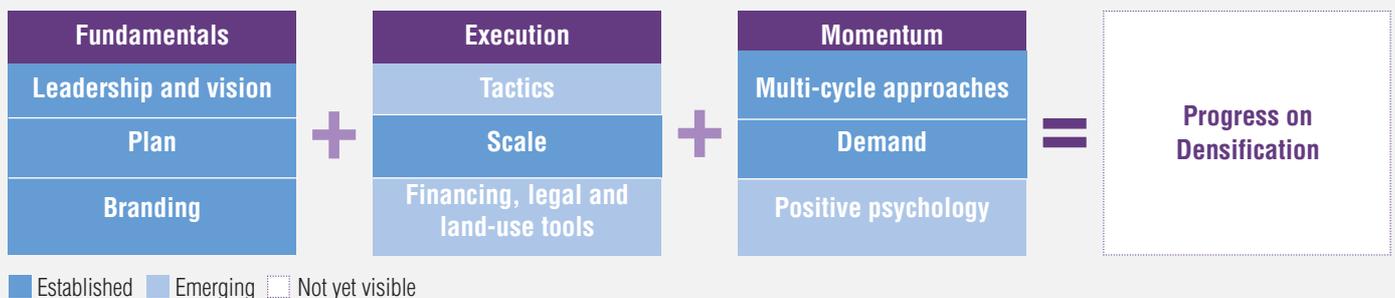
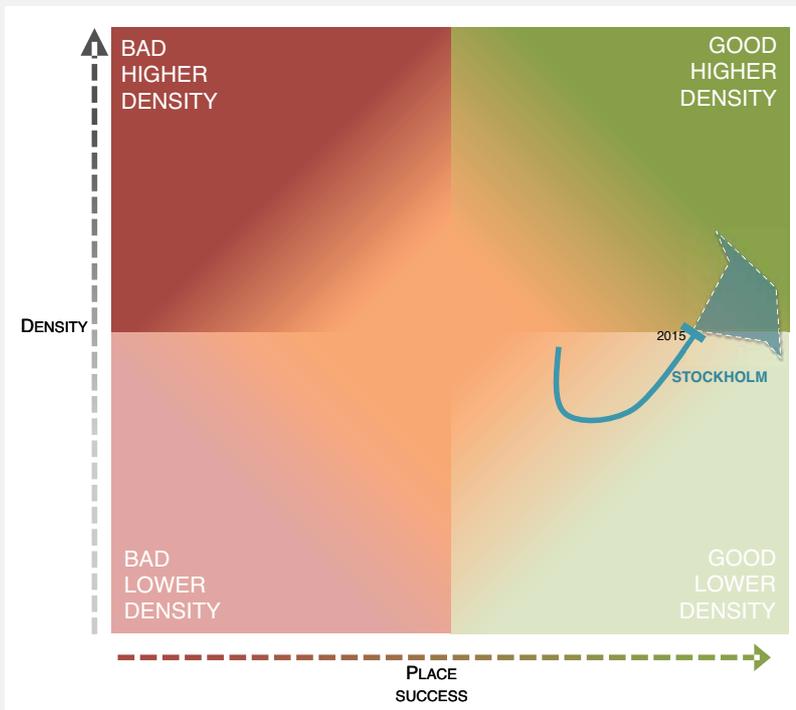


Figure 4 Stockholm's journey towards better density



Stockholm's density outlook

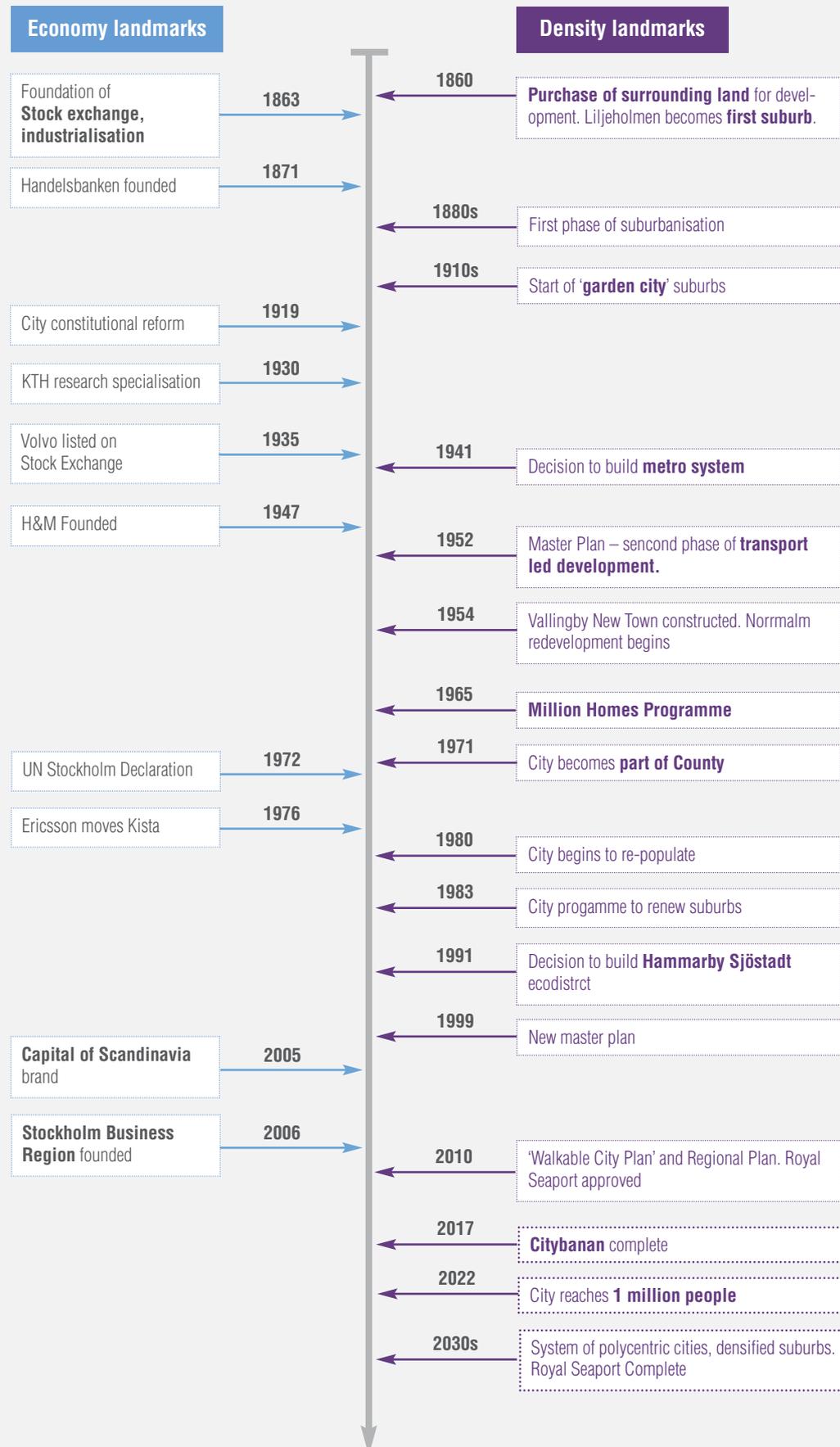
As Stockholm emerges as a major international business and tourist hub, its spatial economy will change. The city's strengths in software, gaming, music and architecture are migrating south to Sodermalm; the old central business district (CBD) is becoming more defined by finance, law and other business services; and many large institutions are establishing themselves near the Central Station. The city's capacity to support these agglomerations and foster a climate of innovation in growth sectors depends on a new pipeline of denser development.

Infrastructure is the key constraint on Stockholm's future density ambitions. The city has been able to pursue densification on the back of earlier subway network investment and the 1990s 'Dennis Package' of funding into road and rail, but the overall platform has not since grown in line with recent demand. Improved north-south rail links and completion of the ring road are critical to relieve pressure on the system, address spatial imbalances and create jobs beyond the congested centre.

In the next cycle Stockholm may need to shift from an incremental approach to density around existing centres to one that focuses on the creation of new centres at scale in additional locations, shifting towards a more polycentric, rather than incremental and additive, approach. The city is learning how to sequence infrastructure, firms, institutions and housing to achieve very rapid critical mass in new sites and make density more efficient and desirable.

Like other cities there is a civic reluctance in Stockholm to take risks on house price value and the local environment in order to achieve dense development. Despite the progress of the Stockholm Business Alliance, friction between municipalities, many of which lack any formal obligation or compelling incentives to collaborate with a broader metropolitan strategy, holds back the pace of development in Stockholm. Future density will rely on a regional consensus about where land needs to be made available to absorb population and maintain momentum towards good density.¹

Figure 5 Timeline of economic and spatial change in Dresden





History of urban change in Stockholm

2.1 Industrial expansion and Stockholm's spatial 'DNA'

Stockholm's spatial expansion started relatively late compared to other European cities.² Industrialisation and rural-urban migration only picked up in the latter half of the 19th century as Sweden opened up to free trade.

Development initially clustered in the centre – population grew from 90,000 in 1850 to nearly 200,000 by the 1880s. The core adopted a typical European pattern of relatively dense housing, lively streets and plazas, although informal housing did emerge near industry around the inner periphery.³

The city began to grow outwards as industrialisation intensified. The advent of the railways in the 1860s, and greater fiscal autonomy acquired in 1862, allowed the city to acquire and develop land further out. Industrial and wealthy dormitory suburbs soon followed.⁵

Stockholm's spatial expansion was shaped by the system of lakes and inlets on the one hand, and 'green wedges', mainly hills and valleys, moving inland. As a result, it grew along a pattern of 'fingers' emanating from the core, leaving large untouched hills between developed valleys.⁶

In the early 1900s, new pieces of city were greatly influenced by the English concept of garden cities. These low density settlements were connected to the core by new tram and rail developments.⁷ The city reached 400,000 inhabitants by the First World War, and 500,000 by 1939. Throughout this period, the city was accruing a greater share of Sweden's population.

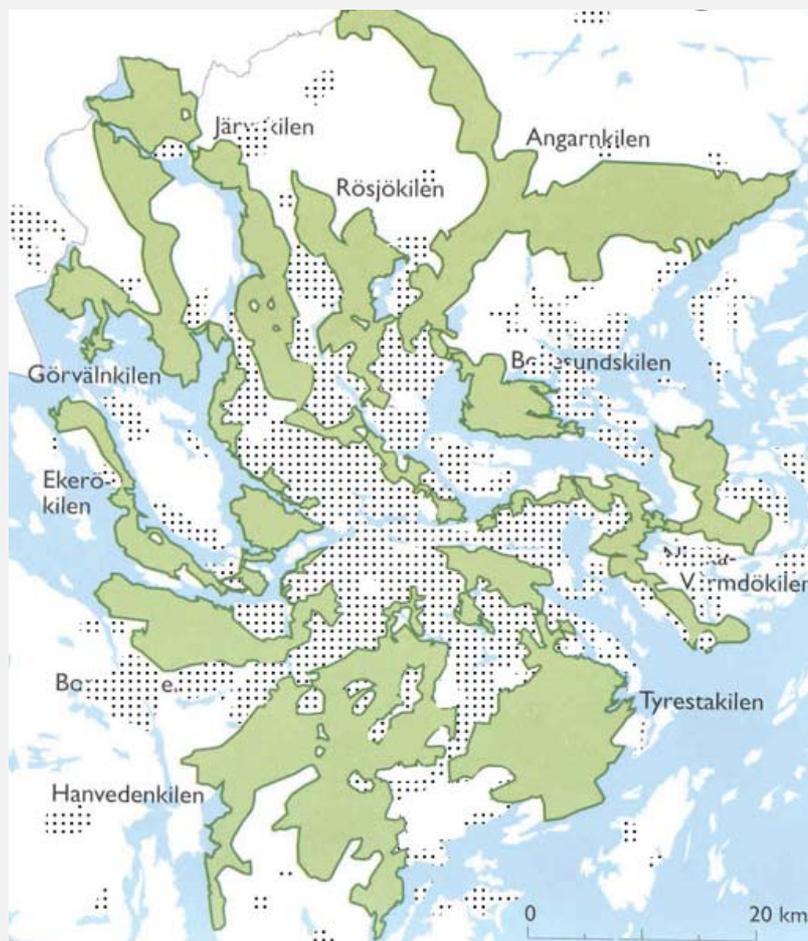
Figure 6 Panorama over Stockholm in 1868⁴



Source: Photo by Carl Johan Billmark.

The 20th century saw the rise in banking and national technology procurements, triggering the formation of large corporations, the exponential growth of industry, and the rise of trade unions. Stockholm's system of co-operation for technological development lay the foundation for the city's leadership in advanced technologies and knowledge sectors in future decades.⁸ Investment in public works to sustain employment led to the expansion of Stockholm's public transport network, and especially the decision in 1941 to build a metro system in a radial pattern.⁹ This decision would guide future decades of spatial and population growth.

Figure 7 Stockholm's system of 'green wedges'¹⁰



The City of Stockholm shrank by 160,000 people between 1960 and 1980. Yet in surrounding Stockholm County, population more than doubled to 740,000.

2.2 Stockholm's suburban neighbourhood model

Stockholm's 1952 Master Plan – although never formally adopted – strengthened the city's approach of transport-led development.¹¹ Growth took place along new subway corridors through the valleys, creating a system of self-contained residential neighbourhoods. Suburban sprawl reached its peak in the 1970s. Extensive inner-city redevelopments began, designed to increase the commercial functionality of the central core as the city moved towards services and innovation.

The national "million homes" programme was also initiated in the 1960s in order to serve those migrating to urban areas – mainly Stockholm. Large estates, designed for families, were built outside the existing urban fabric. Some were similar to other European projects of their time in their low cost, low design quality and medium to high densities. Most were single tenure and some were poorly coordinated with public transport access.¹² Exceptions included the New Town of Vällingby, which planned for nearly 50 percent as many jobs as residents and which had direct metro access to the city centre.

As a response to the overflow into Stockholm County, the city elected to join the County Council. Formalised in 1971, the move saw the coordination of health and transport policies at the county level, and greater cooperation over city and regional planning – although the city retained planning control within its own borders.¹³ Efforts at greater regionalisation also saw the move of some universities, administrative bodies and military facilities to the county to spread Stockholm's growth. These first attempts at de-concentration were not considered successful. Employment kept growing in the city centre and suburban developments continued to act as large dormitories.¹⁴



One exception proved to be **Kista Science City**. Originally planned as another suburban settlement, its first occupants were Ericsson and IBM. Their presence triggered the development of what is now one of the world's leading digital clusters. The growth of ICT was no accident. The city had partnered with universities and research institutes, drawing on the established model of high research and development (R&D) spending.¹⁵ Today the

district has 30,000 residents and even more employees, and has successfully built in incubators and educational assets to sustain the innovation ecosystem.

The 1980s marked a shift in spatial policy, as Stockholm explicitly sought to 'build inwards' by densifying its core and inner city.¹⁶ For it to become an internationally recognised innovative city, there was an early consensus on making it more urban, vibrant and liveable – not suburban.¹⁷ The city was one of the first to take up a sustainable development agenda and minimise greenfield development through density. Planning paid greater attention to cycling and walking, in an attempt to curb increased car use.

Figure 8 Spatial development of Stockholm over time¹⁸

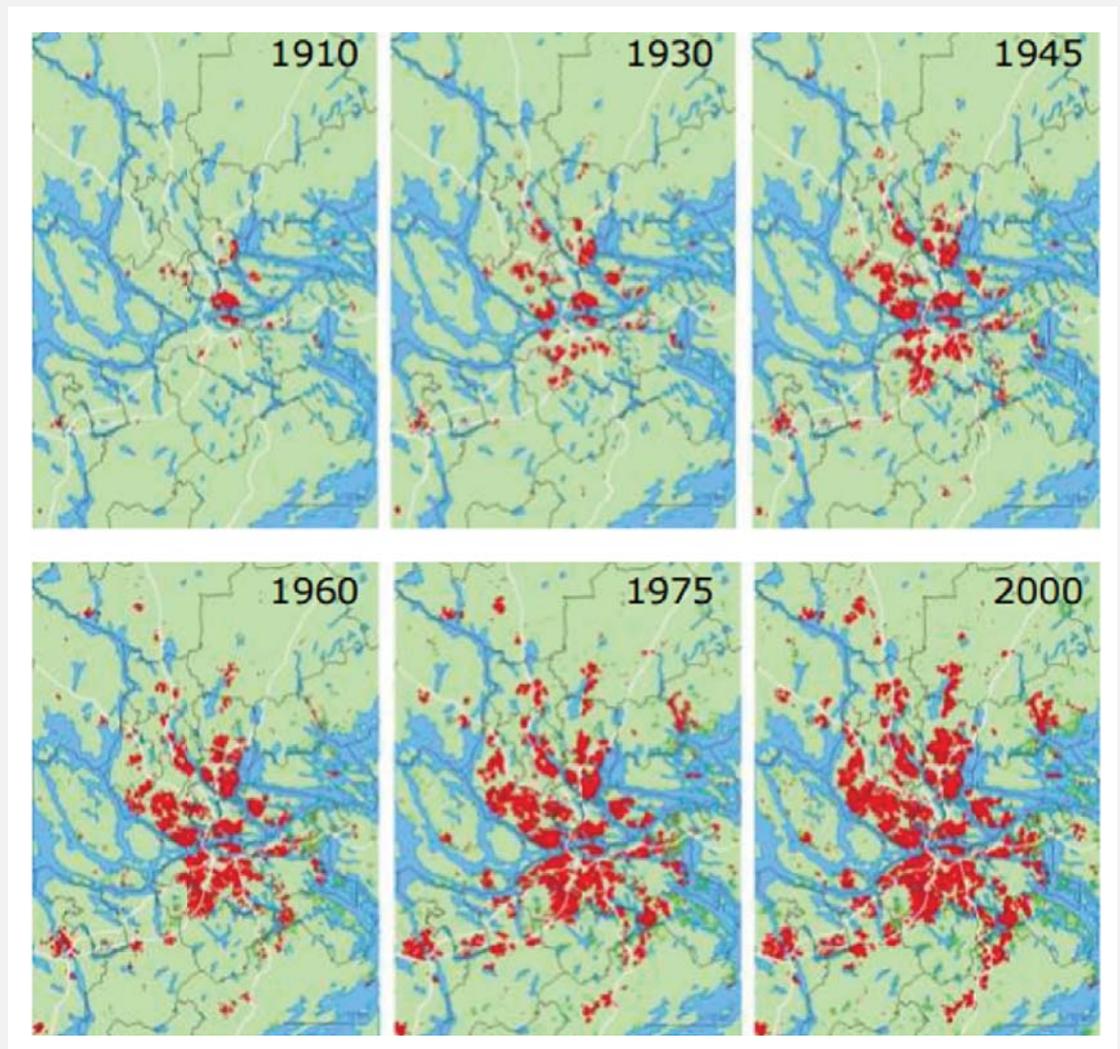
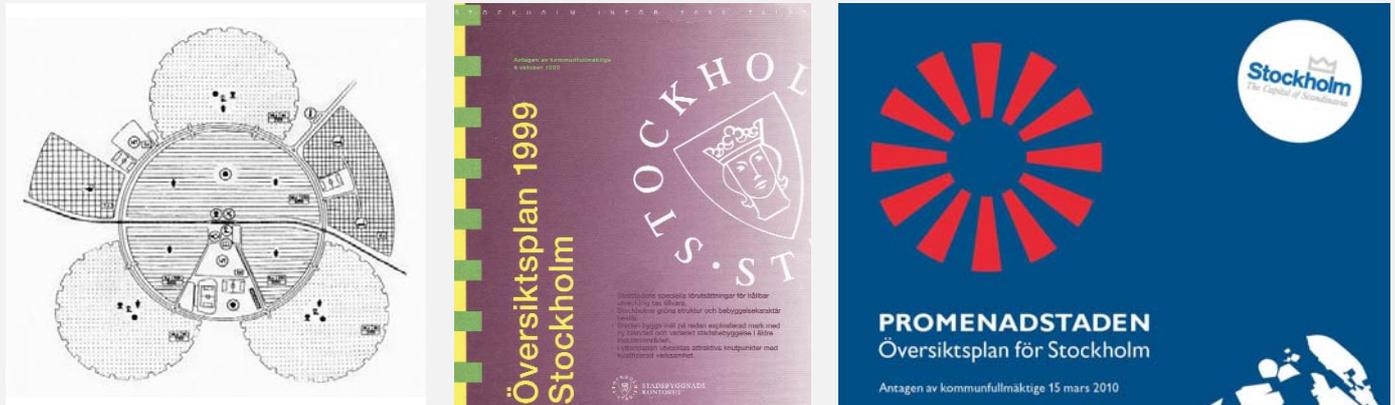


Figure 9 Influential masterplans guiding Stockholm's approach to density: 1952, 1999, 2010²³



2.3 Globalisation and the push for density

Stockholm has consistently pursued this densification approach to this day. The 1999 Master Plan formalised the policy, with the intent of 'healing' the environmental damage done by sprawl in previous decades.¹⁹ Stockholm became highly experienced at brownfield redevelopment. Its infill rate alone reached 50 percent.²⁰

One of the most successful examples of these policies has been the Hammarby Sjöstad eco-district – a brownfield site entirely redeveloped to high environmental standards, mixed-use functions, fully integrated with public transport and with densities of 160 dwellings per hectare.²¹ This project – among the first of its kind – has set the standard for many subsequent projects in central Stockholm.

The initial densification phase relied on the so called 'Dennis Package' of transport investments to improve spatial integration.²² The programme ran from 1991 to 2005, and included three quarters of the Stockholm ring road, as well as tram, rail, metro and bus line extensions.

In the last political cycle, the Vision 2030 strategic document proposed The Walkable City as a continuation of the densification policies of the 1999 plan.²⁴ It advocated the protection of green spaces. Currently, 42 percent of the city is considered as park or forested area, with the figure rising to 55 percent for the county. The protection of these assets is viewed as essential for Stockholm's enduring liveability, appeal to talent, and to its environmental sustainability.²⁵ Nonetheless, the most recent master plan cautions that some greenfield development will be necessary in the future.

Today

In 2015 Stockholm is witnessing major demand from investors because of its stable growth and rising population. Its retail market has been very active, with older premium shopping centres bought by international investors (e.g. Grosvenor and Skärholmen Centrum), while a new spate of mega malls are appearing in the suburbs. The 100,000 sq m Mall of Scandinavia – likened to London's Westfield – is a major new addition to Stockholm's retail market. Although it is a seven-minute train ride from the city centre, in Solna, the mall features 4,000 car parking spaces, and a mix of uses including office space and apartments, reflecting the intensification of some suburbs.²⁶

Stockholm's recent plans call for densification of nine suburban centres to meet growing housing needs and to increase polycentric development. But there are signs that Stockholm is focusing its efforts on three or four of these centres in order to try and build the critical mass and scale quickly so that these areas can begin to host city centre functions.

Transport extensions in support of these development policies include the construction of the Citybanan and Malarbanan line, and the Stockholm by-pass. These are designed to remedy currently poor north-south connections between the 'fingers' of the suburbs and the centre, and potentially address the increasingly visible North-South divide that sees more companies gradually move North.

The Regional Strategy of Stockholm County Council advocates similar measures, including the densification of eight regional urban clusters around Stockholm to encourage polycentric growth.²⁷ Orbital connections between the suburbs are viewed as a priority, but this would mean some building across the protected green wedges.

Learning the secrets of popular density

Västra Kungsholmen is part of the second cycle of densification projects in Stockholm that has learnt significantly from its predecessor Hammarby Sjostadt in how to make the destination attractive for young people. Whereas Hammarby was initially designed to serve an older demographic and had to install other amenities later, Västra Kungsholmen has immediately become a popular mid-density waterside project that captures the imagination of young people.

Figure 10 Västra Kungsholmen



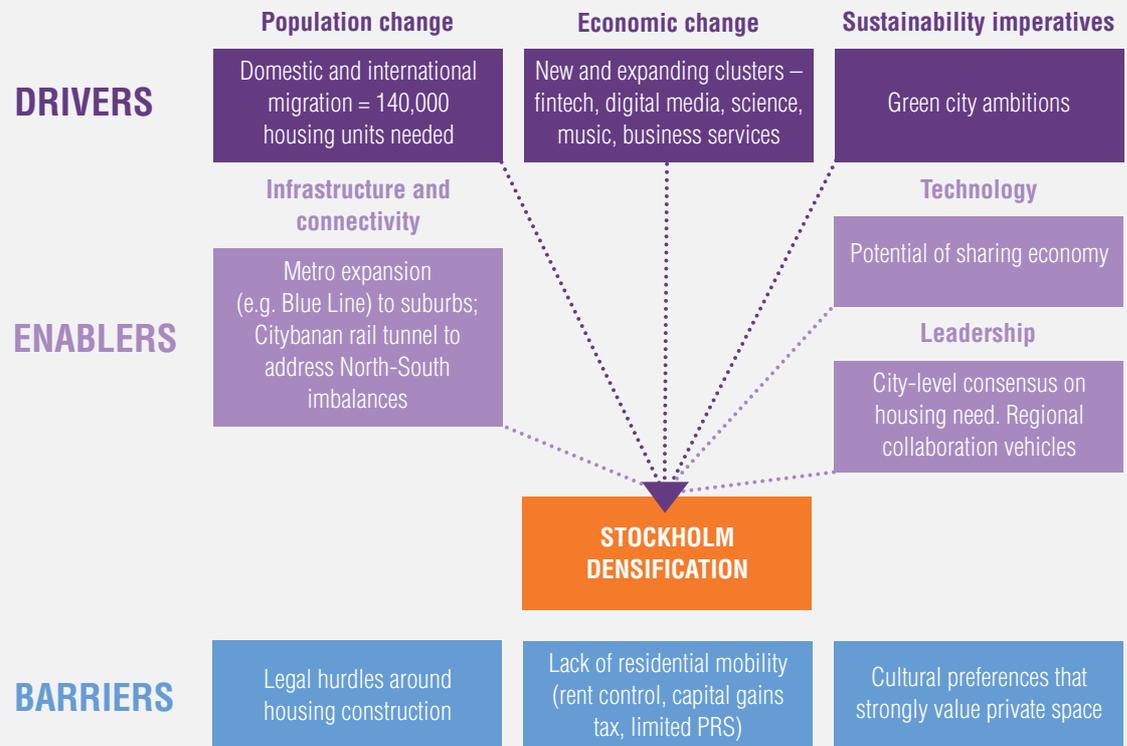
© Photo Lennart Johansson, City of Stockholm²⁸

Built on top of old bus depots, printers and bakeries, the typical development is seven - 13 storeys in height, and the project features over 25 developers in collaboration with the city and traffic authority. Many of the 5,000 homes face out west towards the water and sunset, while numerous new ground floor restaurants and stores have opened up. The area benefits significantly from the new Skanska global headquarters with more than 1,100 employees, which is an anchor for more than 350,000 sq m of commercial space.

Current trends and future drivers of density in Stockholm



Figure 11 Drivers, enablers and barriers to densification in Stockholm



Population growth, Stockholm's growing status as an international business city, and environmental sustainability policies, are among the key drivers for densification solutions over the next decade.

- Population.** The central city has already grown by 20 percent since 2000, and is forecast to reach 1.2 million in the next few decades, because of domestic and foreign migration.²⁹ The population of Stockholm County is forecast to increase by nearly 50 percent from the turn of the century.³⁰ As a result, at least 100,000 extra housing units will be needed by 2030, with a further 200,000 across the county.³¹ In order to prevent severe encroachments on existing green areas, the city therefore needs to maximise its use of existing urban land and brownfield sites.
- New clusters.** The drive to maintain Stockholm's excellence in digital media, fintech, sciences and business impacts planning policy.³² Densification of neighbourhoods to foster vibrant mixed-use urban realms is key to ensuring the supply matches the kind of housing demand its high value economy creates. Density is also valued for its preservation of landscapes and vitality that is part of Stockholm's DNA and its brand.
- Sustainability.** The desire to minimise land use, carbon emissions, pollution and ecological damage are best achieved through densifying existing settlements, rather than continuing sprawl. The city's long term objectives to stay as one of Europe's 'greenest' cities and be fossil-fuel free by 2050 are deemed achievable through compact, public-transport driven development.³³

From incremental density to density at scale

Stockholm is making a big push to build scale and critical mass at the edge of the city centre in order to expand its mono-centric model and make it more effective, efficient and inclusive. This is especially important in the south of Stockholm given the growing north-south divide in the city that is making it harder for southerners to access jobs. A number of projects are moving forward which are very promising.

Telefonplan is a very large suburban housing project in the area historically shaped by telecommunications giant Ericsson. The arrival of local colleges brought the arrival of SMEs and large businesses, and today new housing need is being accommodated by conversion of commercial to residential stock. The 3,500 home project is delivering higher densities than the existing stock, at typically over 10 floors, while Tellus Tower, if approved, may become one of Northern Europe's tallest residential building. One of its projects, The Brick is a highly innovative mixed-use project whose green roofs and façades contribute to noise reduction and maximise access to green space. The area has great potential but needs additional social infrastructure.

Figure 12 Telefonplan³⁴



Source: City of Stockholm

Densification in established suburbs is also visible in Järfältet, Söderort and Hässelby-Vällingby. Common features included in all their long-term development plans are:

- Increasing mixed-use developments to reduce the 'dormitory' aspects of each suburb.³⁵
- Intensifying land use through in-fill development and urban extensions on non-protected sites (e.g. doubling the population in Liljeholmen and adding 6,000 apartments in Årstafältet).³⁶ The aim is eventually to seamlessly connect the urban fabric of Söderort to Stockholm centre.
- Increasing the availability of local jobs, in order to revitalise local town centres and bring employment closer to residents.³⁷
- Enhancing transport connectivity to the centre (e.g. bringing the E18 motorway to Kista, tram extensions in Söderort).³⁸

Figure 13 Årstafältet, a major site for densification in Southern Stockholm³⁹



Photo by Esquilo. License: CC-BY-SA 2.0

The enablers and constraints of density in Stockholm



Infrastructure supply and protracted democratic decision-making are two factors which have inhibited the pace and scale of development in recent years. Many observers viewed infrastructure as the key enabler of a diversified and densely populated city.

- Metro expansion.** After years of delays, the extension of the Blue Line south from Kungsträdgården and north-west to Barkarby is an important catalyst of housing development over the next decade. Nacka, an important municipality in south east Stockholm, will finally be connected on the system after several decades of waiting. It now aims to build 6,000 apartments at high densities, partly enabled by covering over the 222 motorway (see Box). In total, the metro developments which come online in 2025 have enabled municipalities to agree nearly 80,000 new units. A congestion tax charged on vehicles entering the city centre will pay for part of the project.
- Rail connectivity.** The 6km Stockholm City Line (Citybanan) railway tunnel under construction beneath central Stockholm will begin service in 2017, and will significantly improve passenger flows from southern Stockholm, and reduce long-distance bottlenecks.
- Consensus-based regional collaboration.** Greater densification is enabled by efforts at regional integration. The City of Stockholm cannot house all forecasted population increases, nor is its success as a global city confined to the CBD. Stockholm County and the wider region all contribute to its position as both the Capital of Scandinavia and as a functional, liveable metropolis. It is in this spirit that Inter-municipal co-operation has been increasing.⁴⁰ The creation of the Stockholm Business Alliance – the leadership platform which supports the Stockholm Business Region – provides an important forum for policy coordination, including around polycentric development and suburban densification.⁴¹

Although there is a broad consensus in favour of increasing the pace and scale of housing development, constraints on housing growth have become more severe and are now seen as a threat to economic growth. The main barriers are:

- the legal restrictions on how and where to build, which delays many key projects.
- an out-of-date rent control system which leads to very little circulation and favours the black market.
- a capital gains tax system (30 percent) which discourages sales and does not work in favour of mobility.

Innovating to densify in Nacka

The municipality of Nacka, to the south east of Stockholm, is responding impressively to intense pressure to absorb more residents as the region's population grows. Land has been unlocked by the future connection to Stockholm Central station by metro from 2025, bringing the centre within 10 minutes travel.⁴² As a result, its population is forecast to grow more than a third over the next two decades.⁴³

Densification is essential for Nacka to preserve its abundant and valued green spaces, and the district has devised innovative solutions to its space restrictions.⁴⁴ In the centre, which will add 6,000 homes and 4,000 workspaces, the urban fabric will be joined to the waterfront by building on top of the 222 motorway. The link between both areas will be bridged by a new neighbourhood and street links sitting on top of the divisive artery. And in nearby Kvarnholmen, a new bridge and tunnel are being finalised to link the peninsula and the centre. The objective is to preserve the waterfront and archipelago feel of both areas, while densifying them and integrating them with the rest of the urban fabric.

14,000 apartments, and 10,000 new workplaces are to be added over the next decade within the boundaries of existing built-up area, through brownfield reclamation.⁴⁵ The area straddling the boundary between Stockholm and Nacka, Henriksdal is being rapidly intensified, and oil storage and ex-industrial sites are being converted into mixed-use development.

Figure 14 Nacka's innovative solution to the highway problem



© Nacka Kommun

Stockholm examples of 'good' and 'bad' density



Stockholm's high density city rapidly declines into lower density further out, in a classic mono-centric pattern. Suburban town centres never exceed 5,000 people per sq km².⁴⁶ But the city's spatial approaches have clearly been effective in terms of environmental outcomes.⁴⁷

- It was the first city to be awarded the title of European Green Capital in 2010, thanks to a 25 percent reduction in carbon emissions from 1990 levels.⁴⁸
- 60 percent of commuters into Stockholm use public transport – rather than the car. The congestion charge introduced in 2006 reduced traffic in the city by 20 percent and emissions by 13 percent. Indeed Stockholm has among the best air quality in the OECD.⁴⁹
- The city has one of the lowest death rates from traffic of any advanced city.

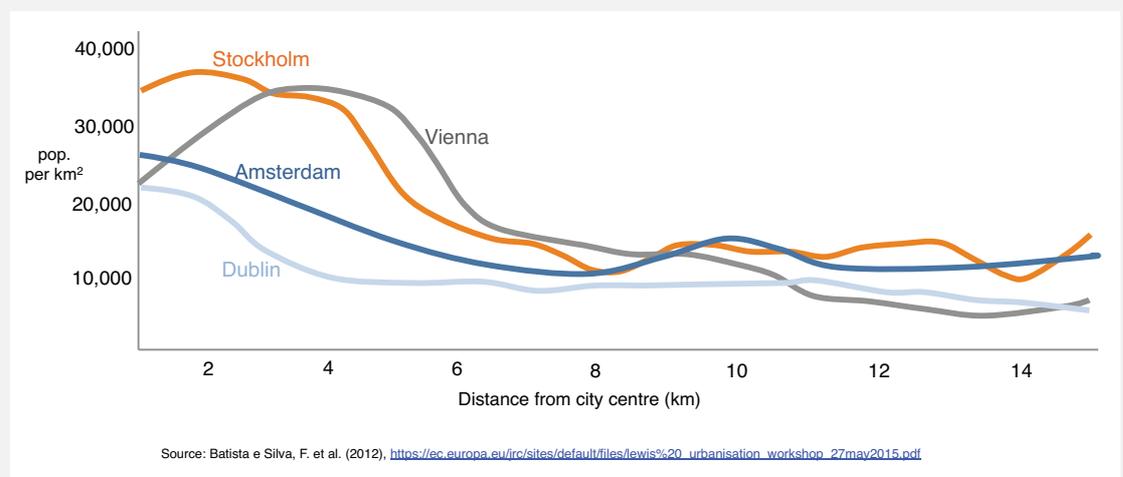
However there are signs that its suburban growth does create challenges, especially as over time, development has come to occur further and further out. Car use in Stockholm County, for the purposes of commuting, has steadily been

increasing since the 1980s, and the share of public transport has been declining.⁵¹ Average travel times to work are higher than in many of its peer cities in Europe.⁵² The single-use residential character of its suburbs creates infrastructure stress on the radial network.

Stockholm remains highly attractive to live in and visit, ranking among the 25 most liveable and most admired cities in the world.^{53/54} Yet Stockholm's reputation for vibrancy is limited by the city's mono-centric growth and small number of mixed-use neighbourhoods. A lack of an urban 'pulse' is considered as one of the city's key shortfalls in brand surveys.⁵⁵

Stockholm's densification is however bringing into being a more vibrant urban fabric. **Stockholm Royal Seaport** – a dense, mixed use eco district (see Box) – and Hagastaden with its 5,000 new apartments and 50,000 potential jobs, should have a similar effect to Hammarby Sjöstad, as will the inner city densification project around and Västra Kungsholmen.⁵⁶ In addition, the plan to densify suburbs such as Järva, Söderort, Nacka and Hässelby-Vällingby with mixed-use amenities and proximity to transport and jobs, will add more diversity and choice.⁵⁷

Figure 15 Stockholm's monocentric profile of density compared to other European cities⁵⁰



Stockholm Royal Seaport

Stockholm Royal Seaport is a major project converting brownfield industrial land to residential use in Ostermalm, just to the north-east of the city centre on former gasworks and dockland. The objective is to develop a neighbourhood with inner-city characteristics to add to Stockholm's urban fabric.

Midway through construction, the Seaport combines 10,000 new homes and 30,000 new employment opportunities in a mixed-use development that will also include a ferry terminal.⁵⁸ By raising building heights from three to five-seven storeys, the density of the built environment will nearly double compared to Stockholm's average, yet floor space per inhabitant will be nearly 30 percent higher, at around 50 sq m.⁵⁹

The project follows the footsteps of Hammarby Sjöstad and is to be a model green district that should be zero-carbon by completion in 2025. It aims to contribute to Stockholm's green credentials and showcase its technology capabilities in the field. The neighbourhood is a demonstration that climate-smart development is feasible in big cities – as it should reduce the per capita carbon footprint of residents to 1.5 tonnes per year (compared to the city-wide 4.5).

Figure 16 The Royal Seaport housing development (l) and upon completion(r)⁶⁰



Photo by Holger Ellgaard. License: CC-BY-SA 4.0



Photo by I99pema. License: CC-BY-SA 3.0

The Seaport is within walking distance of the city centre and natural landscapes, and will encourage walking and cycling. A combination of tram links, car-pooling, and limits on parking places to less than one parking space per five inhabitants, will dramatically reduce car use in the area, despite its future access to the completed eastern section of the Stockholm ring road. As such, it conforms fully to the Walking City's plan of sustainable inner city densification that reduces the need for commuting. It is hoped that upon completion the area will attract diverse industry clusters – following the lead of the financial sector which has already seen Nasdaq OMX, SalusAnsvar and Länsförsäkringar move to the area.

Future outlook and the journey towards good density



Stockholm is a city that has managed to embed the fundamental leadership and planning frameworks, build an execution toolkit to deliver important projects, and foster the momentum that allows enthusiasm for density to last. The city has achieved a more positive psychology around density, thanks to its distinct design and vernacular that builds up appetite through lived experiences of great places.

The public and political conversation around density in Stockholm is quite advanced (see Figure 18). There is widespread consensus about the need for more housing, and there is very strong advocacy for more mixed use projects in suburban areas that discourage sprawl and inefficient commuting.

Figure 17 Fundamentals of success for good density in Stockholm

	Durable city plan	Fiscal autonomy and flexibility	Transit-oriented development strategy	Metropolitan planning approach beyond city borders	District agencies and development corporations	National planning and policy framework for cities
Stockholm	**	**	***	***	**	**

*** Established ** Partly visible * Not strongly visible or developed

Figure 18 Perspectives on Stockholm’s future density

Focus on vibrant new suburban districts

“It is not the inner city which needs to be densified. It is car dependency and the long distances in the suburbs that need to be removed. What Stockholm needs are more urban districts. There is plenty of unused land available. New attractive neighbourhoods can be created where people could achieve what they need closer to home than in the inner city.”

Kerstin Westerlund Bjurstrom – President, ICOMOS Sweden⁶¹

Increase the quality not quantity of green space

“In order to meet future challenges, a larger part of Stockholm must become more dense and urban. A new report shows that densification does not mean that we miss out on green values. Denser buildings can indeed mean that the city is perceived as greener.”

Mr Meyer, Tore Englén, Malin Marntell, WSP Sweden AB (engineering consulting firm)⁶²

Stockholm’s needs ambition and bold leadership

“The city’s excellent plan, Walking City, says that we should stop building isolated islands separated by highways and green spaces that usually consists of inaccessible rocky hilltops and thorny scrub. Today functional separation and suburban isolation should be replaced by a continuous, mixed and democratic city, where poor and rich, work and housing, commerce and entertainment all mix, interact and density to enable a shift from a car city to a public transport city.”

Jerker Söderlind, urban researcher, City Life AB⁶³

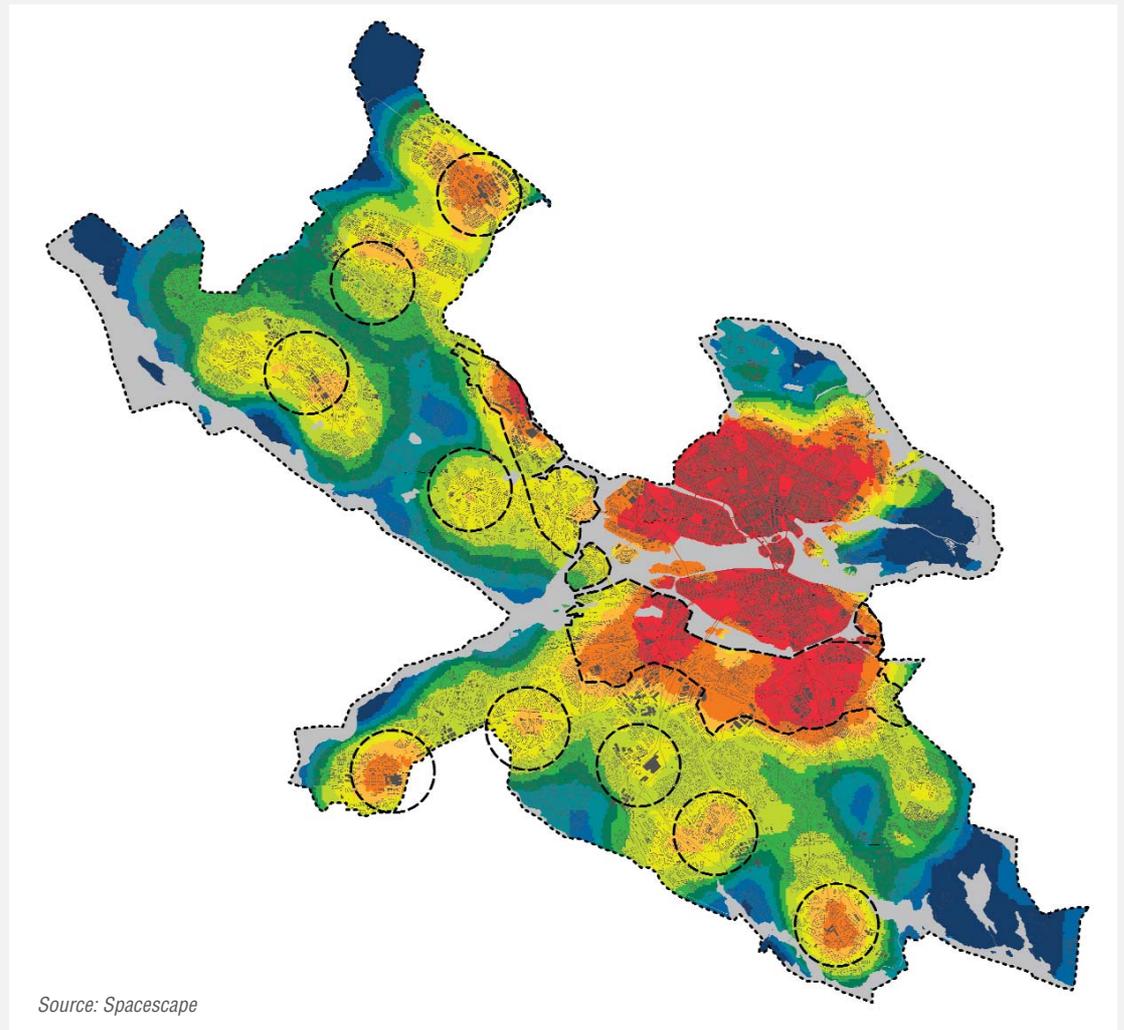
Keep Stockholm a mid-rise city

“A destroyed city silhouette is a high price for the marginal contributions of apartments that skyscrapers would provide. Investigations show that one-off very high building heights will not increase density significantly. This is mainly because increasing building heights require a greater distance between the houses to get sun on the streets. You do not need to build skyscrapers to achieve a high density.”

Kristina Berglund, Architect⁶⁴

Looking ahead, studies have shown that Stockholm can easily handle 100,000 extra homes by 2030, without having to build significantly on the green wedges. According to analysis by Spacescape, the central city has potentially more buildable land than the rest of the city, and is the obvious place to start planning for a high population scenario of dense, mixed, green buildings.⁶⁵

Figure 19 Stockholm's future density profile after densification based on a medium-case scenario



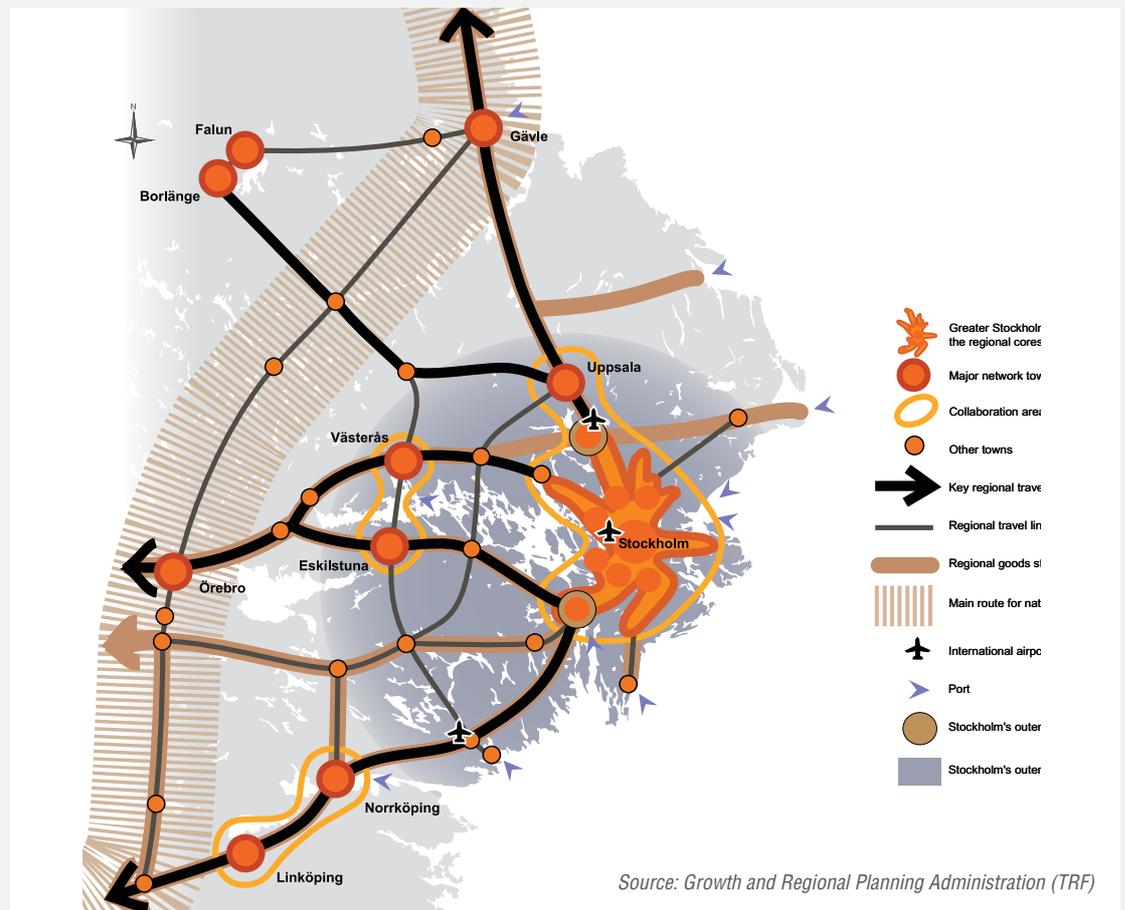
Stockholm's major challenge is to ensure that delivery of good density can be brought forward at the pace and scale to match its growth trajectory. With pressure rising to find solutions to growth, several densification imperatives have been outlined (see Figure 20).⁶⁶

Figure 20 Options and imperatives for Stockholm’s future growth

	What would it involve	Potential benefits	Obstacles
Targeted inner city and suburban intensification	<ul style="list-style-type: none"> Rapid densification of suburbs with developable land and fewer barriers to development (eg. Farsta, Skärholmen, Brommaplan, Kista, Vällingby, Älvsjö).⁶⁷ 	<ul style="list-style-type: none"> Can help reduce the consumption of new space.⁶⁸ 	<ul style="list-style-type: none"> Fierce debate about preferred built form – high rise versus ‘block housing’, extending the street pattern or building on top of it.⁶⁹
Urban ecosystem management	<ul style="list-style-type: none"> Better integration of the urban fabric and natural systems – roof gardens, vegetated walls, and inner city agricultural and water systems.⁷⁰ 	<ul style="list-style-type: none"> Can combine population growth without adding pressure on existing systems. 	<ul style="list-style-type: none"> Financing and incentive challenges.
Better co-ordinated polycentric approach	<ul style="list-style-type: none"> Improved collaboration between the City, County and other municipalities 	<ul style="list-style-type: none"> Sustains balanced growth in Stockholm’s regional centres⁷¹ Reduces competition and duplication (e.g. Flemingsberg and Älvsjö districts).⁷² 	<ul style="list-style-type: none"> Friction between municipalities Spatial imbalances in prosperity and economic activity.

A pipeline of improvements to transport,⁷³ especially orbital connections, may be the catalyst for a more strategic regional approach that involves Chambers of Commerce, the national transport administration, property owners and developers. A more integrated regional transport strategy which clearly defines which corridors to develop and centres to support is key to unlocking future sites for density.⁷⁴ The spatial vision earmarked for East Middle Sweden highlights how Stockholm can achieve a compact model across its entire region with greater collaboration and a new cycle of infrastructure.

Figure 21 East Middle Sweden spatial vision 2050⁷⁵



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