



# THE CITY CHANGES

**FOCUS ON COPENHAGEN** 

# THE CITY'S DEVELOPMENT

The city has changed gradually over several decades in response to the renewal of outdoor public space designed to make city life more appealing. Continuous improvements have also encouraged more city dwellers to cycle to work and other destinations. Steady upgrading has made Copenhagen increasingly more attractive as a workplace and place to live. New urban areas have been established on old industrial sites, and an entirely new city district, Ørestad, is taking shape along a new metro line. After many years of modest building activity, a large amount of new housing has been constructed in existing or new urban quarters. The city has undergone major infrastructure changes, with a bridge to Sweden and new transport connections that have enlarged the city's role from national capital to the lively hub of a large international urban region.

#### PEDESTRIAN CITY, 5 KM AN HOUR

Until 1962 all the inner city streets and squares were filled to bursting with traffic and parking. Conditions for pedestrians worsened throughout the city after the Second World War in step with the drastic growth of car traffic, which began to gather momentum in about 1955. The narrow streets in the oldest parts of the city were most seriously affected by the increase in traffic, of course.

Therefore, 17 November 1962 marked a significant turning point with the conversion of the traditional main street, Strøget, into a pedestrian promenade. The change was the subject of heated debate. Many people were certain that a walking street would never work in Denmark. Newspaper headlines such as 'We are Danes, not Italians' and 'The use of public space is un-Nordic' expressed some of the widespread scepticism. It was clear shortly after the conversion that the fears of sceptics were unfounded. The new car-free streets and squares won instant popularity and were very well visited.

This was the beginning of a long process of converting a trafficdominated environment to a city centre that is both peaceful and actively people oriented.



Gammeltorv and Nytorv as they looked in 1954.

The pedestrian domain has been enlarged or improved almost every year in the past four decades. Car traffic has gradually been pushed out of the city diminished or reduced in speed and volume to allow an acceptable level of coexistence with pedestrians and cyclists. Parked cars have also been slowly eliminated from city squares so that carfree space can once again provide staying opportunities for the people who use the city. Together these changes represent a drastic and comprehensive change of the city.

The key to the successful implementation of this substantial conversion is undoubtedly that it took place gradually. The development of Copenhagen's city spaces is a story told in chapters. The gradual reduction in car traffic and the slow adaptation of city spaces to pedestrian activities have given city residents time to change their traffic habits; in particular, time to find out what attractive public space can be used for in today's society.

The conversion of Copenhagen's city centre can be considered a comprehensive pedestrian street project as well as a policy to reduce and pacify car traffic, not only in the city centre but also in adjoining city districts. Copenhagen's inner city policy embraces both aspects: the dual desire to pacify traffic in a vital part of the city and provide better space and opportunities for city dwellers to move about and stay in city space in step with changes in living conditions and society as a whole.



Above: Conversion to staying squares was a two-stage process.

Below: Today the two squares are completely free of cars.



The gradual development of pedestrian areas in the heart of Copenhagen from 1962-2005.



First pedestrian promenade in 1962: 15,800 m<sup>2</sup>.



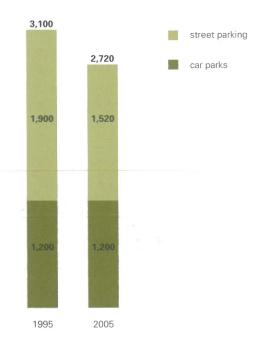
99,770 By 1973, the network of pedestrian streets 95,750 connected the most important locations in the city centre: 49,200 m<sup>2</sup>. **62,820** 66,150 49,200 The network of car-free streets and squares in 2005: 99,770 m<sup>2</sup>. 22,860 15,800 The graph shows the development of pedestrian areas in the parts of the inner city where studies have been conducted from 1962-2005. The numbers indicate m<sup>2</sup>. 1996 2005 1962 1992 1968 1973 1988



Copenhagen was known for its many cyclists, particularly in the period between the two World Wars. Photo around 1935.

#### Total number of public parking spaces in the inner city

The graph shows the total number of public parking spaces in the inner city in 1995 and 2005.



Conversion from a city dominated by cars to a pedestrian-friendly city means that Copenhagen has been replacing parking areas with cycle lanes and wider pavements or pedestrian areas at the rate of 2-3% annually for many years. In the decade from 1995-2005 alone, the number of parking places on streets and squares has been cut from 3,100 to 2,720 in the city centre, a 20% reduction.

Over the past 10-15 years, car ownership has swelled among residents in the City of Copenhagen. In 2004, there were 11% more private cars than in 1999, putting pressure on street parking. For the first time since the car invasion began in the early 1950s, it has become necessary to lobby for car parks to be built above and below ground in the inner city and densely populated adjacent areas. At the same time, efforts are being made to abolish the remaining 1,100 spaces of street parking in medieval Copenhagen, in connection with building four new parking structures north, south, east and west of the city centre, but no more than 500 meters away from the centre.

# CYCLE CITY, 15 KM AN HOUR

Particularly in the period up to the Second World War, Copenhagen was known as a cycle city and its "smiling female cyclists" were a tourist attraction. Increasing welfare starting in the 1950s and gaining momentum in the decades to follow meant that more families could afford to own a car, and the street scene changed from bicycle to car domination. The future appeared to belong to motorized mobility and planning focused on ensuring that cars could get where they wanted to go. The number of cyclists declined up to the oil crises of the 1970s. Although many people still cycled to work, they were being edged out by the many cars, and accidents involving cars and cyclists became an increasing problem.

The oil crises helped the general public and city officials realize that the bicycle was still a modern means of transport. The Danish Cycling Union organized large demonstrations throughout the 1970s, which helped put pressure on politicians to make radical decisions to improve conditions for cyclists.

The changes in cycle-oriented traffic policies over the past three decades mean that today it is far easier to cycle through the city than to drive a car or even use public transport.

The cycle network has been expanded continuously and now covers





Top: Many thousand cyclists are gathered at Town Hall Square in one of the major demonstrations held in the 1970s.

Above: Sign on the wall of a Copenhagen cycle shop: 'We will accept your used car as part payment.'

Middle: Cyclists demonstration, 1981.

Right: The City of Copenhagen distributed a pamphlet as part of the discussion on 'Cars out of the City' in 1987.





largely all major roads in the city. People travelling by cycle over long distances can easily combine cycling with other forms of transport such as taxi, S-train and metro. The latest are new cycle tracks through green areas or along former railway lines.

Many other improvements large and small have increased the ease and comfort of cyclists in the city. For example, cyclist priority at traffic lights (cyclists get a green light six seconds before cars), and permission to cycle in both directions on the many one-way streets in the city's warren of narrow byways.

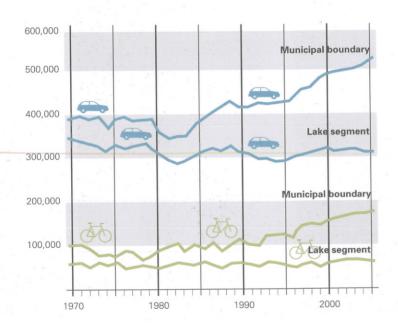
The City of Copenhagen and the Danish Cycling Union sponsor annual campaigns to get more people to cycle to work, with the result that cycle traffic increases year by year, while growth in car traffic has been kept in check. In 2005, 36% of traffic to Copenhagen workplaces was by bicycle, while cars accounted for only 27%. The continuous improvements and campaigns inviting people to bike more have been so successful that the capacity of cycle lanes and cycle parking has been

unable to keep pace. A growing problem in recent years is "congestion" on the cycle lanes, and the City of Copenhagen has now agreed to widen the cycle lanes on the most heavily trafficked streets. Once again the space for wider cycle lanes comes from reducing the parking and number of lanes for car traffic. The goal of the City of Copenhagen is for 40% of daily commuting to be by bicycle within the next few years.

In 1995, the city made free city bikes available to locals and tourists alike for the summer. The 900 bicycles were instantly popular and supply fell far short of demand. The number of available city bikes has been increased every year and is now about 2,500. The system for using the bikes is the same as for airport or supermarket trolleys. Put a coin in the lock and the cycle is yours for as long as you want. When you have finished, return it to one of the 126 city bike stands and get your coin back. The city bike stands are conveniently located through-

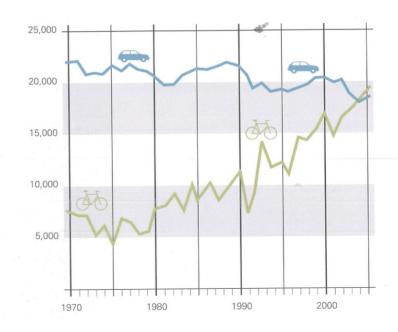
#### Traffic across the municipal boundary and lake segment

The sum of both directions from 6 a.m. to 6 p.m. Cycle traffic has been corrected for weather since 1989.



#### Municipal boundary

Peak-hour traffic towards the city centre in the peak hour. Cycle traffic in and out of the city centre has almost doubled since the 1970s.









Key to the graphs on the the opposite page: For many years the City of Copenhagen has followed cycle traffic development in two selected segments. One segment lies where streets cross the municipal boundary, and the other lies in a ring slightly outside the inner city where the access roads cross the lakes and harbour.

Above from left: A painted blue cycle lane at intersections reminds car drivers to pay special attention to cyclists.

Some cultures do not have a cycling tradition. The City of Copenhagen has offered cycle training to new immigrants to give them a larger sphere of activity than by foot.

Most of the city's cyclists are undeterred by harsh weather conditions. 60% cycle all year round.

Right: The invitation to cycle in the city has been so successful that peak-hour congestion in cycle lanes is an increasing problem. A plan to widen cycle lanes further is now being implemented.

Cycle lanes in Copenhagen come in many guises. The most common is an asphalt-covered lane edged with granite kerbstones and raised about 10 cm above car traffic areas.





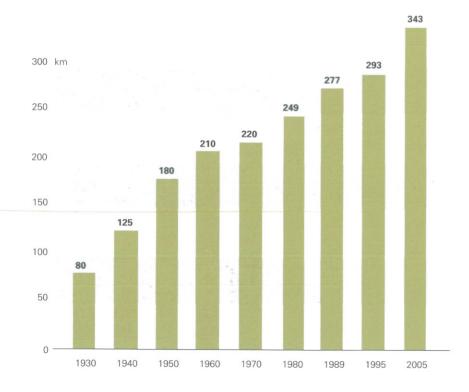




From left: Cycle taxis have become a popular form of transport in the city centre in recent years.

Happy cyclists on free city bikes. Starting in the spring, city bikes are placed at the disposal of guests in the inner city.

## Growth of the cycle lane network in Copenhagen from 1930-2005 (in km)



out the city centre where the scheme is operative. The city bikes are specially designed to stand out in a crowd of bicycles and are geared for short trips only. Users risk a fine for taking the bikes beyond the designated area. The city bike system is financed through sponsors and advertising on the cycles and cycle stands. The popularity of the city bikes is evident throughout the summer, as Copenhageners and tourists ride them in Copenhagen traffic. In winter, the city bikes are taken in for maintenance and repair so they will be ready for the following summer.

In 2005, Copenhagen boasted a total of 343 km of cycle lanes, and about 60% of Copenhageners cycled daily. Cycle traffic is on the increase, and since 2004 there have been more cycles than cars going to and from the inner city during rush hour.

The results of the cycle-friendly policy of continuous upgrades have made it easier and faster to get around the city on cycle than by any other means of transport, public or private. In addition to improvements in comfort, it has also been possible to enhance safety and reduce the number of accidents, for example, by marking cycle lanes at intersections. Continuous quality improvements have led to more and more cycles in the city.

As the many cyclists make an important contribution to the new city life, it becomes meaningless to classify cycling as only a mode of transport. People who cycle certainly contribute to life in the city and cyclists are an important addition to the new city life.

IMPROVED HOUSING QUALITY IN THE CITY AND MORE NEW DWELLINGS

A city without people is an empty shell. A lively city has a good mixture of people who live, study and work in the city. A lively city with bustling activities and lots of people is a drawing card. Now just as before, people, life and movement are a city's most important attractions.

Like many other cities, Copenhagen witnessed a migration from the city in the years when mobility improved and traffic increased dramatically in the old part of the city. Starting in the 1960s, people began moving to the suburbs where new housing mushroomed, offering modern facilities and room for children to play in their own garden. After many years, the migration of residents to the suburbs gradually depopulated the central city. However, this trend has reversed dramatically in recent years along with the improved quality of urban housing. Copenhagen's housing mass has been upgraded continuously, often financed by private means but also by public funds in the form of urban renewal projects.

Urban renewal programmes have addressed three target areas: buildings/dwellings, private outdoor space/communal courtyards, and public city space/streets and squares.

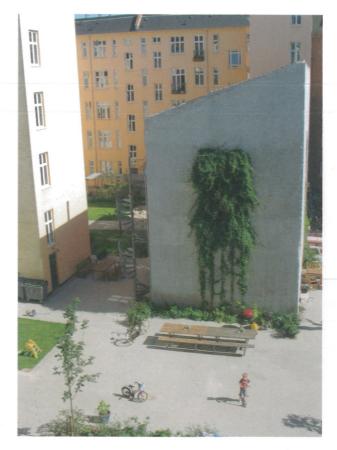
The housing objective was to modernize buildings, which often meant joining small old flats into bigger ones and establishing toilets and showers. Thus draughty, old petroleum-heated flats, whose residents shared a common toilet on the back stairs and considered themselves lucky to have bathing facilities in the cellar, were converted into attractive modern flats.

Outdoor areas often consisted of many small, dark, rear courtyards accessed by back staircases to the buildings. Often there were other buildings wedged into the rear courtyards, which meant that the sun never reached the lower floors. A comprehensive "courtyard renewal" campaign in recent years has converted many small courtyards into attractive green areas with room for playgrounds, barbeques, picnic tables, grassy play areas and cycle sheds. These very attractive new courtyards provide good places for residents in densely populated neighbourhoods to relax.

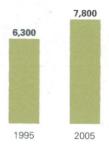
Public space is the third target area where daily life and occasional informal activities now enjoy better conditions. There are improved settings for children to play and for adults to relax, and the street-side



Before and after photos of a renewal project on Willemoesgade in Østerbro. Five rear courtyards were combined, and the building shown above was demolished, giving residents more light and space.

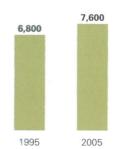


Number of lighted windows one winter evening.



The graph shows the total number of lighted windows in the inner city one winter evening at 11 p.m. in 1995 and 2005. Center for Public Space Research: Observation Study 2005.

Number of residents in the inner city.



The columns show the total number of residents in the inner city in 1995 and 2005. The number has grown by 12% during the decade.





Left: Lighted windows and knowing that people are home gives passers-by a feeling of security, Gråbrødre Square.

Right, top: "Street scene", Østerbro.

Right: "Eyes on the street" provide security, Sct. Pedersstræde.



café culture has now spread throughout the city where cosy small cafés on residential streets offer new opportunities for people to spend time in the city.

The comprehensive urban renewal efforts in the old quarters of the city have encouraged residents to stay in the city and suburbanites to return because the city now offers attractive housing and charming local environments. The city also has many service options and cultural activities within walking distance. There are far more cultural and entertainment options in the renewed dense urban quarters than in most suburbs.

The numerous improvements in the city's public space have once again made it attractive and popular to live in the city, a trend made possible by extensive new building on former industrial waterfront sites and military areas. A good deal of housing is also being built in the new Ørestad city district. The residents of a city provide an important platform for life in the city. The city seems more friendly and safe day and night when windows are bright with light from lamps and candles. Light reinforces the feeling that people live behind the windows and are keeping an eye on what is happening on the street.

In cities with no residents the streets become dark and lifeless when offices and shops close and employees and customers go home. It doesn't feel safe to walk in areas that seem abandoned. A good city has a rich functional mix with residents, offices, shops and many different options that attract various types of city users at different times of the day.

New housing complexes in former industrial areas, along the waterfront and in the new Ørestad district are primarily owner-occupied flats, which are advertised as having the ideal combination of close proximity to city activities and yet peaceful surroundings. In practice this means a relative privatisation of public space, such as along the waterfront, where "Private: no admittance" signs flourish in some new areas. This marks a retreat to the private sphere at the expense of public life.





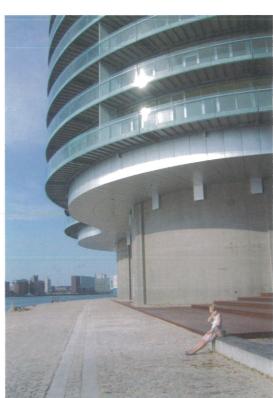
Signs stating that the area is private have popped up in connection with several new residential complexes, such as these at Holmen in Copenhagen.



Left: Activities in outdoor areas in new housing areas are highly dependent on design, particularly of the ground floor, Tuborg Harbour, Hellerup.

Below, left: Some new housing areas are partially or, regrettably, completely closed at ground-floor level where they meet public space, Islands Brygge.

Below, right: Many new housing areas have large terraces or balconies where outdoor heating units can be installed to extend the outdoor season, Holmen.







## MAJOR FUNCTIONAL CHANGES IN THE CITY STRUCTURE

Whereas car-free areas and the cycle lane network have come about as a gradual expansion and improvement of existing systems, there has been a quantum leap in the number of structural changes at regional level.

Copenhagen's infrastructure as a metropolitan region has changed markedly over the past few decades, particularly with regard to public transport, new housing areas and cultural institutions.

A tunnel and bridge with road and rail link over the Sound dividing Denmark and Sweden has made Copenhagen a metropolis in a regional urban network of cities with up to three million residents. In the same period, the city has built a new metro that connects the old city centre with two inner suburbs and the new urban areas in Ørestad.

Ørestad, the city's newest district, was built on open fields around the new Copenhagen metro line in a 500-800 metre band stretching from close to the city's old ramparts in the north to about five km away in the south. At the northern end are several institutions of higher education, research institutes, plus Denmark's public service radio and TV station, DR. Throughout this new town, groups of housing complexes are interspersed with various forms of commercial buildings.

Field's, the largest shopping centre in Scandinavia, is located at the junction between the new metro line and the large infrastructures in the form of an international train link and motorway to Sweden.

Field's is one of four new shopping centres that have grown up a short distance from the old city centre in the past decade.

In addition to the major regional changes in traffic structure and the new urban quarters on old industrial sites, new cultural institutions have been established along the waterfront, such as The Black Diamond (an addition to the Royal Danish Library), the Copenhagen Opera and a new playhouse for the Danish Royal Theatre. Amager Beach Park, a new public recreational area of regional importance has also been established.

Notable large-scale changes in the city structure have been made in recent decades, but not all of the new areas are equally successful. In chapter 5, City Spaces, an attempt to evaluate and describe several of these new areas will be made.