



STUDY TOUR COPENHAGEN

WEST LONDON TRANSPORT PLANNERS LEARN
FROM DANISH CYCLING & TRANSPORT INITIATIVES

1st and 2nd NOV 2012

PRODUCED BY

URBED

26 Store Street
London WC1E 7BT
t. 07714979956

E-mail: j.bousie@urbed.co.uk
Website: www.urbed.coop

October 2012

*Photographs: unless otherwise stated provided
by URBED Ltd*

Front cover Images:

*Top left – Cycling for all ages
(www.flickr.com/photos/)*

*Right – Green; Copenhagen's favourite colour
(www.cruisecopenhagen.com)*



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Study tour

COPENHAGEN

01- 02 November 2012

BRIEFING DIGEST

This visit has been organised to enable engineers and planners working in West London to see what Copenhagen has achieved, and to discover how elements can be replicated. Over the past couple of decades Copenhagen has not only won awards as one of Europe's greenest cities by reducing carbon emissions, but also is classed as one of the most attractive to visit. Much of the appeal stems from work by the City Council to make the streets safe and attractive to walk and cycle. These apply many of the ideas put forward by Jan Gehl, Professor of Urban Design, whose consultancy practice is based in the City, such as treating a street as if you were a guest at a party. Cycling now accounts for 37% of trips to work in the city, and the goal is to raise that to 50%. Many residents own a number of bikes, which they use to reach the train, and trains and offices are designed to make cycling easy.

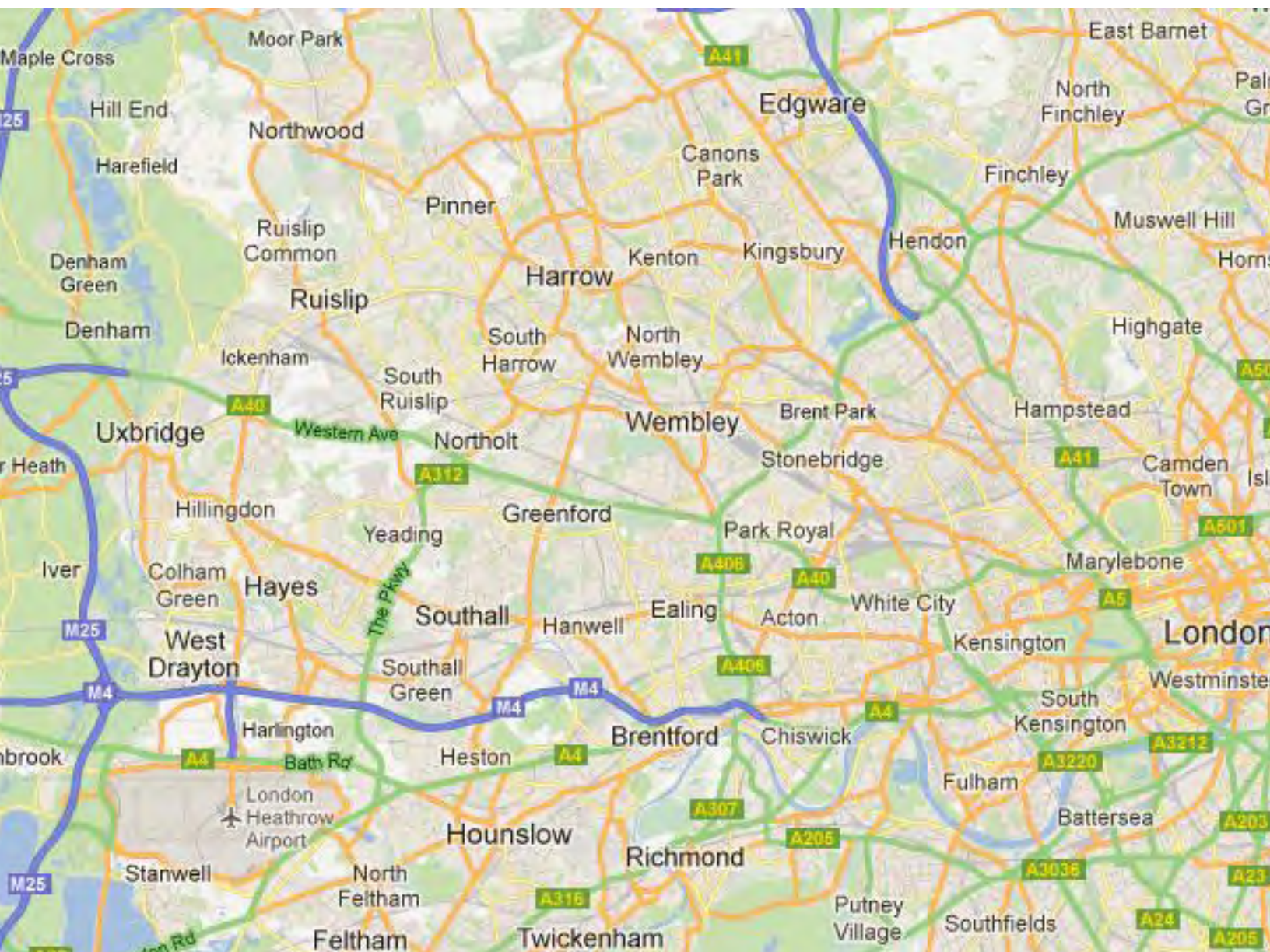
In preparation for the visit the attached papers include:

1. A programme and maps for where we are going;
2. A short profile of Copenhagen from the TEN Group's study tour there, including a description of Orestad from the same report
3. Extracts from a presentation given by Klaus Grimar to a conference in London earlier this year.
4. A Guardian article on making London's streets safe

THE CONTEXT



Delegates represent the six boroughs pictured on the left. The focus will be on applicable lessons. Is what Copenhagen has done feasible for West London and what lessons in particular can be put into practice? These questions will be considered.



DELEGATE LIST

1. Nick O'Donnell | Assistant Director - Strategic Transport | London Borough of **Ealing**
2. Colin McKenzie | Transport Planner (Cycling Infrastructure) | London Borough of **Ealing**
3. Gregory Callaghan | Partner | Peter Brett's Associates
4. Tom Sharland | Project Officer | London Borough of **Hounslow**
5. Kieran Taylor | Transport Projects Officer - Biking Borough | London Borough of **Hounslow**
6. Simon Franklin | Transportation & Road Safety Manager | **Hammersmith and Fulham**
7. David Jowsey | Principal Transport Planner | London Borough of **Brent**
8. Bob Castelijns | Senior Transport Planner | London Borough of **Hillingdon**
9. Tim Forrester | Principal Co-ordinator | WESTtrans
10. Robin Buckle | Head of Urban Design | Transport for London
11. Nicholas Falk | Founding Director | URBED

Please Note Nicholas Falk will be your group leader, if at any point you get lost or need to make contact, he will have his mobile on him **+44 (0) 7811266538**

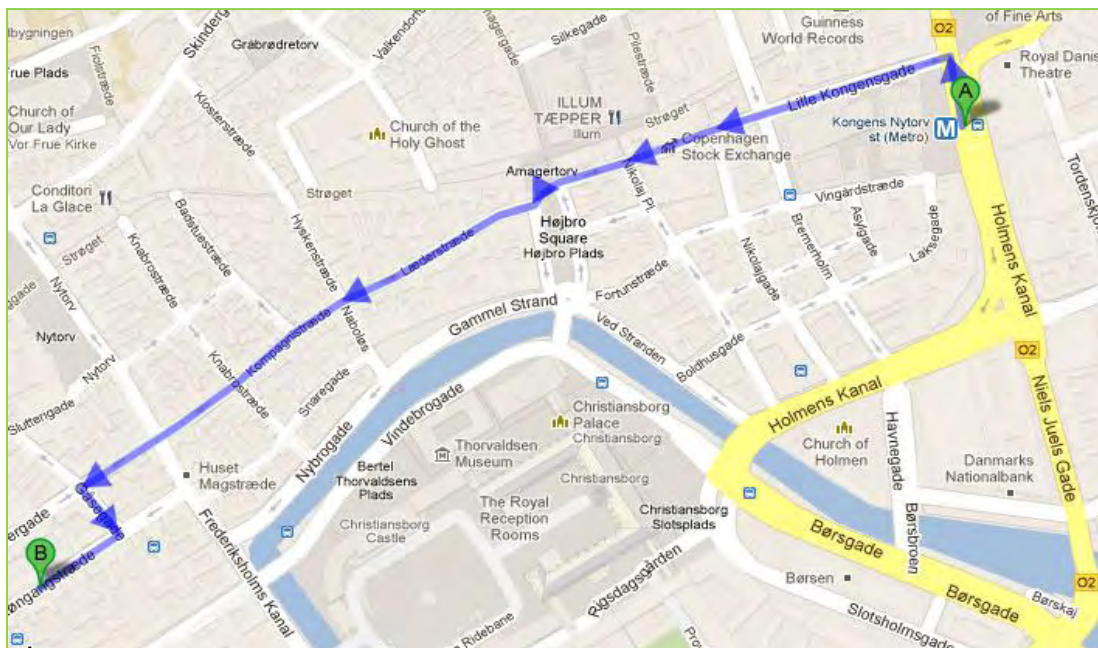
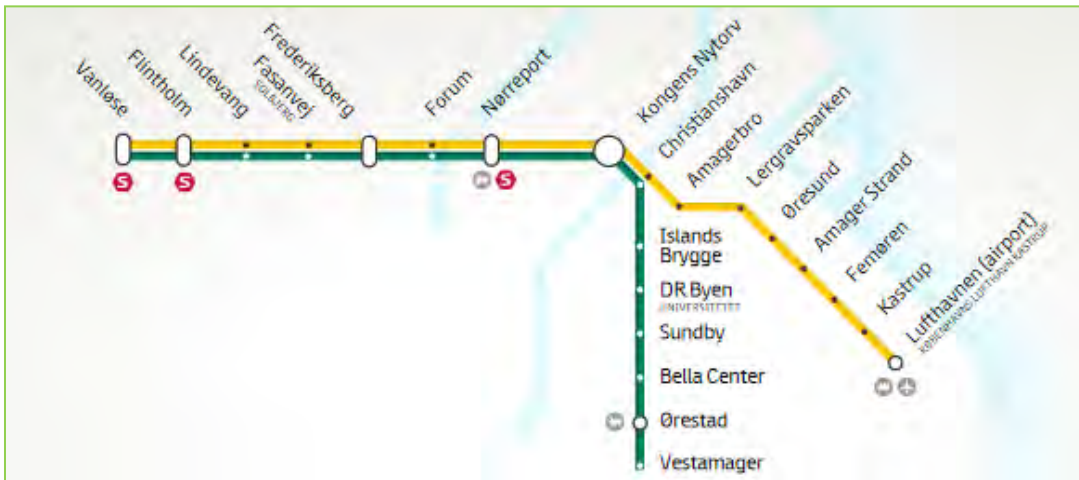
THURSDAY 1st NOVEMBER PROGRAMME

09.55 Flight departs London Heathrow Airport

12.50 Arrive at Copenhagen Airport

Head towards Metro station located at Terminal 3 (close to the airline check-in counters). At the Metro Nicholas will purchase Metro tickets for the group. **(10 x single journey tickets zone 1-3)**

13.13 Get Metro 2. You will be travelling from Lufthaven airport to Kongens Nytorv (8 stops along the yellow line – Metro 2)



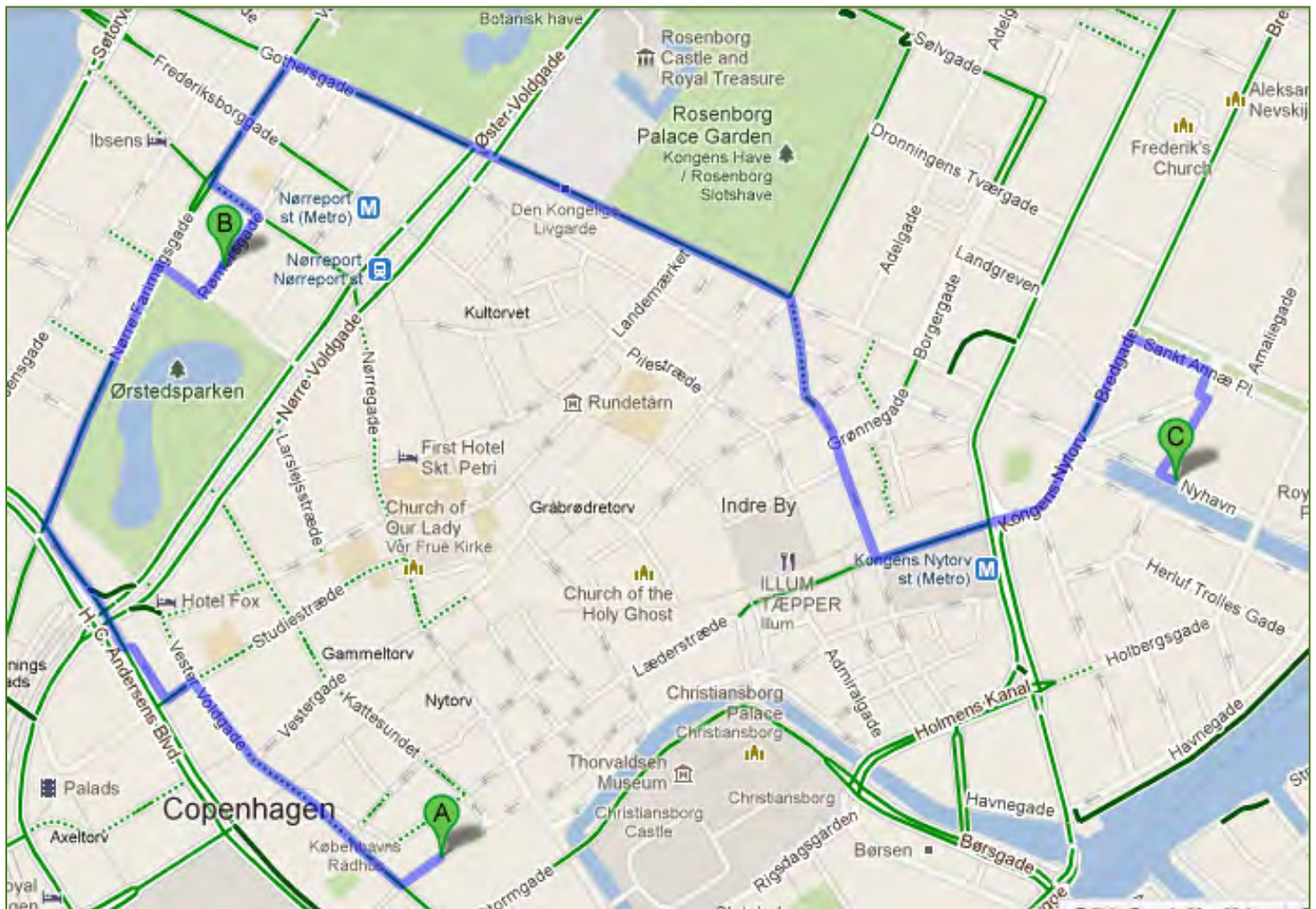
Above: A = Metro / B = Hotel

13.30 Arrive Kongens Nytorv Metro Station (A) and walk to Hotel Twenty Seven (B) Longangstraede 27, Copenhagen, 1468 | D +45 7027 5627 (13 minutes)

13.43 Check-in to Hotel **(A)** and pick up hire bikes from Hotel reception

Quick LUNCH (in Hotel or café en-route to next appointment)

14.30 Be at the Danish Cycling Embassy at Rømersgade 5-7 **(B)** to meet Mai-Britt Kristensen.
D. +45 40 70 83 77 | M +45 40 70 83 77 (5 minutes cycle from Hotel)



Above: A = Hotel | B = Cycling Embassy | C = Dinner

17.00 Farewell Mai-Britt Kristensen.

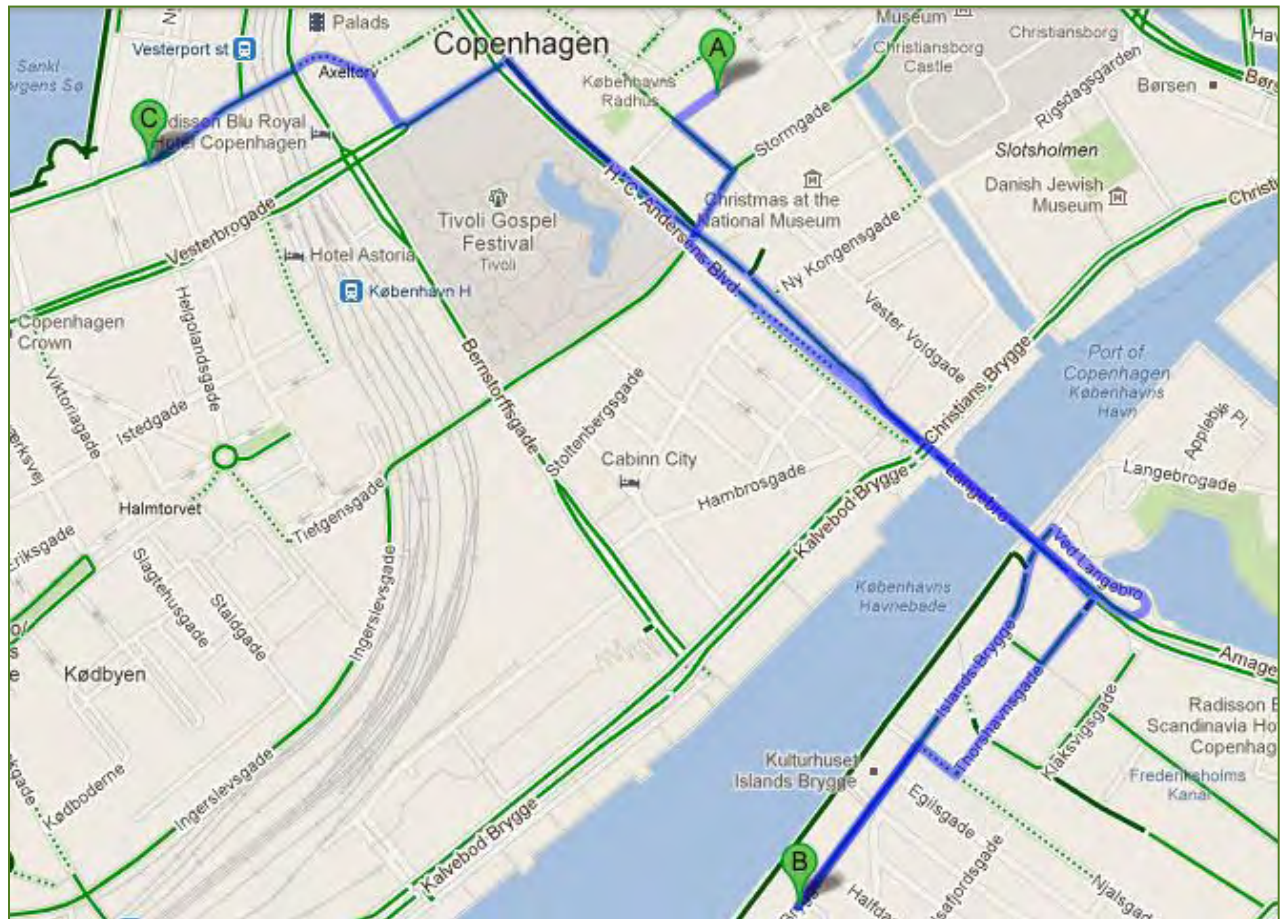
Free time to explore Copenhagen (some suggestions of attractions are on page 9)

19.30 Meet at Dinner **(C)** – canal side restaurant CAP HORN. Nyhavn 21, 1051 København K.
Phone Jeanette if any problems +45 33 12 85 04

FRIDAY 2nd NOVEMBER PROGRAMME

08:40 Meet in hotel lobby and check out (A). You may wish to leave some bags with the Hotel as you will be returning to drop bikes off later in the day.

Cycle to the Traffic Department, Islands Brygge 37, 2300 Copenhagen S (B) to meet **Klaus Grimar** | Transport Project Manager | City Council in Copenhagen | +45 3366 3332

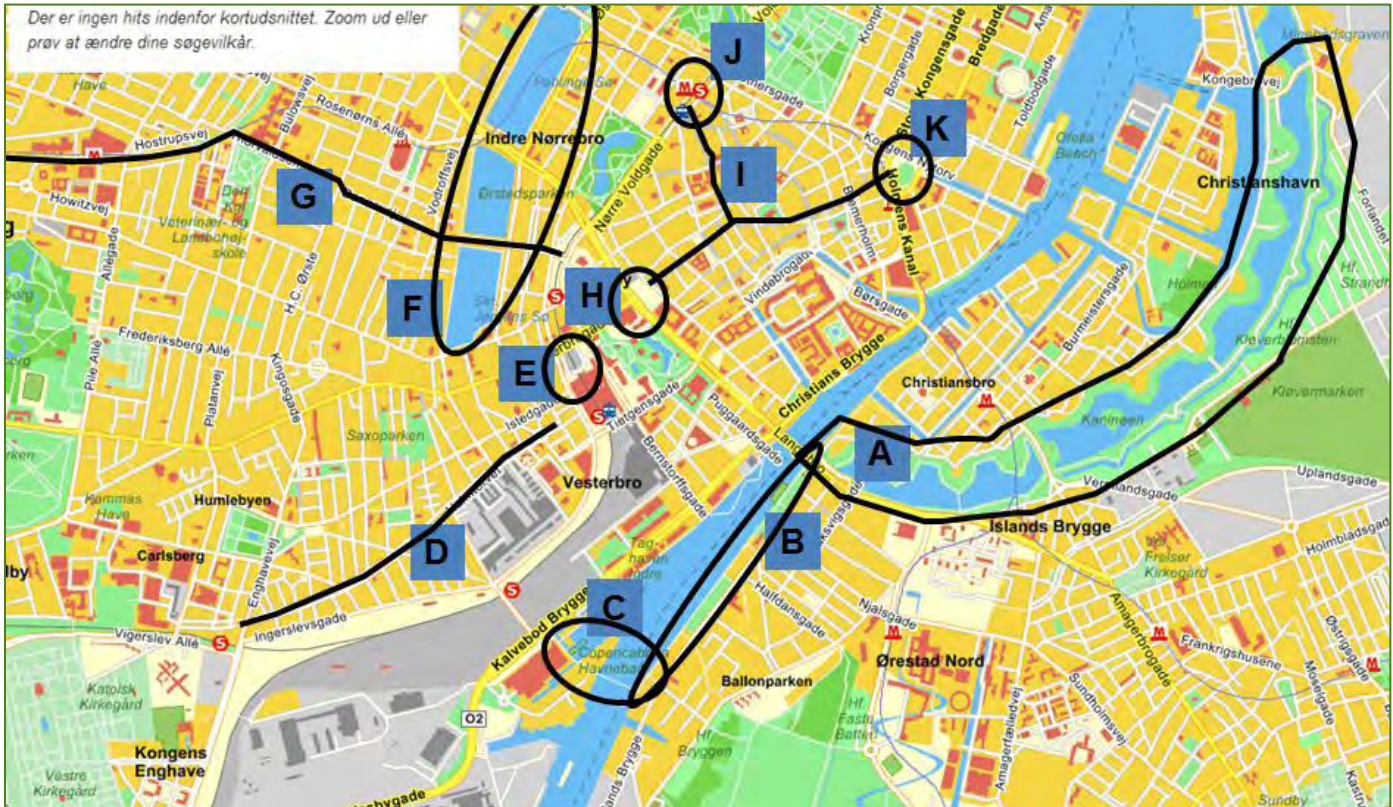


Above: A = Hotel | B = Traffic Department | C = Jan Gehl's office

- 09:00** Bicycle planning in Copenhagen by Tim Strange Jensen
- 09:30** Status of work with Cycle Superhighway in Copenhagen by Jens Toudal Jessen
- 09:40** Cycle Superhighway in Hounslow
- 10:00** Break
- 10:15** Traffic safety and bicycle by Anne Eriksen
- 10:45** Schoolchildren and cycling by Johan Heichelmann
- 11:15** Noerrebrogade project by Klaus Grimar
- 12:00** Morning session ends

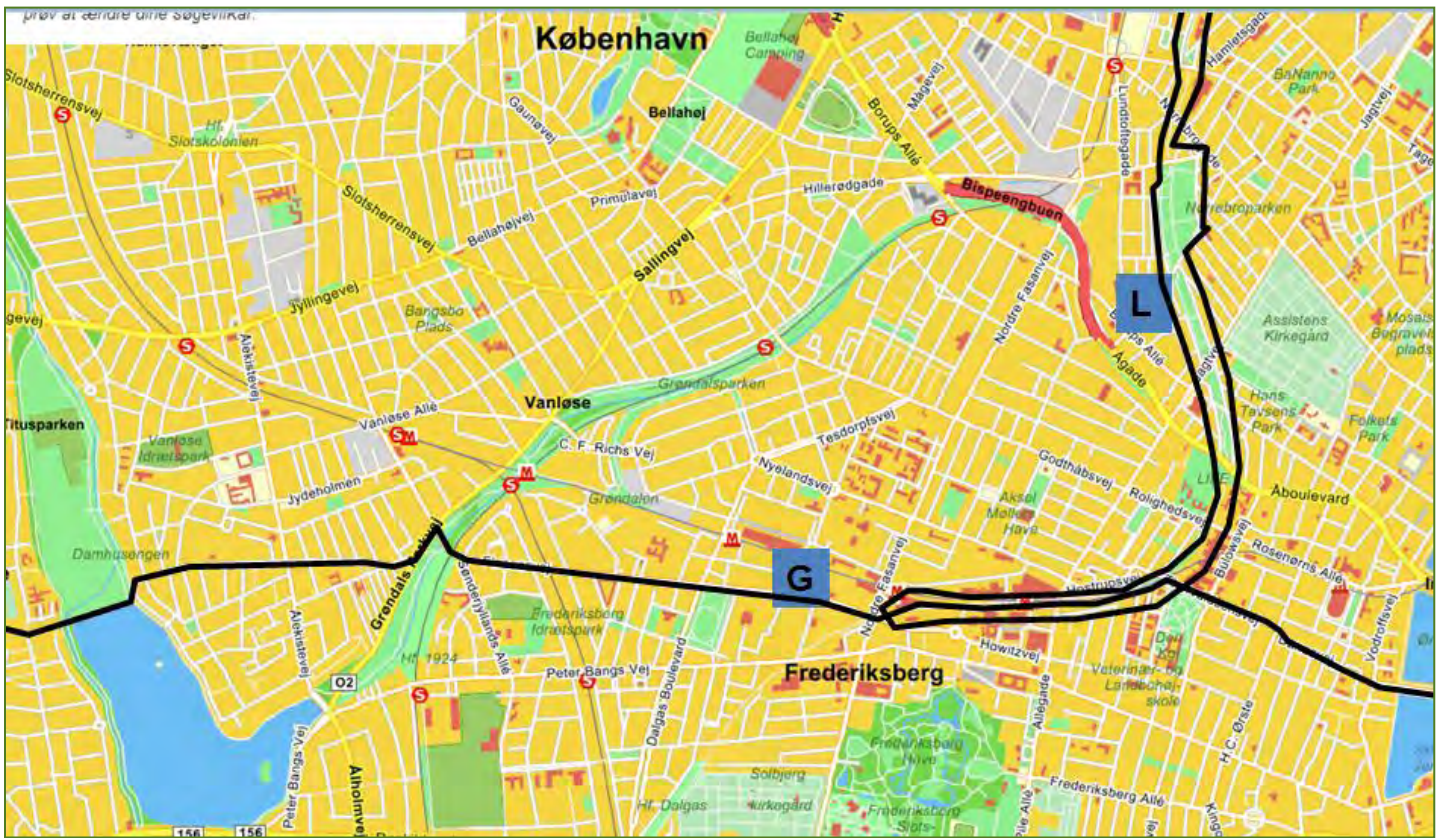
- 12.15** Cycle from traffic department to **(B)** to Jan Gehls offices **(C)** (*Gl. Kongevej 1, 4 | DK-1610 Copenhagen*) for talk on Copenhagen
- 13.00** Meet Allison Dutoit | Architect, BFA, M.Arch | Head of Studio | Jan Gehls | Mob. +45 51 44 15 09
- LUNCH** at studio
- Talk and presentation at Jan Gehls office
- 15.00** Cycle to points of interest provided to you by Alison Dutoit
- 16.30** Drop hire bikes back at Hotel
- 17.30** Metro M1 Green line from Kongens Nytorv to new town of Orestad. Purchase 10 x single ticket (zone 1-3).
- 18.00** Leave Orestad on the national rail OR1354 departing from platform 1 towards Københavns Lufthavn, Kastrup st (2 stops to airport)
- 18.15** Arrive at Airport
- Check in and **DINNER** at airport
- 20.05** Flight leaves CPN
- 21.10** Flight arrives LON Heathrow

POINTS OF INTEREST

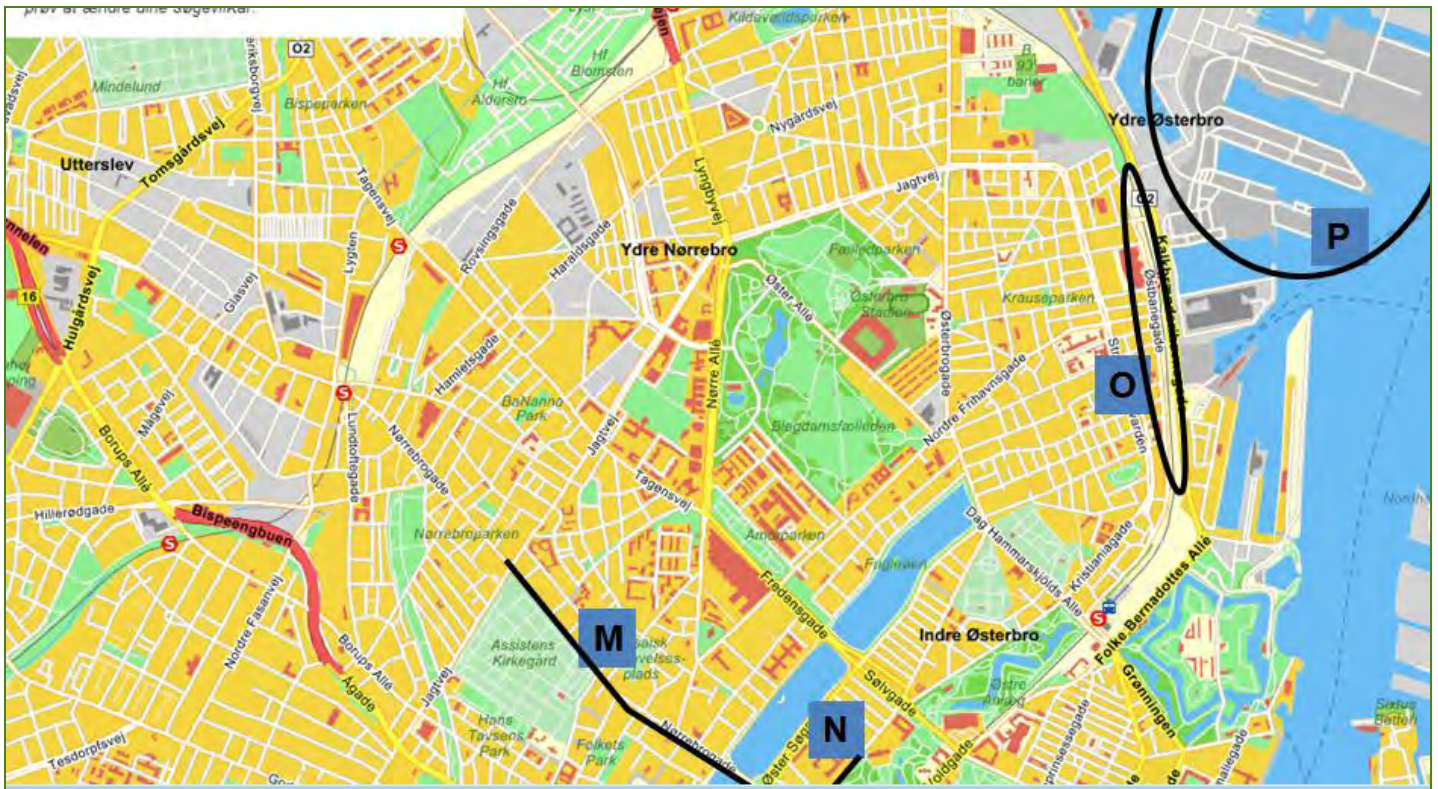


- A Green cycle route on the old fortress
- B Islands Brygge (Havneparken = Harbour Park): Pedestrianised park area at the waterfront. Also good cycle tracks for cyclists.
- C Bryggebroen = Brew Bridge: Walking an cycle bridge over the harbour. The Brew Ramp is suppose to be build from the Brew bridge to the Kalvebod Brygge bridge – they might be working on it when you are there.
- D Halmtorvet / Sonder Boulevard: Good cycle tracks in both sides of the road with a pedestrianised park area in the middle of the road.
- E Cycle parking at the central station. There is huge problems with too many bikes and not enough cycleparking. Cycleparking in "wheel-benders" is not a problem when there are enough bikes.
- F Cycle tracks all the way around the lakes of Copenhagen. One of the most popular area for running, walking and cycling.
- G The first Cycle Superhighway in Copenhagen, The Albertslund route. See the features at their homepage. One of the best cyclerroutes in Copenhagen. It is 17.5 km long, but you must at least cycle from Vesterport station to the road; "Nordre Fasanvej".
- H Town Hall / H. C. Andersens Boulevard: 1) Take a look at the signals for cyclists, 2) There is work going on making the new circle metro, but the municipality do their best to give cyclists good conditions while it is going on, 3) Pedestrian signal count down.
- I Stroget: Pedestrianised shopping street where cars are not allowed.

- J Norreport station:
- K Kongens Nytorv = The Kings New Square: Big road in Copenhagen where there is good examples on bus stops and cycle tracks.



- G The first Cycle Superhighway in Copenhagen, The Albertslund route. See the features at their homepage. One of the best cyclist routes in Copenhagen. It is 17.5 km long, but you must at least cycle from Vesterport station to the road; "Nordre Fasanvej".
- L Norrebro cycle route: A green cycle and pedestrian route which is also a park area. The north part is from 2012 with the Red square. A visit worth!



- M Norrebrogade = Norrebro Street: This is the project I were telling about at the Go Dutch conference. An extreme flow of cyclists in to the city in the morning over "Dronning Louises bro" (=Queen Louises bridge). On the bridge they are experimentising with a fast and a slow cycle track. (Do you think it works?) Good examples on bus stops and wide cycle tracks. Especially the history about this street the last 10 years is interesting.
- N Nordre Farimagsgade: An visible example of the Green wave and a speed counter for cyclists.
- O Ostbanegade: Dual cycle track in both directions.
- P Nordhavn = North Harbour: New urban city development

København



4

2

7

9

8



1. Allotments

Around the old city walls are allotments that are not used for food growing but as weekend retreats. Each of the huts is an architectural flight of fancy and the allotments also has a bar and theatre. The secret is that in the past they were the only places that you could buy alcohol on a Sunday.





2. Fleaskehal (Flesh Hall)

We were amazed by this place - just behind Gelh's offices the old meat market has contracted (but still operates) and all the surplus space has been occupied by creative industries. Not very pretty but a huge amount of stuff going on.

3. Christiania

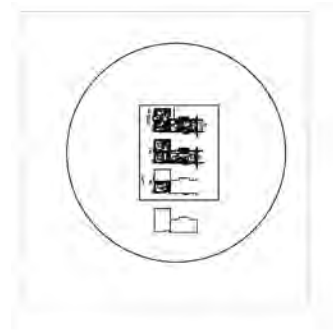
My favourite place in Copenhagen - a very long running squatter settlement of an old military base - it has been there since the 1960s and has its own high street and neighbourhoods. When we were last there Gelhs took us to a fantastic restaurant in a derelict barracks in Christiania. The entry and staircase were covered in graffiti and yet the restaurant was actually quite up market.





4. Copenhagen Brewery

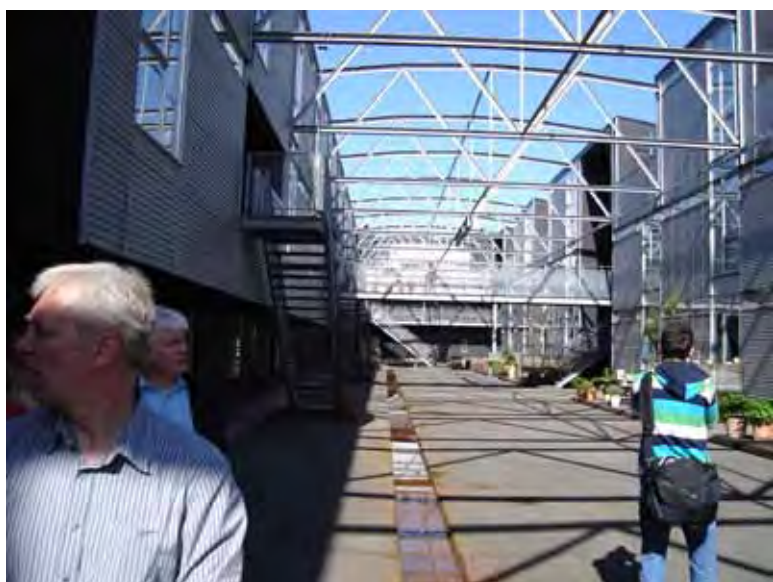
Massive site with a mix of old buildings that are being retained with a lot of new build. A local practice won an international competition to design the site and at the moment they have installed a set of meanwhile uses like the rope swings above and bouncy metal sheets to the right. There is a marketing suit that you can visit.





5. Torpedo Works

This is in the old navy dockyards that has been developed as a residential quarter. I wasn't that impressed with the area as a whole but the conversion of the old torpedo works to apartments was brilliant and a real inspiration to our work with the canal warehouses in Brentford.



6. Amager Strand Park

This is something we would never have the nerve to do in the UK. It is a modernist beach with grey sand and these incredible concrete structures that look like something from the war. The sky and sea are normally grey as well so the overall effect is haunting. However in summer it is packed with people.



7. Island Brygge Park

This is an area of former docks that has been turned into a linear park - If you look at the Google earth image you see how busy it is in summer. The most innovative feature is a floating swimming pool in the harbour (below).





8. Ørestad

This is a big masterplanned area that includes the university and some impressive modern buildings including a circular student block and a television centre by the architect Nouvel. Wasn't that impressed from an urban design perspective but its one of the places that you are always taken to.



9. Sonder Boulevard

There are a few boulevards in the city that have been massively downgraded and turned into linear parks - this one is the Sonder Boulevard and we also saw one called Prags Boulevard. They include green areas, sports facilities and cycling space with the cars confined to a single carriageway.



2. LEARNING FROM COPENHAGEN

2.1 Sustainable urban development

Copenhagen has been voted the second most liveable city in the world by Monocle Magazine (the first is Vancouver), and comes top in Siemens ratings of cities in terms of their greenness. As the former capital of an empire, Copenhagen still feels grand, while enjoying a lively human scale lifestyle. It is one of a number of Scandinavian cities that have overcome their peripherality and lack of natural resources through well-conceived and executed public investment. The city as a whole has a population of 1.7 million out of a total Danish population of some 5 million, but effectively forms part of a metropolitan agglomeration on both sides of the Øresund with a population of nearly 4 million.

According to the Danish Minister of Culture, who spoke at an event on June 29th run by New London Architecture to draw lessons for East London, what makes Denmark special is their *'concern with combining aesthetics, and a city that looks good, with a city that also is fair to all its citizens'*. The Danes believe that the quality of the environment affects people's behaviour, and have been putting social democratic principles into practice for many decades. There is a tradition of municipal leadership, despite there being seven different mayors in the conurbation. Copenhagen is one of the few cities that uses Land Value Taxation, and this no doubt helps to ensure that all the city's space is well-used, with little vacant space.



Top: Restored warehouse quarter of Nyhavn and historic Copenhagen

Bottom: The Black Diamond, Copenhagen's new library and The Danish Royal Theatre

Instead of going for a Green Belt, as in London, Copenhagen adopted its famous Finger Plan (EGNSPLAN) in 1948, in which development was concentrated along a series of five corridors based on public transport routes into the centre. The latest is Ørestad, an extraordinary 'new town in town'.

Much of the city centre dates from the 17th and 18th centuries, with some grand buildings, but the overall feeling is one of a relatively compact and coherent city, with extensive water areas that assist (and sometimes obstruct) personal navigation. Major regeneration projects have also taken place along the very extensive waterfront, with the result that wealthier Danes have been attracted back to live in the city centre.

Today there are plans to provide homes and jobs for 40,000 more people over 40 years with 3.4 million m² of construction. The watersides have been opened up, and there are a number of major new developments of former industrial sites. Use has been made of international architects, often selected through competitions, to achieve a diversity of styles. As a result living in the city, and in the new developments, is very popular, and for a long while every new apartment was sold off plan. With the financial crisis, developers have stopped building, and plans may need to be reconsidered.

Regional Structure – Finger Plan 1947
Taken from a presentation given by Tøger Nis Thomsen, Architect and Town Planner, Copenhagen City Council

The Scandinavian Context

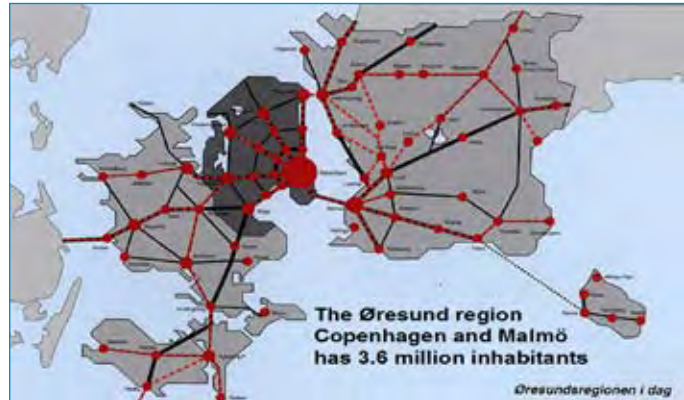
The Scandinavian countries have been remarkably successful since the last World War in developing great places to live as well as thriving economies, and in putting sustainable development principles into practice. This is despite their peripheral locations and relatively small populations. Both Sweden and Denmark score well in surveys that measure both environmental and social sustainability. Sweden now has the highest economic growth rate of any OECD country, whereas in the 19th century a quarter of the population were forced to emigrate to the USA.

Like the UK they have monarchies, but are less centralised and more egalitarian. While national governments have shifted to the right, (partly in response people moving into the cities from abroad), local government still plays the leading role in spatial development. The movement to new suburbs is being checked by developing new urban quarters that meet the highest sustainability standards alongside upgraded public transit systems. They have also taken action to make their city centres truly memorable, through extensive pedestrianised streets and bike ways, outdoor cafes (with blankets to fend off the cold), and the greening of post war estates as a means of changing their image. Above all they have invested in developing a sustainable infrastructure in terms of transport, energy, water and waste, and have made regional planning work.



The Øresund Region: a model for Local Enterprise Partnerships?

In 2000, five years after Sweden joined the European Union, Denmark and Sweden were joined together by the Øresund Bridge. This created a region of some 3.6 million people, and a new player on the European economic stage. The bridge, which is 11 miles long, was only approved by the two governments in 1991/93, and finally confirmed by a Swedish Court decision in 1995 only weeks before construction started. The idea behind it was not only to change traffic flows in Northern Europe, but also link the two sides together, thus creating a more dynamic and competitive urban area.



The region works through a regional plan drawn up by the municipalities on both sides. 25,000 Swedes come over every day to work in Copenhagen, and take many of the jobs, such as serving in hotels and restaurants. Conversely many Danes have moved over to Malmö to live, where living costs are lower, and there are also differences between the countries in whether you are taxed where you live or where you work.

With frequent train services Malmö is under half an hour from Copenhagen, and the bridge also carries a motorway. Services will be improved still further when the new rail tunnel is complete that will link directly through to Stockholm, and when Copenhagen is eventually linked to the high speed line to Hamburg. With a first class airport serving more than 120 destinations, both Copenhagen and Malmö have already become much more competitive as locations for international businesses.

Early schemes, which were influenced by London Docklands, made the mistake of just building offices, and are now seen as sterile. Instead the emphasis now is on authenticity, balance, connectivity and diversity. The main recent developments have been in Islands Brygge, which were part of the port, with mixed use schemes that provide a substantial public realm along the waterfront. Attention has now shifted to the Northern Harbour, Nordhavn, where a masterplan has been drawn up following an open competition which drew 180 applicants. The idea is that ordinary people should be able to benefit from living by the waterfront, and that all will live close by public transport. The three winners were funded to develop

their ideas, and included young architects who would never otherwise have got the chance to see their ideas put into practice.

The area is being developed by a joint company By & Havn (the City and Port Development Corporation) set up by the City and the Danish government and who are also responsible for the development of Ørestad and the new metro lines. The intention is to develop the area incrementally, starting where it is easiest, and to make serviced sites available in small parcels. The guiding principles are to densify the region in order to support high quality public transport, to give people the right to a sustainable lifestyle, to make the most of water, and to create a more diverse city.

2.2 Mobility

Copenhagen is widely thought of as the bicycling capital of the world, and some 37% of trips to work are now made by bike. Cycling, we were told, is *'a way of life, a lifestyle, as well as being cheaper and more efficient'*. This was not always the case. There are now 460 km of cycle tracks and 1.2 million cycle every day. Over ten years, kilometres cycled have increased by twice as much as kilometres driven. This has been achieved by a combination of measures, including extensive cycle lanes, doing away with roundabouts, providing cycle storage on the suburban trains, and ensuring that offices provide changing facilities. Though car ownership went up by 40% between 1995 and 2005, usage only went up by 10%. Bus rapid transit has reduced journey times by 23%, and has produced great economies.

The City invests some €10-20 million a year in cycling facilities and the process of change has taken 40 years. Inside Copenhagen's central area there is a system of free bicycle hire; a system later taken up by Paris and London. As they have not been able to implement a congestion charge, the modal shift has been achieved through more subtle ways. The City's engineer progressively cut the amount of parking spaces by 3% a year - enough to make a difference over time but not enough to create too much opposition and this has provided space for cycle lanes as well as wider pavements on the main streets, and some shared surfaces on minor streets.

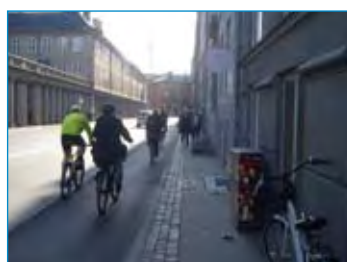
One of the concepts is of a 5 minute city where everything you might regularly want is close at hand, with a third of the movements by public transport, a third

Summary 1995 - 2004

Key figures						
Kilometres cycled (million km per day)	1.13	1.11	1.05	0.92	0.83	0.80
Proportion who cycle for other purposes than work (%)	89	-	-	-	-	-
Proportion who cycle for recreation and exercise (%)	25	-	-	-	-	-
Cycle track length (km)	329	323	307	302	294	293
Cycle lane length (km)	14	12	10	6	-	-
Green cycle route length (km)	37	32	31	30	29	28
Cycle track maintenance (DKK million)	8.9	8.8	8.1	5.3	4.7	3.8
Serious cyclist casualties (number)	124	152	146	173	252	231
Serious cyclist casualties at signalised junctions (number)	38	52	57	54	88	81
Dedicated cycle parking spaces (1,000 spaces)	20.5	-	-	-	-	-
Cycle Policy target figures						
Proportion who cycle to work (%)	36*	32**	34	30	30	31
Cyclist risk (serious casualty per 1 million cycle km)	0.30	0.38	0.38	0.52	0.74	0.79
Cyclist sense of security (%)	58	56	57	68	60	61
Cyclist travelling speed (km/h)	16.3	-	-	-	-	-
Cycling comfort (satisfactory surface in %)	2*	5	19	-	-	-
	2004	2002	2000	1998	1996	1995

*~2003 eq **~2001

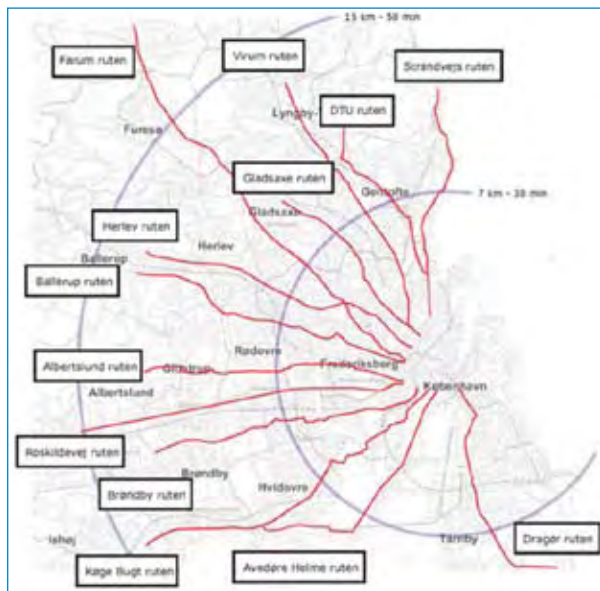
Bicycle Strategy: Key Indicators



Cycling in Copenhagen

by bike, and a third by car. This is being achieved through a 'green loop' in which cyclists and pedestrians have the shortest and most direct access to the city centre. Interestingly in the new development of North Harbour, only one parking space per 2,000 sq ft is to be provided, but a new metro line is planned to supplement the existing rail system.

The Cycle Superhighway is one of the major transport initiatives currently underway. It is a joint project between 18 municipalities, the council for the region and the government with the aim of increasing cycling from 37% to 50% of trips by 2015. The concept is to build a network of commuter routes, which are all built to the same standard and link up with public transport. The masterplan is to be completed this year and the first route to be built in 2011, costing 15 million kroner (approximately £1.7 million). One of the routes is being paid for by a cancer charity.



Copenhagen's plan for a Cycle Superhighway

The City Council are committed to increasing the number of journeys taken by bus by improving quality through faster journey times, smoother linkages and better bus stop facilities. In Frederikssundsvej a city neighbourhood that has no rail service and one of the busiest bus lines they are looking to introduce a Bus Rapid Transit Route by 2013 (see page 8), which they hope will increase passenger numbers by up to 30% (1,500 – 5,000 a day) and reduce journey times. They hope the money invested in the Rapid Transit Route will reduce journey times and require fewer buses, which will reduce the cost of the bus service in the long run.

Strøget

Copenhagen's main shopping street, Strøget (literally "the stroke" or "straight line") is one mile long, the longest pedestrian shopping



area in Europe. Stretching from Rådhuspladsen (The City Hall Square) to Kongens Nytorv (The King's New Square), it is actually a succession of streets stretching out from a central axis. It was pedestrianised as early as the mid-1960s after a fierce controversy. Elsewhere in European cities, pedestrianisation had been introduced only after construction of an elaborate Inner Distributor Road system to take the diverted flows of car traffic. Proponents of the scheme, including the architect-planner Jan Gehl, argued that this was unnecessary. His philosophy is to develop playful streets, and to treat them 'as if you were holding a party.' They were proved right: the traffic effectively "vanished". Today it is one of the most successful shopping streets in Europe.



Kryds ved Brønshøj Torv - Bus Rapid Transit

Skråfoto



■ Bredbane
■ Uafhængt busstop
■ Mellemhælle
P Parkering og Vejtræer

Streetview og tværsnit



Tværsnit fra fortove til fortove er 21 m.
 Tværsnittet er i perspektiv og derfor ikke målfæst.

Det faktiske kryds ved Brønshøj Torv

Kryds ved Havdrupvej - Traditionel løsning

Skråfoto



■ Bredbane
■ Uafhængt busstop
■ Mellemhælle
P Parkering og Vejtræer

Streetview og tværsnit



Tværsnit fra fortove til fortove er 21 m.
 Tværsnittet er i perspektiv og derfor ikke målfæst.

Det faktiske kryds ved Havdrupvej

Restructuring street space on a main road in Copenhagen
 Taken from a presentation given by Klaus Grimarwho, Traffic
 Planning Department, Copenhagen City Council

2.3 Quality streets

Main roads are being turned into quality streets, with an agreed strategy for restructuring most of the main routes into the city centre. This has been pioneered in Nørrebrogade, a two kilometre road linking inner and outer Copenhagen. Its previously narrow pavements and wide road accommodated some 3-12,000 pedestrians, 30,000 cyclists, buses every 3 minutes, and 17,000 cars a day. The vision was to improve urban life, make cycling safe, integrate the buses, and cut cars by 40%.

A masterplan with four options in 2007/8 was followed by pilot projects using temporary steps to widen pavements and cycle tracks and improve bus facilities. A dialogue with stakeholders led on to a survey which showed that 2/3rds of residents were in favour but 2/3rds of shop-keepers were against. The City Mayor had the courage to back the project, and cars have since been reduced by 30% while shop keepers are now putting out good for sale and opening up pavement cafes. The pilot cost £1 million (much of it on consultation) and the full scheme £3 million.



Nørrebrogade before the experiments



Temporary experiments

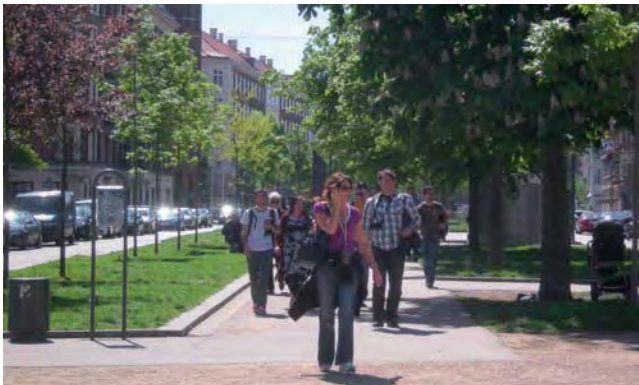


FOCUS AREAS



DEVELOPMENT OF A WALKING CULTURE

In many ways, the fact that Copenhageners walk in their daily life is obvious, something we don't reflect upon. The walking culture can be developed by us becoming more conscious about the benefits related to walking rather than for example, using a car for a short trip. It can also be encouraged by providing better information about different events which encourage us to walk with other people and by ourselves, on the job and privately. There are lots of opportunities to encourage people to walk.



PEDESTRIAN ROUTES AND MEETING PLACES

Copenhagen has an extensive network of streets and paths where the inhabitants can walk. In many cases however, there are barriers, and this, combined with a lack of connecting links, makes it more difficult to be a pedestrian. In other areas, there is a lack of meeting places and recreational areas connected to the pedestrian routes. A connecting pedestrian route would offer further encouragement to walk and make it easier to find alternative routes.



PEDESTRIAN PRIORITY MAIN SHOPPING STREETS

See info box on pedestrian priority main shopping streets on page 16. As far as business goes, the connecting links in the city are the pedestrian priority main shopping streets. In this sort of street you can find a lot of retail and grocery stores as well as cafés and restaurants, all served by mixed modes of transport. Getting to your destination on foot is often difficult on the narrow pavements, with their bus stops, display stalls, and outdoor services and other fixtures in urban life. If pedestrian comfort is increased, there is considerable potential for growth in the pedestrian priority main shopping streets.



TRAFFIC NODAL POINTS

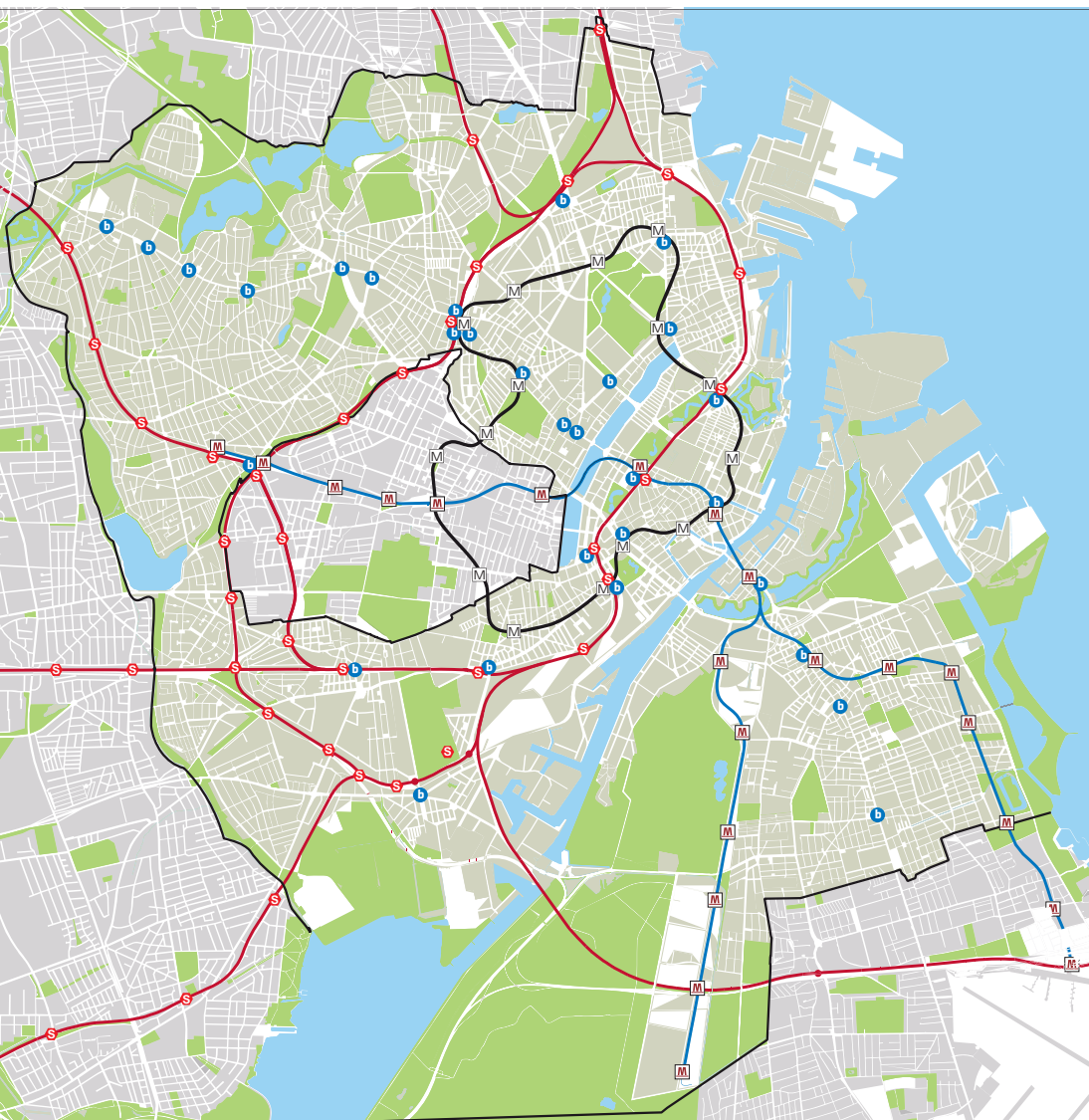
In Copenhagen, the many train stations and bus terminals constitute traffic nodal points. They are important locations for everybody who uses different kinds of public transport but also important points of reference in Copenhageners' mental map of the city. These are places of reference, which allow you to orientate yourself and possibly change direction. Everything is clustered into these nodal points, parking for bikes, hotdog stands, stalls, ticket offices, waiting areas and much more. A better connection with the pedestrian routes and more accessible squares would increase pedestrian comfort.

TRAFFIC NODAL POINTS

WHAT IS A TRAFFIC NODAL POINT?

Traffic nodal points are places where people switch between different modes of transport. They can be railway stations, bus terminals and bus stops, resulting in many pedestrians in a limited amount of space. Traffic nodal points are the last stop for many people and they become pedestrians for the last part of their journey. Here you will find movement and quick changes between modes of transport but there is also a need for places to wait and rest. Information about traffic and connections in the neighbourhood are other important elements in the urban design.

Traffic nodal points are places for changing between different modes of transport but also places with many other offers on view because of the many streams of people whose paths cross. Stalls with tempting offers are mixed with parked bikes and a throbbing pulse of people rushing from A to B.



TRACKS AND TRAFFIC NODAL POINTS IN COPENHAGEN

- S Train stations
- M Metro stations
- M Metro city line 2018
- b Bus terminals

VISION FOR THE FUTURE

TRAFFIC NODAL POINTS

"it's easy to reach your destination, find your way and use the public transport..."

IMAGINE THE TRAFFIC NODAL POINTS IN COPENHAGEN OF THE FUTURE

MORE SPACE, EASIER TO USE

The important traffic nodal points and bus stops of each district have been renewed with a focus on comfort, ease of use and improved pedestrian flow. It's become easier to find your way around and the stations and the squares in front of the stations are in several cases more open with more space to use.

TRAFFIC NODAL POINTS AND THE PEDESTRIAN ROUTE NETWORK ARE CONNECTED

The traffic nodal points have been renewed and connected directly to the rest of the pedestrian network. Traffic nodal points are important destinations for the pedestrian routes. To walk to the station or the bus stop is easier and because of the good places to spend time in, the wait does not feel nearly as long. Traffic nodal points are also central points of reference in the accessibility routes, where consideration for the visually impaired, blind and challenged citizens is a high priority.

ENSURING YOU CAN GET TO YOUR DESTINATION EASILY

The design of the parking areas for bikes is well thought through and they have sufficient capacity. The municipality often clears up abandoned bikes in order to ensure everybody in the city can get where they want to easily.

HIGH QUALITY LIGHTING

Lighting has been improved so pedestrians experience walking to and from the traffic nodal points as being safe and comfortable. The location and design of the lighting underlines the character of a traffic nodal point and makes it easy to get an overview. It creates a feeling of safety, while the actual traffic safety is high.

NEW CITY MAPS AND SYSTEM OF ROAD SIGNS

It is easier to navigate around in the city with the new system of road signs for pedestrians. Maps of each district tell how long it takes to find the most important points of reference within the district. Maps and road signs show the shortest route to a nodal point from the central places in the district. In many cases, the surfacing on paths and sidewalks show the way with different information embedded in the surfacing.

New types of internet and mobile phone-based "travel plans" are accessible. These plans show the best pedestrian route for the entire trip - or in combination with public transport. When waiting for a long time e.g. at a bus stop, the time on foot is shown connecting to the next stop on the journey or to the end of the journey.

HIGH LEVEL OF MAINTENANCE, CLEANING AND SNOW CLEARANCE

Maintenance and cleaning are high priorities at the traffic nodal points all the year round. Snow clearing is also a high priority in order to ensure accessibility during the winter season.

THE METRO SQUARES HAVE BECOME MEETING PLACES

The existing squares by the metro stations have been improved by the addition of new relaxation areas, while spaces to and from the squares have been cleared to create more space for pedestrians. The future squares of the new metro line will be more comfortable, especially in regards to spending time there, so they can become new meeting places in the city.



PROPOSALS FOR INITIATIVES UP TO 2015

- Good accessibility around traffic nodal points with pedestrian-friendly surfacing and easy crossing of streets etc.
- Integration of traffic nodal points into a network of pedestrian routes and accessibility routes.
- Longer “green time” for pedestrians at traffic signals.
- Putting up benches and covered relaxation areas with good lighting and waiting areas at stations and bus stops.
- Signage of walking distances with time indication to local destinations by S-train and Metro stations.
- Pedestrian accessibility and places to sit down are incorporated into all metro square projects.

⬆ Traffic nodal points must be designed in order to be accessible to pedestrians. Nørreport station, Copenhagen

⬇ It is important to design traffic nodal points so that they are easy to navigate and simple for pedestrians, Farum station, Copenhagen



THE ONGOING PROCESS



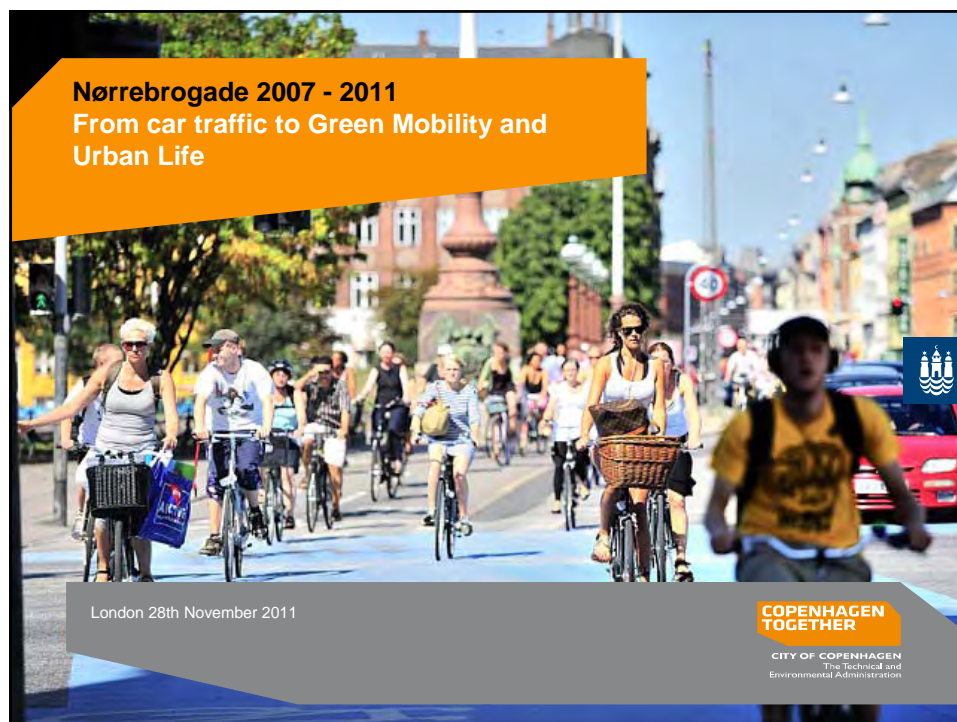
THE ONGOING PROCESS

On 22 August, 2011 the Technical and Environmental Committee approved the final pedestrian strategy “More People to Walk More – the Pedestrian Strategy of Copenhagen”.

On this basis, the Technical and Environmental Administration is continuing to develop the pedestrian strategy in the daily work of the administration and to make more specific proposals in order to apply for financing in future budgets.

Initially, the administration is prioritising a pedestrian route project based upon the answers obtained in the consultation. The pedestrian route project is a proposal for “Better Connectivity for Pedestrians in Copenhagen”. It will cover the establishment of two specific connecting pedestrian routes in two districts of Copenhagen: Valby and Østerbro, as well as the making of plans for pedestrian routes in the rest of the districts. This work will be done in collaboration with local committees in Valby and Østerbro. The local committees in these two districts have, on their own initiative, prepared plans for a connecting pedestrian route network in the two districts. The initiative from the administration will include the selection of parts of these networks and the establishment of improvements such as making crossover points safe, better surfacing, better lighting, shrubberies and flower beds, benches, activities etc.

◀ VWe are rolling out the red carpet for the pedestrians.



Nørrebrogade 2007 - 2011 From car traffic to Green Mobility and Urban Life

London 28th November 2011

**COPENHAGEN
TOGETHER**

CITY OF COPENHAGEN
The Technical and
Environmental Administration

Today's agenda

Klaus Grimar, Project Manager, Traffic Department

City of Copenhagen have in the period from 2007 to 2011 worked with a transformation of the main street Nørrebrogade from a street being dominated by car traffic to a street where bicycles, buses and urban life have first priority.

Some important political visions for Copenhagen

Nørrebrogade before	2007
Political visions for Nørrebrogade	2007
Planing process	2007 - 2011
Lessons learned during the trial project	2008 - 2010

2 London 28th November 2011

**COPENHAGEN
TOGETHER**

CITY OF COPENHAGEN
The Technical and
Environmental Administration

Some important political visions for Copenhagen Copenhagen Climate Plan 09

WE WILL REDUCE CO₂ EMISSIONS BY 20% BETWEEN 2005 AND 2015. OUR VISION IS TO BE THE FIRST CARBON NEUTRAL CAPITAL IN THE WORLD BY 2025.



GOAL:
THE CITY OF COPENHAGEN WILL MEET 10% OF ITS TOTAL CO₂ REDUCTIONS VIA THE TRANSPORT SECTOR. THIS REPRESENTS ABOUT 50,000 TONNES OF CO₂.

3 London 28th November 2011

COPENHAGEN TOGETHER
CITY OF COPENHAGEN
The Technical and Environmental Administration

Copenhagen Climate Plan 09

TRANSPORT INITIATIVE 1:

- More people choose to bike – we add new and improved bike paths, green bike routes.
- Bicycle and pedestrian bridges, and better bicycle parking notably near public transport stations.

TRANSPORT INITIATIVE 2:

- Public transport gets even better – we invest in comfort.
- Reliability, minimal travel times and smooth linkages between the different public transportation systems.



www.kk.dk/cyklernesby



4 London 28th november 2011

SAMMEN OM BYEN

KØBENHAVNS KOMMUNE
Teknik- og Miljøforvaltningen

Some important political visions for Copenhagen

More urban life for all

By 2015, 80% of Copenhageners will be satisfied with opportunities they have for taking part in the life of the city.

More people to walk more

By 2015, we will have increased the amount of pedestrian traffic by 20% compared to today.

More people to stay longer

By 2015 Copenhageners will be spending 20% more time in urban space than they do today.



www.kk.dk/metropolformennesker

5 London 28th november
5

**SAMMEN
OM BYEN**

KØBENHAVNS KOMMUNE
Teknik- og Miljøforvaltningen

Nørrebrogade before 2007



London 28th November 2011

**COPENHAGEN
TOGETHER**

CITY OF COPENHAGEN
The Technical and
Environmental Administration



Jackie Ashley

...s' triumph will
...e many of us to
...o two wheels. Now
...time to take bold
...n against cars

After Bradley, we must make our roads safe for cyclists

It would be quite a paradox, wouldn't it, if after London's success against Paris in winning the Olympics, the most significant British sporting success this summer turned out to be the one that happened not in London but in Paris. All hail Bradley Wiggins, a yellow-jerseyed hero for our times, the new patron saint of the velocipede-smitten British.

Wiggins is of course already a triple-gold Olympian, and Britain does well in cycle races across rather shorter distances than the Tour de France - think of Chris Hoy, Victoria Pendleton and Jason Kenny as well as Wiggins right now. This Saturday we'll see the road race finals zipping close to my front door; then the wonderful "Pringle" velodrome comes into its own for the sprints.

But cycling is one of those very few sports - and indeed may be unique - that is far more than a competitive activity. Indeed, it's a full-blown environmental, transport and health revolution, a popular craze, an urban mania.

Almost all of us watching the bulk of Olympic events - the diving, butterfly swimming, 100m sprinting, javelin-throwing or gymnastics - are simply oo-ing and ah-ing in awed admiration at the skill, guts and physique on display. A miniscule minority of younger people will be enthused so much they take up a sport, stick with it and find it a source of pleasure all their lives. Wonderful - but we're talking about a minority. We, the majority, are mere spectators and always will be.

Cycling's different. I'm old enough to remember when a thinly clad, colourful figure on a skimpy-looking bike with low handlebars was a rare sight. Weird looking, probably French. Here, bicycles were sturdy, three-gear objects for children, students and, as Orwell told us, old maids.

But over the last decade, speeding up in the last few years, all this has changed. Our streets have been filling up with Lycra-clad buttocks and formidable helmets. Month by month, the stream of cycling commuters swells, from the suits on their Raleighs and folding bikes to the cool kids whose super-expensive machines come with a whole lexicon of weird names - Forme Zenith, Ghost Race Lector, Nukeproof Snap, Kona Shonky. Once my local high street had building societies, clothing shops and video stores; now it's all bike shops, brimming with clothes, drinks, "nutrition bars" and more gleaming ironwork than the Royal Armoury.

London tends to hog the attention with its blue bike lanes and (unfairly dubbed) Boris bikes, with their now-unfortunate Barclays branding. To be fair, building on Ken Livingstone's work,

Boris Johnson has done quite a lot for cycling in the capital. For once, the bike systems pioneered on the continent have translated quite effectively to Britain. Those who said our climate was too dismal and our winters too long for cycling to really take off have already been proved wrong.

A London School of Economics study last August suggested that around 13 million Britons were regular cyclists. That must be nearer 15 million by now. In Manchester and Bury, for instance, there's an ambitious programme of erecting glass-box "cycling hubs" where people can safely leave their bikes - theft being one of the dangers of urban cycling. Four years after Bristol was chosen as Britain's first "cycling city", it has impressive systems of lanes and cycle-parking spaces.

Indeed, in virtually every city or town there are helpful websites for cyclists, maps, and advice on journeys and car-free routes. More and more major firms have schemes to encourage employees to arrive by bike. Outside the cities, the Bristol-based campaigning group Sustrans promotes 12,000 miles of traffic-free routes - the National Cycle Network.

However, this revolution is nothing like complete. In 2010, the last year for which have figures, 111 cyclists were killed on the roads and 2,660 were seriously injured. Even in London, despite the ballyhoo, few cycling commuters have routes that don't involve close calls with lorries and speeding cars. Until big cities have a web of car-free routes that

can carry most people on two wheels where they need to go, urban cycling will remain dangerous.

And smelly. More good employers are providing changing facilities and showers, as well as safe places to leave bikes, but they are still in the minority.

So there is a way to go. In its latest edition, Prospect magazine carries a thoughtful, slightly wistful piece by the former Labour MP Chris Mullin in which he calls for the abolition of the private car. Mullin says he wants "a return to that brief golden age when the bicycle was king, when every little town and many villages were connected to the railway network, and when our inner cities were habitable".

That might be going too far for today's politicians, but the effect of hard times and the oil price on budgets, and the sheer misery of modern car commuting, suggests that a more radical agenda could be popular. That means much bolder support for cycling, with cars banned from many more roads and parks. It's one of the few radical shifts in lifestyle that is easily deliverable and for which there is no real drawback: the benefits for the environment and indeed the health of the nation are obvious. Of course, the old and young who can't cycle mustn't be forgotten, as public transport is enhanced. But this is all doable. It's a policy that literally goes with the flow. Instead of new motorways, let's have Wiggins-lanes everywhere.

Twitter: @jackieashley

Almost all of us
...ing the bulk of
...pic events, we
...ere spectators.
...ing is different

