


The Capital Region of Denmark

REGION

# CYCLING REPORT FOR THE CAPITAL REGION 2016



CONTENT PRODUCED  
BY INCENTIVE FOR  
THE CAPITAL REGION  
OF DENMARK - WITH  
CONTRIBUTIONS FROM  
CYCLE SUPERHIGHWAYS,  
THE CITY AND  
COMMUTER BIKE  
FOUNDATION AND  
GATE 21.



# Contents

- 5 FOREWORD
- 6 THE CAPITAL REGION LOVES BIKES
- 10 THE HAPPIEST CYCLISTS LIVE IN THE CAPITAL REGION
- 12 CYCLING IS GOOD FOR YOU
- 14 NEW HABITS THANKS TO ELECTRIC BIKE HIRE
- 16 CYCLING: THE FACTS
- 18 MORE CYCLING, LESS CONGESTION
- 20 CYCLE SUPERHIGHWAYS FOR COMMUTERS
- 24 CYCLING IS GOOD FOR THE ENVIRONMENT
- 26 'BYCYKLEN' – GREEN MOBILITY
- 28 CYCLING IMPROVES AIR QUALITY
- 30 2016 REPORT





## FOREWORD

Cleaner air, exercise and fewer queues on the roads are benefits available to us all whenever someone decides to get on a bike.

Our aim in the Capital Region is to make it easier for all of us to commute to and from work, school/college and leisure activities without wasting time in traffic — and for us to get around in ways that help to make our region healthy, attractive and eco-friendly. Improving cycling conditions is important if we want to achieve that aim.

We know many people enjoy cycling, while at the same time it is one of the best ways of eliminating a number of the social challenges we face. Cycling results in over a million fewer sick days a year in the Capital Region alone and helps to reduce CO2 emissions. Cycling also helps to reduce traffic congestion — congestion that costs society a huge amount of money every year and causes drivers in our region to waste almost 10 million hours each year just sitting in traffic.

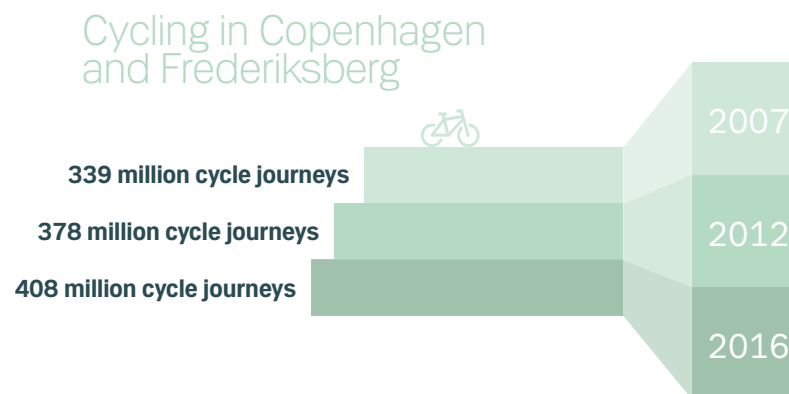
We are proud to report that the residents in the Capital Region travel by bike in one out of four commuter journeys. That said, we have to go on considering how we could improve matters even further.

The Regional Council has invested around DKK 60 million in cycling over the past few years. These funds are being spent on initiatives such as a series of cycle superhighways that will help to make cycling a genuine alternative to driving. The cycling report will allow us to monitor developments. It provides us with indicators of how our cycling improvements are being received and the areas on which we need to focus in the future.

Best of luck on your cycling travels!

**Sophie Hæstorp Andersen**  
Chair of the Regional Council

# THE CAPITAL REGION LOVES BIKES

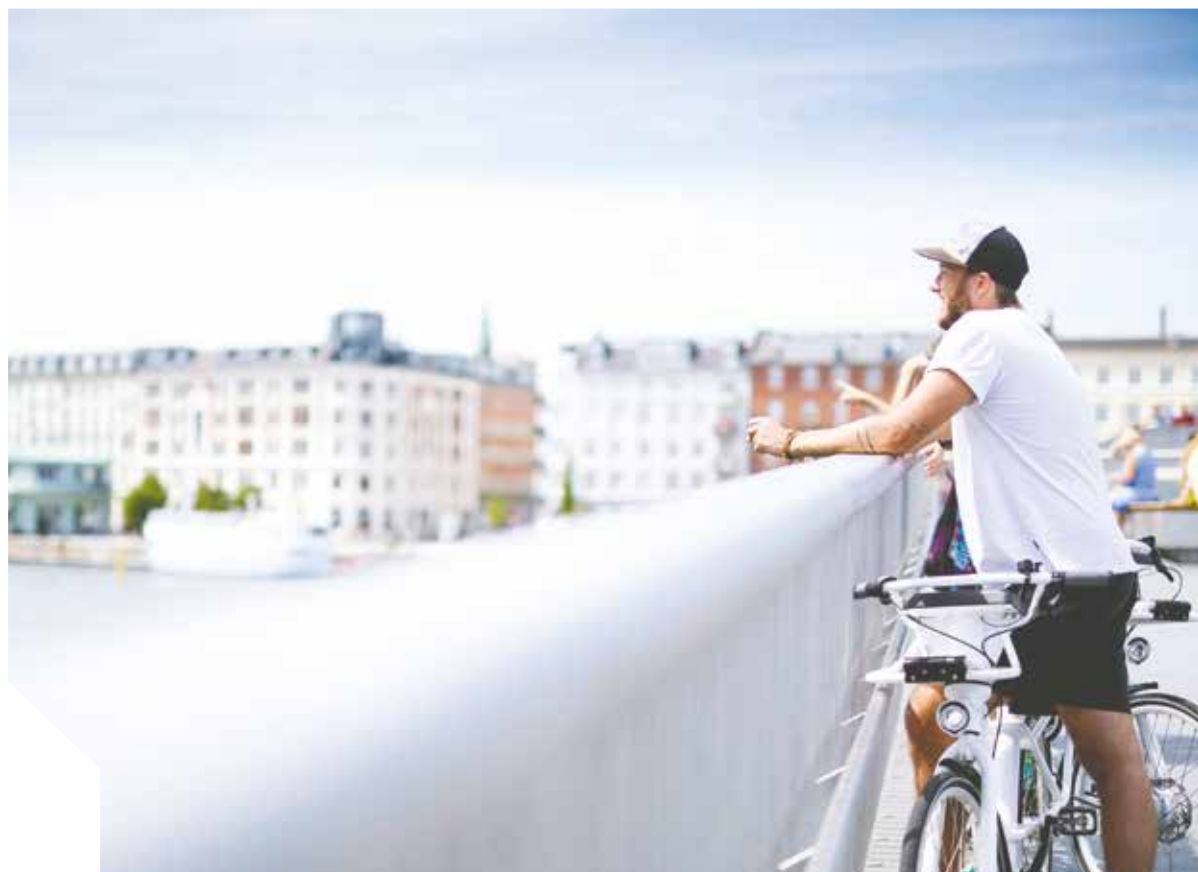


The Capital Region's 29 municipalities cover a wide variety of areas, from Copenhagen's inner city to the old fishing village of Gilleleje. Many people travel by bike in and around Copenhagen as so many people travel short distances and the city offers the best public transport in Denmark, while conditions are different outside the city. However, one thing the entire region has in common is that cycling helps the Capital Region's 1.8 million residents to go about their daily business every single day.

## CYCLING MORE PREVALENT IN THE CAPITAL REGION

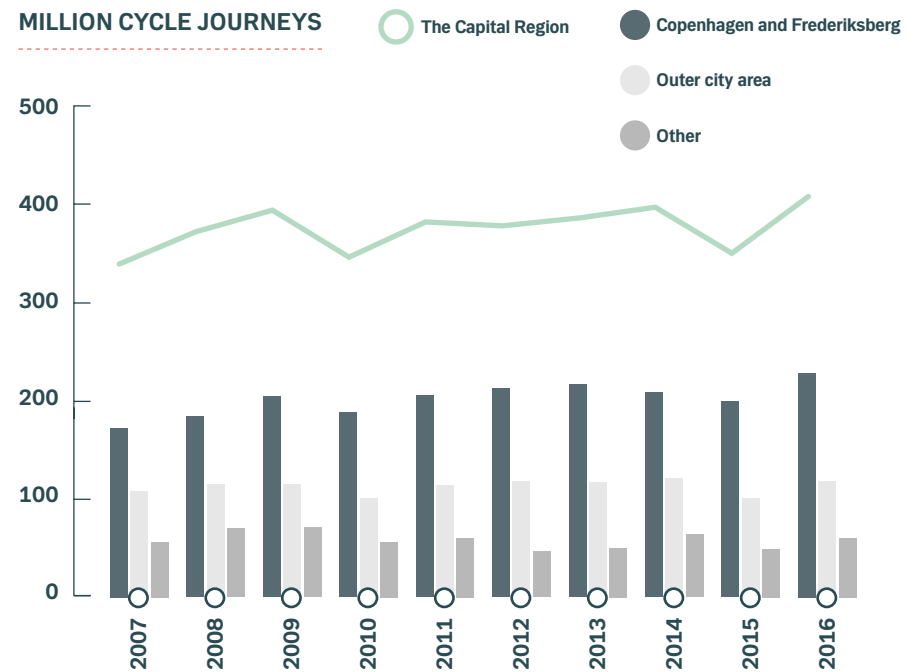
The number of cycle journeys (either by bike alone or combined with other modes of transport) in the Capital Region has risen by 20% since 2007, and 8% since the last cycling report in 2012. We have seen a particularly large increase in cycling outside the city area since the last report was issued. 2016 saw no fewer than 20% more cycle journeys here compared with 2012.

The number of journeys in Copenhagen–Frederiksberg has increased by 8% since the last report in 2012, although the figures for the outer city area are stagnant. That said, we can see an 8% increase in cycling in the outer city area if we look all the way back to 2007.





## MILLION CYCLE JOURNEYS



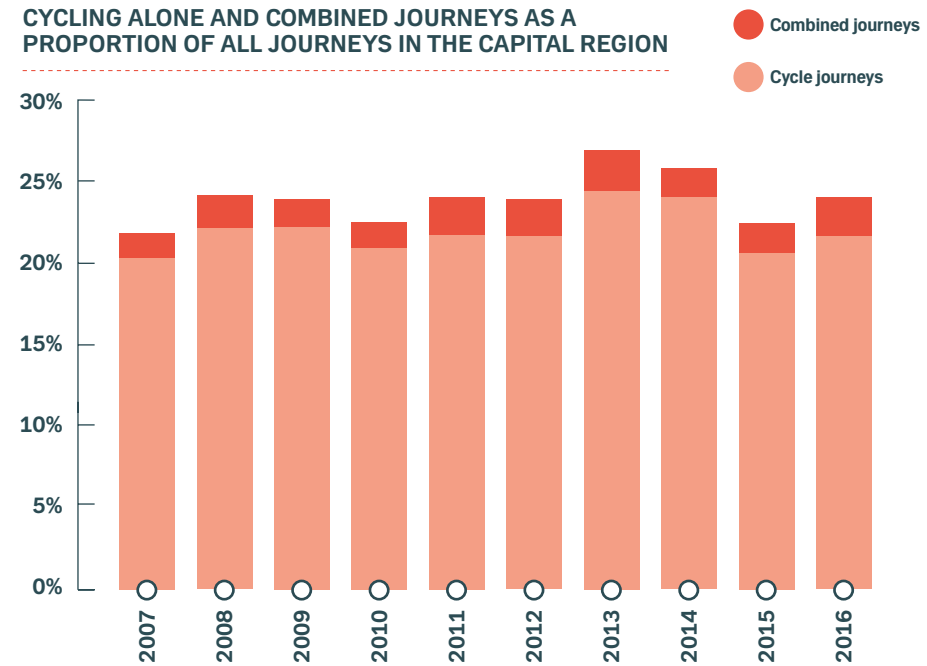
## CYCLING IS A POPULAR MODE OF TRANSPORT

Cycling is chosen for almost 1 in 4 journeys (24%), occasionally in combination with public transport. Of all modes of transport, cycling accounted for a 2.1 percentage point increase for 2016 compared to 2007, but this figure was just 0.2 percentage points compared to 2012.

Most journeys in the Capital Region that include cycling are purely cycle journeys. However, almost 1 in 9 cycle journeys combine cycling with public transport.



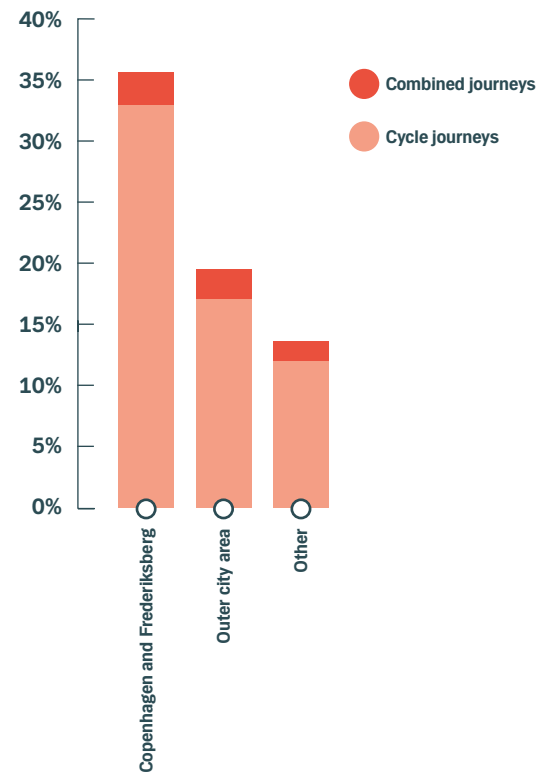
#### CYCLING ALONE AND COMBINED JOURNEYS AS A PROPORTION OF ALL JOURNEYS IN THE CAPITAL REGION



1 in 4 journeys in the Capital Region **involves cycling**



# CYCLING AND COMBINED JOURNEYS AS A PROPORTION OF ALL JOURNEYS (AS THE PRIMARY MODE OF TRANSPORT)



Cycling is most popular in densely populated areas, and this is true for both cycling alone and combined journeys. In Copenhagen and Frederiksberg, approx. 35% of all journeys involve cycling. Approx. 19% of journeys in the outer city area and approx. 14% of journeys in the other municipalities involve some form of cycling.

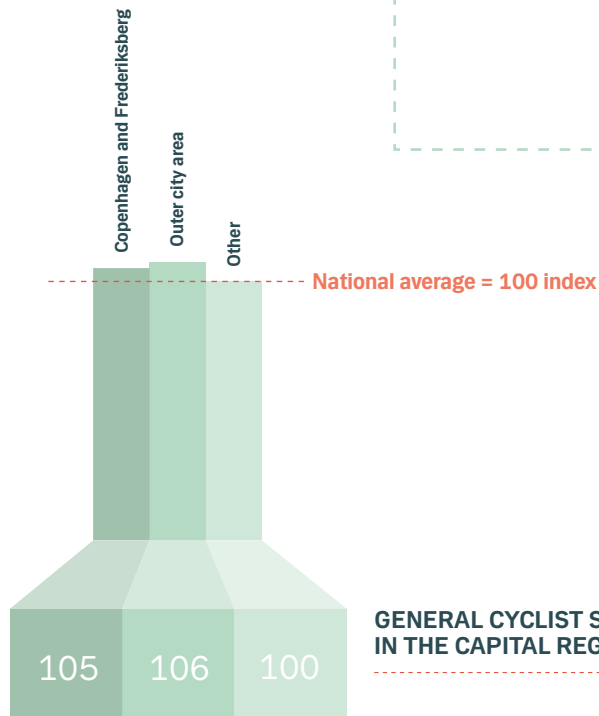


# THE HAPPIEST CYCLISTS LIVE IN THE CAPITAL REGION

The national cyclist survey is an interview-based survey that was conducted in 2016 and involved residents from 35 of the country's municipalities. The purpose of the survey is to provide municipalities with a comparable, readily accessible and comprehensive overview of cyclists' opinions on cycling conditions in municipalities throughout the country. Participation in the survey was optional for the municipalities, and for the first time this survey provides an insight into regional differences regarding cycling.

## CYCLISTS ARE VERY HAPPY IN THE CAPITAL REGION

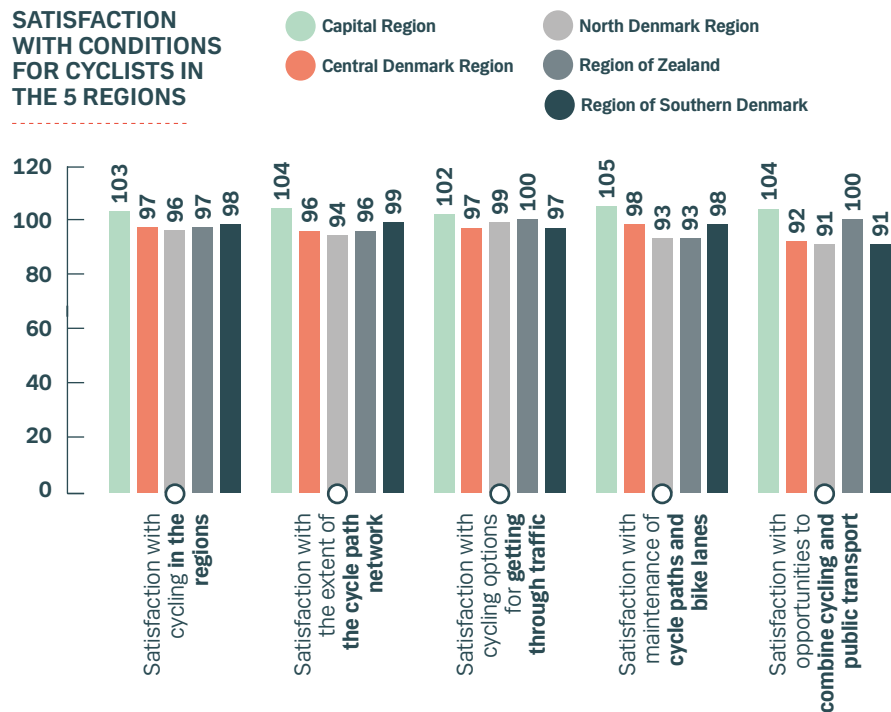
Capital Region residents are very happy with cycling compared to other Danish regions. Residents in Copenhagen-Frederiksberg are 5% happier than the national average, outer city residents are 6% happier, while satisfaction levels for residents of other municipalities are on a par with the national level despite trickier cycling conditions.



GENERAL CYCLIST SATISFACTION  
IN THE CAPITAL REGION, 2016

Satisfaction levels  
for residents in even  
the least densely  
populated areas of  
the Capital Region  
are on **a par with  
the national level**

## SATISFACTION WITH CONDITIONS FOR CYCLISTS IN THE 5 REGIONS



## GREATER SATISFACTION WITH KEY AREAS IN THE CAPITAL REGION

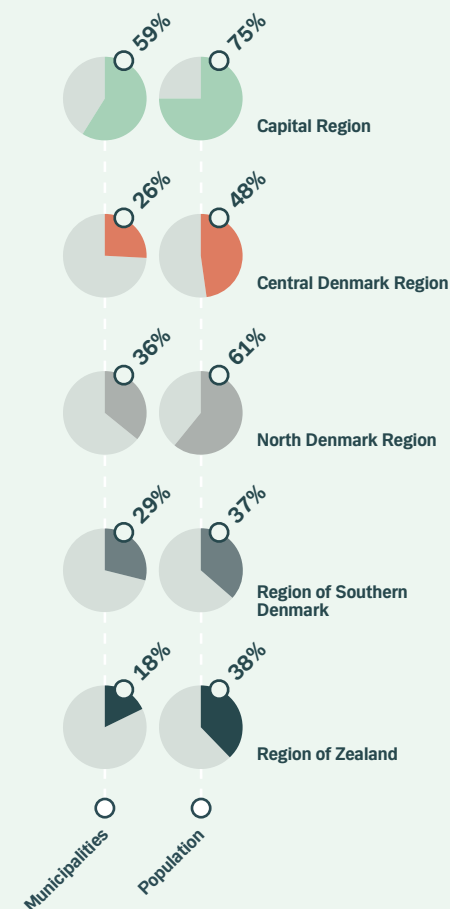
The relatively high level of satisfaction among Capital Region cyclists is due to cyclists' generally higher levels of satisfaction with conditions in the Capital Region.

Capital Region residents are 2% to 7% happier with conditions in a variety of areas on which the Capital Region focuses than residents in other regions. For example, Capital Region residents are 7% happier with the maintenance of cycle paths and bike lanes than residents in the Central Denmark Region and the Region of Southern Denmark.

**Capital Region residents are generally happier** with cycling conditions than residents in other regions

The Capital Region is the **most extensively represented** region in the national cyclist survey

## PERCENTAGE OF MUNICIPALITIES AND RESIDENTS TAKING PART IN THE NATIONAL CYCLIST SURVEY



# CYCLING IS GOOD FOR YOU

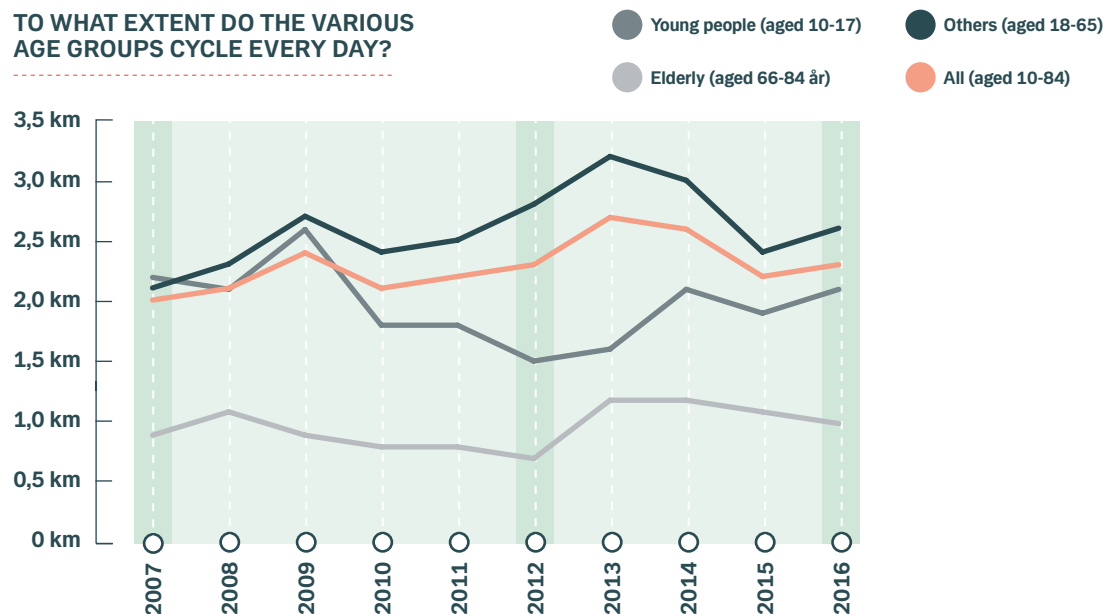
## HEALTH THANKS TO CYCLING IN THE CAPITAL REGION

In 2016, Capital Region residents cycled a total of approx. 3.6 million km per day on average. By way of comparison, we cycled just 3.4 million km per day in 2012 (5% down on 2016) and just 2.8 million km per day in 2007 (29% down on 2016).

This increase in cycling has come about as there are now more Capital Region residents. In fact, we cycled almost exactly as much on average in 2016 as we did in 2012. Young people and the elderly have started to cycle more extensively, while people aged 18-65 cycled less than in 2012.

We saved  
**50,000 additional sick days**  
in 2016  
compared  
to the  
latest cycling  
report  
in 2012

## TO WHAT EXTENT DO THE VARIOUS AGE GROUPS CYCLE EVERY DAY?



## CYCLING CUTS SICK LEAVE

Regular exercise is important for health and well-being. Cycling is an easy form of exercise as it can be combined with today's transport needs.

Capital Region residents cycled a total of 60 million km more in 2016 compared to 2012. And every time you cycle 1,200 km, you reduce the average number of sick days taken by one day. As a result, Capital Region residents saved an extra 50,000 sick days in 2016 compared to 2012.

Cycling by residents means 1.1 million fewer sick days per year in the Capital Region overall, compared with not cycling.

1,200 km = one less sick day

**DKK 1.6 billion**  
The amount saved  
by the region every  
year because  
residents cycle

## CYCLING SAVES MONEY

Cycling by residents saves the Capital Region approx. DKK 1.6 billion annually. The State and municipalities also receive a total of DKK 1.6 billion in extra tax revenue.

# NEW HABITS THANKS TO ELECTRIC BIKE HIRE

## ELECTRIC BIKES POPULAR IN THE CAPITAL REGION

Electric bikes have become a more common sight on cycle paths in the Capital Region. Nowadays 1 in 10 bikes sold is an electric bike.

The Capital Region implemented a large-scale project known as Try an Electric Bike between 2013 and 2016 in partnership with a number of municipalities and with the support of the Danish Road Directorate. The aim of this project was to persuade more residents to travel by electric bike rather than car on a daily basis.

Try an Electric Bike demonstrated the potential of electric bikes for people with a slightly longer commute who wanted to cycle a few days a week. That said, the opportunity to try an electric bike has also motivated quite a few people to carry on using regular bikes a couple of times a week. In all, 50% of respondents changed their habits and now cycle to work at least once a week.



**1,700** people who used to be keen to commute by car have cycled a total of **884,000 kilometres** — the equivalent of everyone together having cycled to the moon and back

**34%** cycle to work at least 3 days a week, one year after the test period

Participants reduced their body age by an average of **1.6 years** and lost **0.8 kg** of fat



**50%** of participants have changed habits and now cycle to work weekly

Participants have reduced CO<sub>2</sub> emissions from commuting by **154 tonnes** over the test period

**1/4** of participants have bought new bikes – either regular bikes or bikes with electric motors

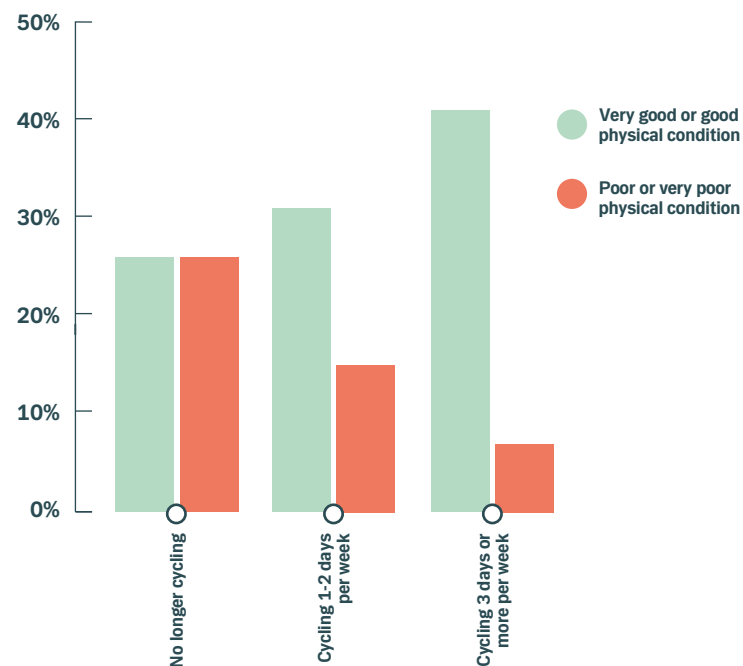


## ELECTRIC BIKES HELP TO IMPROVE HEALTH

When Capital Region residents cycle, this benefits public health. But would health be improved even if the bike has an auxiliary motor? According to the results from the Try an Electric Bike initiative, the answer is a definite Yes.

41% of participants who continued to cycle 3 or more days a week after the end of the test period were in good or very good physical condition after 3 months. Of the participants who stopped cycling altogether after the test period, this figure stands at just 26%. This result is backed up by health checks undergone by 56 test subjects involved in the project. These health checks showed that using an electric bike had positive effects on factors such as participants' body age and body fat percentage. Participants reduced their body age by 1.6 years and lost 0.8 kg of fat on average.

### PERCEIVED PHYSICAL CONDITION AMONG TEST PARTICIPANTS 3 MONTHS AFTER THE TEST PERIOD, DEPENDING ON HOW MUCH THEY CYCLED



# CYCLING: THE FACTS

According to 'Danske Cykelhandlere', **41,000** electric bikes were sold in Denmark in 2015

62% believe it is "important" or "very important" **to make it easier to switch between different modes of transport**

43% believe it is "important" or "very important" **to improve conditions for motorists**

62%

43%

68%

68% believe it is "important" or "very important" **to improve conditions for cyclists**

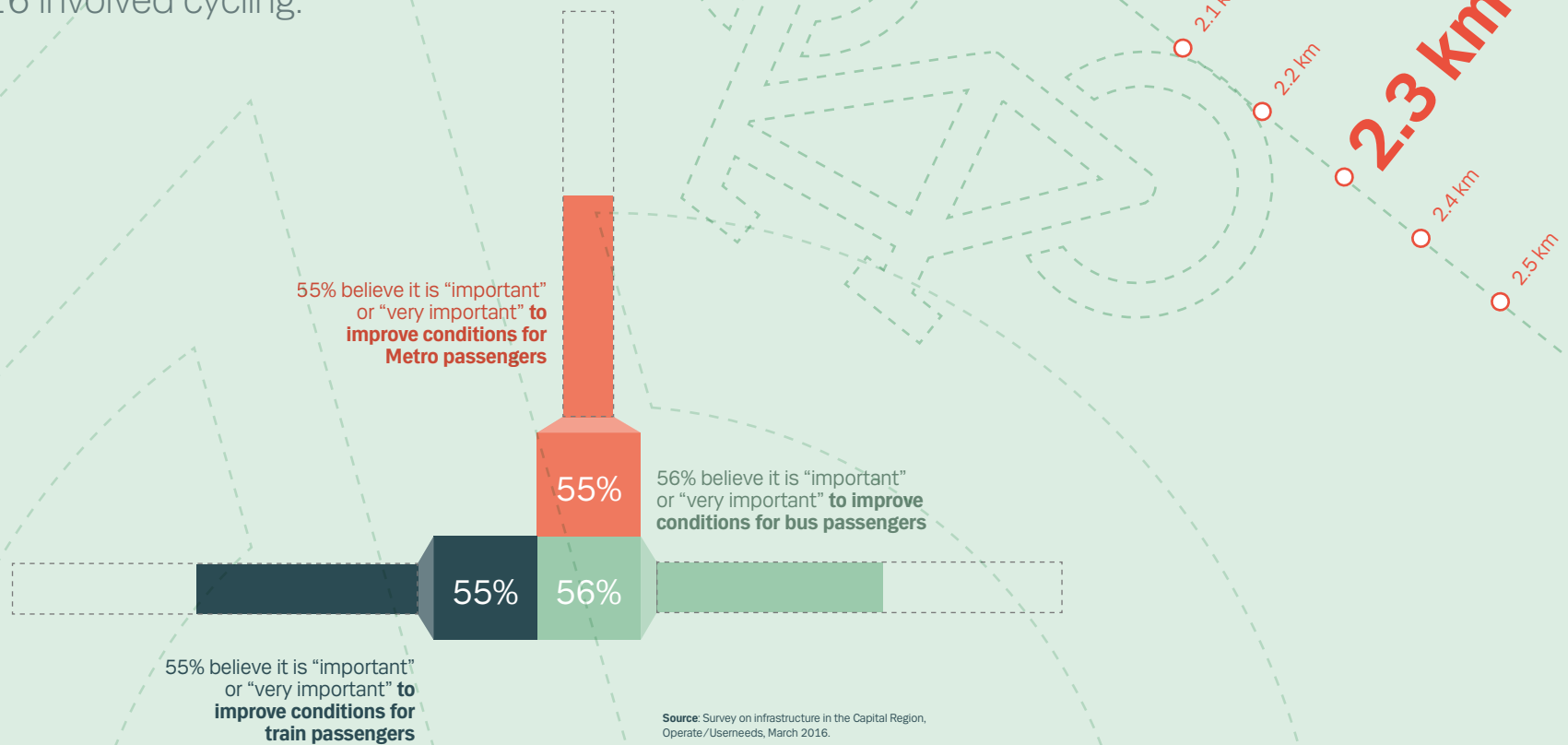
Source: Survey on infrastructure in the Capital Region, Operate/Usemeets, March 2016.

The higher the household income, the less cycling is done. 30% of overall transport involves cycling in households with an income below DKK 200,000. In households with an income above DKK 1,200,000, only 17% of transport involves cycling.



Most cycling is done by people heading to work. **13%** of all transport to and from work and school/college in 2016 involved cycling.

On average, each Capital Region resident aged 10-84 cycles **2.3 km per day**

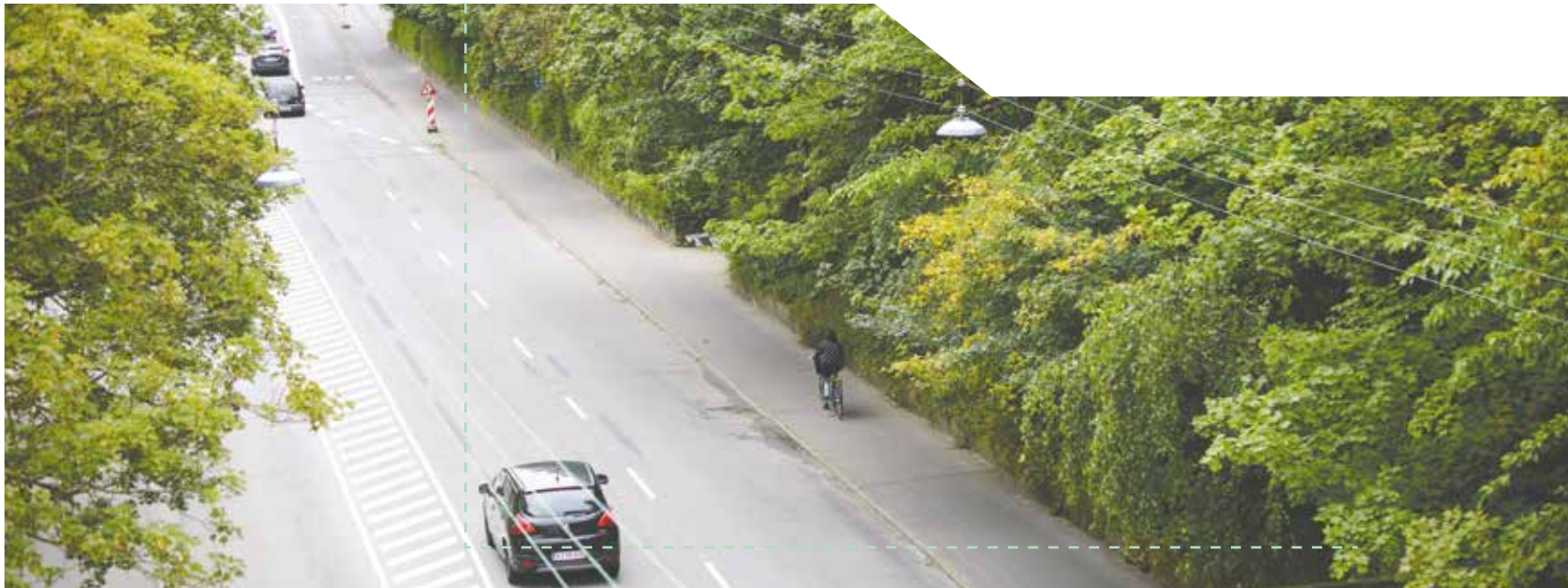


# MORE CYCLING, LESS CONGESTION

## LOTS OF CONGESTION — BUT NOT ON CYCLE PATHS

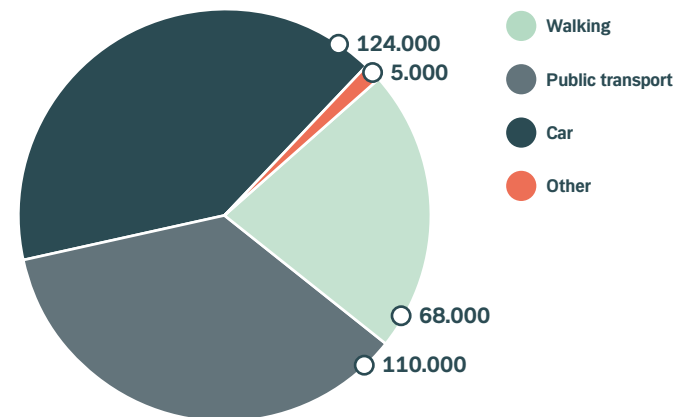
Every day, commuters travelling by car in the Capital Region spend more than 130,000 hours sitting in queues. The socioeconomic value of these hours of delay is worth approx. DKK 8.5 billion, and the loss of hours is equivalent to 22,000 full-time jobs on an annual basis.

There is very little congestion on cycle paths, on the other hand, and more and more commuters are taking advantage of this and so benefiting motorists. Commuter cycling resulted in 124,000 fewer daily car journeys during rush hour in 2016, compared with just 112,000 in 2012.



In 2016, **51%** of all commuter journeys of less than 10 km in the Capital Region were by bike

MODES OF TRANSPORT THAT WOULD OTHERWISE BE USED BY CYCLISTS,  
NUMBER OF JOURNEYS PER DAY IN 2016



## WHAT WOULD WE DO WITHOUT CYCLING?

How would we get to where we are going without cycling? In particular, we would walk very short distances of 0 to 2 km instead. But some of these journeys would also be replaced by travel by car or public transport.

For slightly longer distances we would mainly use cars or public transport instead, so worsening congestion.

So commuters who cycle help to reduce the number of cars on our roads, and hence congestion. If these people did not cycle there would be an additional 124,000 car journeys a day, many of which would be short. 53% of these additional car journeys would cover distances of less than 5 km.

If commuters who cycle were to leave their bikes at home and switch to other modes of transport, commuters would make 30% more car journeys in the Capital Region.

30% more commuter traffic on roads



- if we did not cycle in the Capital Region



# CYCLE SUPER- HIGHWAYS FOR COMMUTERS

## A UNIQUE PARTNERSHIP AND A JOINT PROJECT

Cycle superhighways are an interconnected network of high-quality cycle routes in the Capital Region. The aim is to create better conditions for cyclists, thereby creating a competitive transport alternative to car travel for distances over 5 km in particular. 23 municipalities are working together with the Capital Region to promote the number of commuters on 2 wheels across municipal boundaries.

These routes are designed to interlink traffic hubs, residential areas, schools and colleges and areas where lots of people work. They are also planned so that they cover the most direct routes, with as few stops as possible.

This initiative may potentially result in over 30% more cycling commuters in the region than at present. Switching passive transport for active transport offers many benefits in terms of congestion, the environment and health. The total socioeconomic gain from the overall network of cycle superhighways has been estimated at DKK 7.3 billion because people are taking 34,000 fewer sick days each year, for instance.

33% of all commuter journeys in the Capital Region involve cycling at present.

More commuters cycle today in cycle superhighway municipalities than in 2012, a figure equivalent to 6 percentage points



## ROUTE NETWORK IMPLEMENTATION

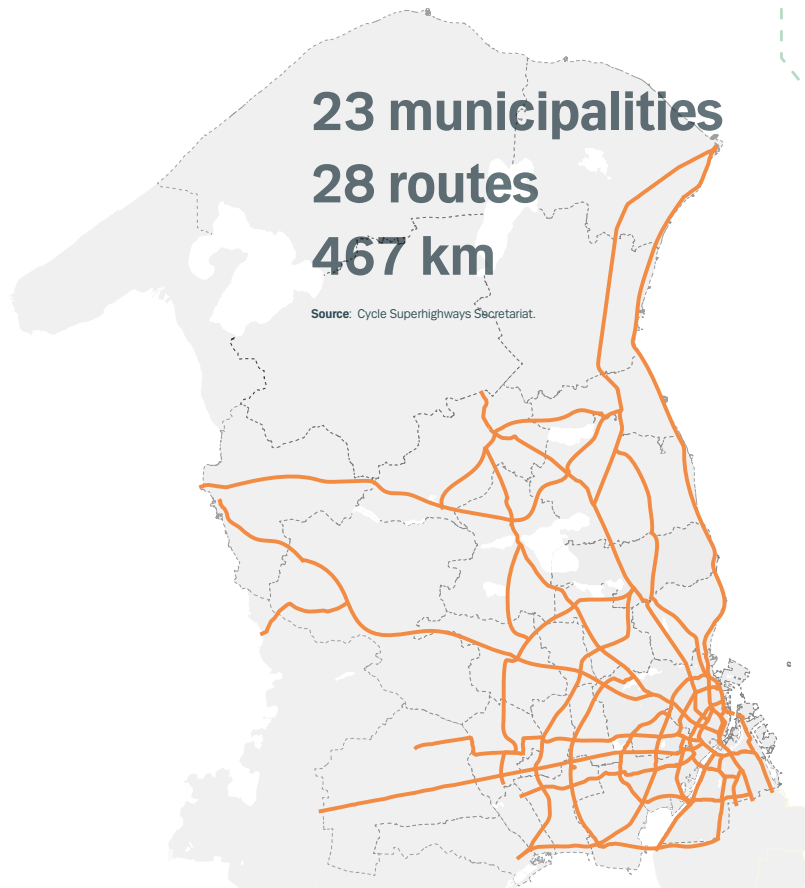
The overall route network is made up of 28 routes and a total of 467 km of cycle superhighway. Spring 2012 saw the opening of Denmark's first cycle superhighway: the Albertslund Route. The network currently consists of 8 cycle superhighways, with a further 5 routes in the pipeline.

Around DKK 400 million has been invested in the first 206 km of the network. The State has donated DKK 176 million of this in grants, while municipalities have funded the rest. Thus the State has funded just over 44% of the routes that were funded by the end of 2016. Of the total socioeconomic gains from an extended route network, the State benefits from 70% of the gains, while 30% falls to the municipalities.

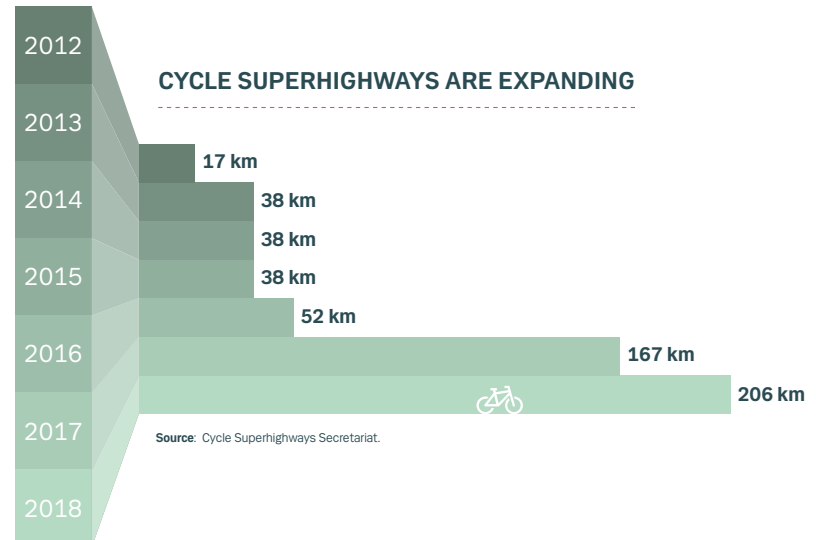
## CYCLE SUPERHIGHWAY NETWORK

23 municipalities  
28 routes  
467 km

Source: Cycle Superhighways Secretariat.



## CYCLE SUPERHIGHWAYS ARE EXPANDING



CYCLE SUPERHIGHWAYS ARE A GREAT SUCCESS

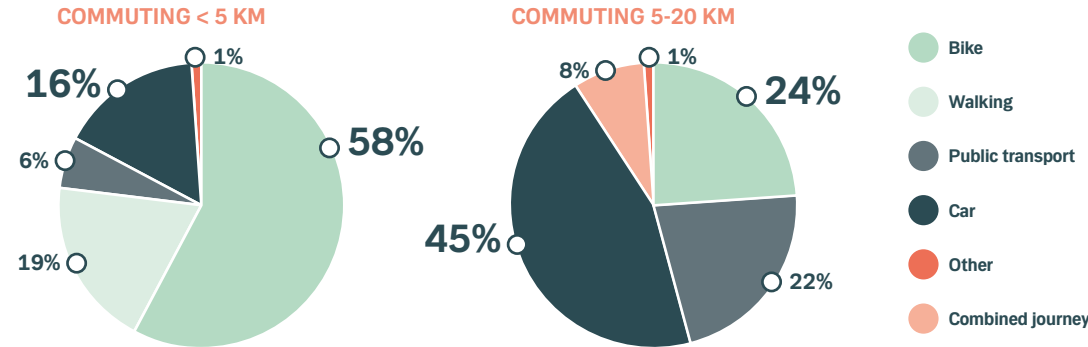
Most cycle journeys in the region are short, less than 5 km. But the cycle superhighways cover medium to long routes of up to 20 km, where many people would otherwise choose to drive. The average journey on the Farum Route is 14.7 km, for example.

34% more bike traffic on the Albertslund Route

61% more bike traffic on the Farum Route

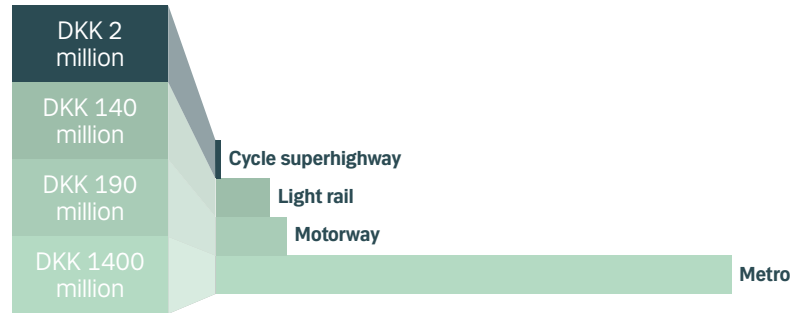
There is vast **untapped potential** for more commuter journeys by bike over distances of **5-20 km**, where cars currently account for the majority of journeys

The market share for cycling among residents in the region stands at **58%** of commuter journeys under 5 km and **24%** of commuter journeys between 5 and 20 km.



### CYCLE SUPERHIGHWAYS ARE A GOOD INVESTMENT (PRICE PER KILOMETRE, DKK MILLIONS)

Compared with other infrastructure investments, cycle superhighways are significantly cheaper. The route network offers a socioeconomic return of 19% compared with 3.1% for the City Circle Line, for example.



Source: Cycle Superhighways Secretariat.



### CYCLE SUPERHIGHWAYS IN A FUTURE WITH MORE TRAFFIC

Traffic projections show that traffic in the region will go on increasing for all modes of transport. This will put more pressure on the existing infrastructure. Cycling is an important player in this regard in particular and requires only limited space.

When the total cycle superhighway network with 28 routes has been completed, this will result in the following annual effects:

**720,000** fewer car journeys

**3,000,000** more cycle journeys

**55,000** hours not spent queuing in cars

**34,000** fewer sick days

**856 tonnes** of saved CO<sub>2</sub> – equivalent to annual emissions from 100 people in Denmark

# CYCLING IS GOOD FOR THE ENVIRONMENT

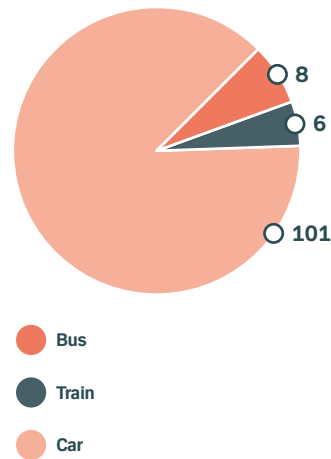
Transport in the Capital Region resulted in some 2.5 million tonnes of CO<sub>2</sub> emissions in 2016, representing an increase of 15% since 2012. Cycling produces no CO<sub>2</sub> emissions, so choosing to cycle rather than taking the car, bus or train is good for the environment.

If residents did not cycle and instead travelled by car, bus or train, CO<sub>2</sub> emissions from transport would be 115,000 tonnes (4%) higher in the Capital Region. Cars would cause an additional 101,000 tonnes of CO<sub>2</sub> emissions, buses would cause an extra 8,000 tonnes and trains an extra 6,000 tonnes. This is equivalent to annual CO<sub>2</sub> emissions from almost 15,000 people.





**CO2 EMISSIONS SAVED DUE TO  
CYCLING IN THE CAPITAL REGION  
(THOUSAND TONNES OF CO2 PER YEAR)**



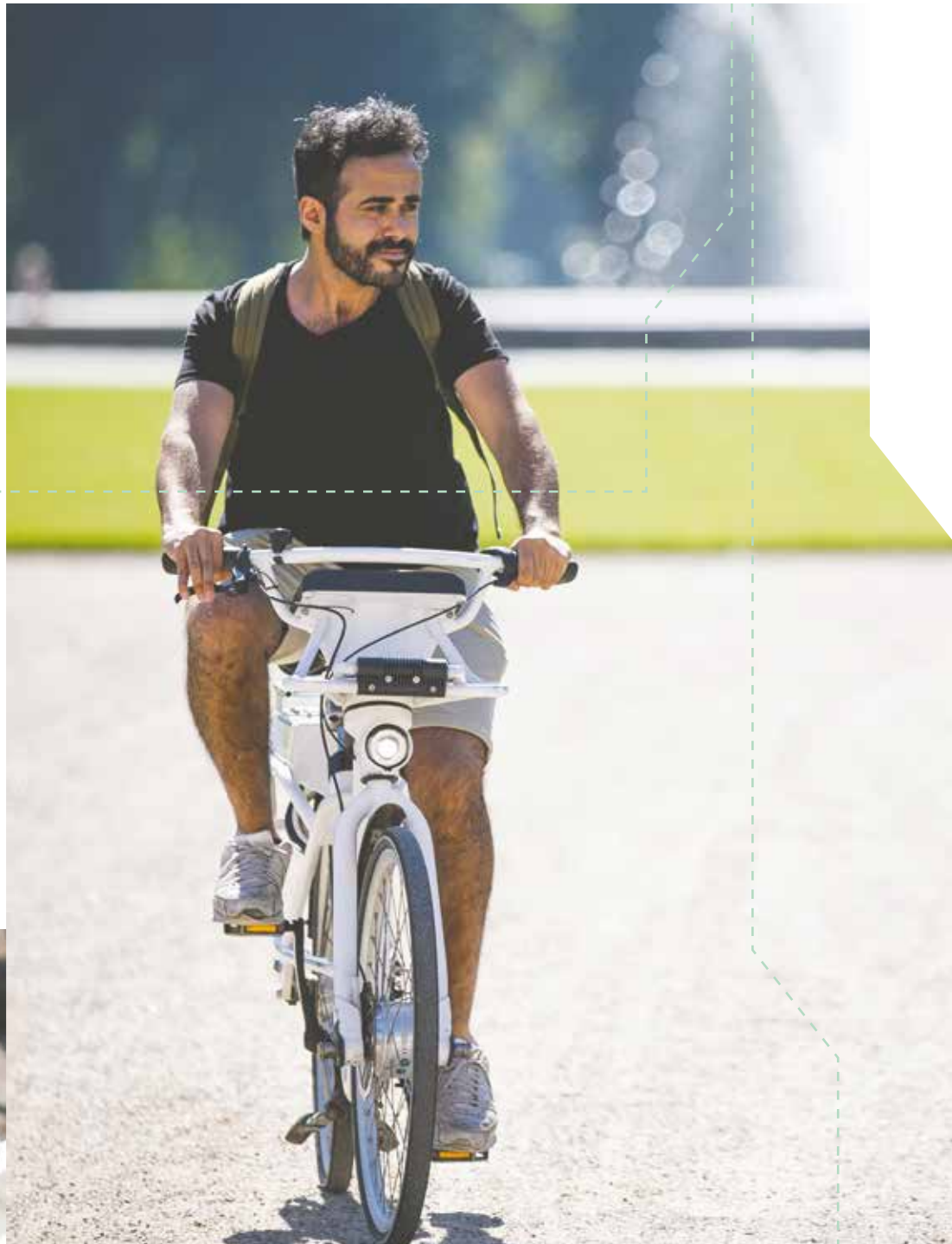
Cycling in the Capital Region saves CO<sub>2</sub> equivalent to **annual emissions from 15,000 people**

Every time we cycle 1 percentage point more, we save the environment **16,500 tonnes of CO<sub>2</sub>** per year

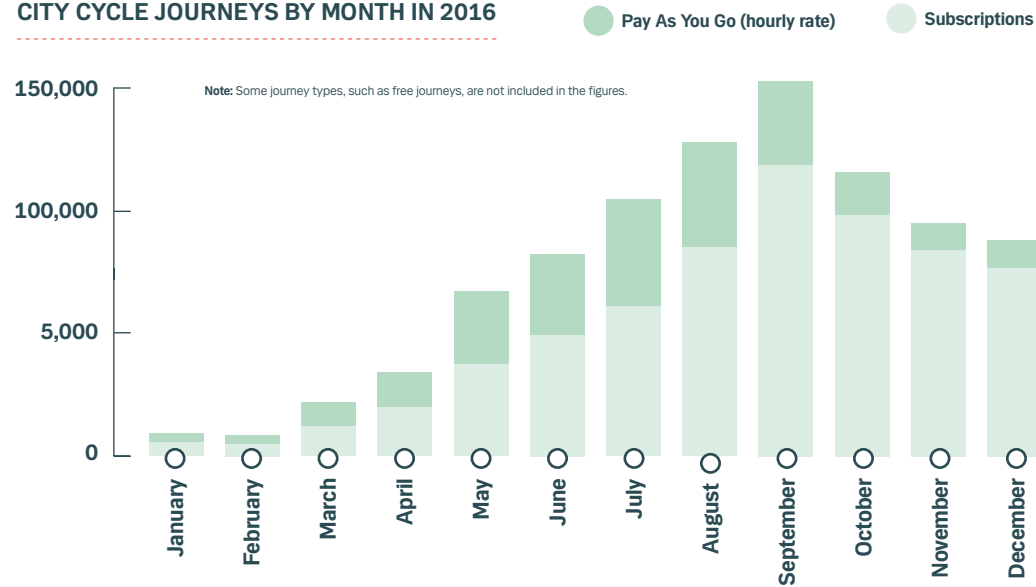
If we made 1% of all car journeys in the region by bike instead, we would save **23,000 tonnes of CO<sub>2</sub>** per year

# BYCYKLEN — GREEN MOBILITY

Bycyklen, the city bike scheme, underpins the Greater Copenhagen area's transport infrastructure and provides residents and tourists with options for travel throughout the bus, rail and metro network. Bycykel bikes are the fourth element in Copenhagen's public transport system.



## CITY CYCLE JOURNEYS BY MONTH IN 2016



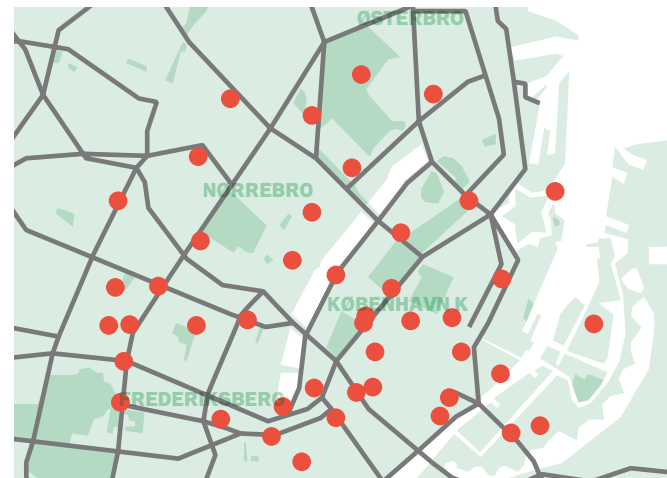
## MAJOR SUCCESS FOR BYCYKLEN IN 2016

Overall, the number of journeys in 2016 increased more than fivefold compared to 2015. There were 156,000 Bicykel journeys in September 2016 alone, compared with 169,834 journeys throughout all of 2015.

The increase in the use of Bicykel bikes looks set to continue, and we are expecting to see more than 50% extra Bicykel use between 2016 and 2017. February 2017 saw five times as many journeys as in February 2016, for instance.

Bicykel bikes can also be used during working hours, allowing workers and meeting attendees to switch from cars to bikes and so helping to save time and CO<sub>2</sub> emissions while also promoting health and well-being among workers.

There were more than **100 Bicykel stations in Copenhagen/Frederiksberg** and 2 Bicykel stations in Høje Taastrup in early 2017



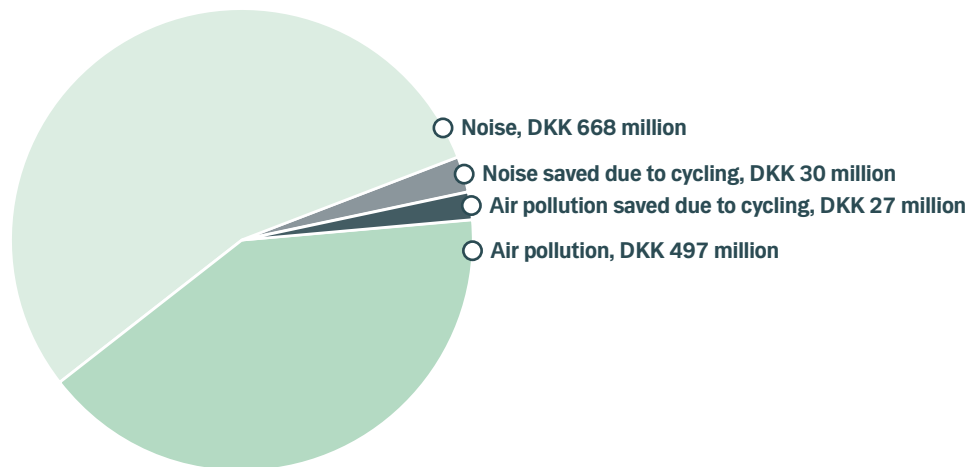
# CYCLING IMPROVES AIR QUALITY

Noise and air pollution are harmful to health and cause inconvenience for residents, increase healthcare costs and so forth. Overall, noise and air pollution from cars, buses and trains in the Capital Region resulted in a total socioeconomic loss of DKK 1.2 billion in 2016.

## BIKES ARE QUIET AND USE NO PETROL

If Capital Region residents did not cycle but travelled by bus, train and car instead, this would increase society's overall costs related to noise by DKK 30 million per year and costs related to air pollution by DKK 27 million per year.

## SOCIOECONOMIC COST OF NOISE AND AIR POLLUTION, 2016

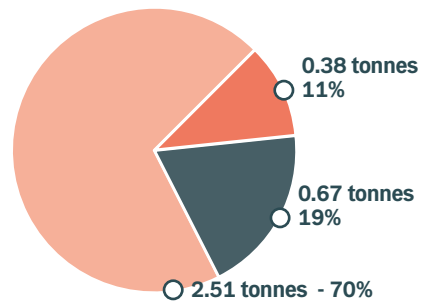


Residents' cycling in 2016 saved the environment **3.2 tonnes of particulate matter** and **147 tonnes of NO<sub>x</sub>**

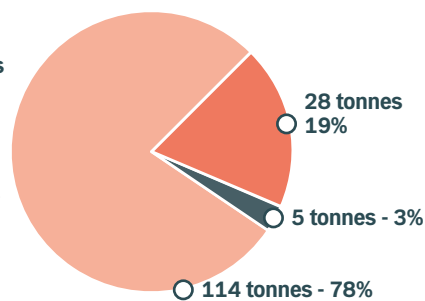


# NO<sub>x</sub> AND PARTICULATE EMISSIONS SAVED DUE TO CYCLING IN THE CAPITAL REGION IN 2016, TONNES, %

## PARTICULATE EMISSIONS SAVED



## NO<sub>x</sub> EMISSIONS SAVED



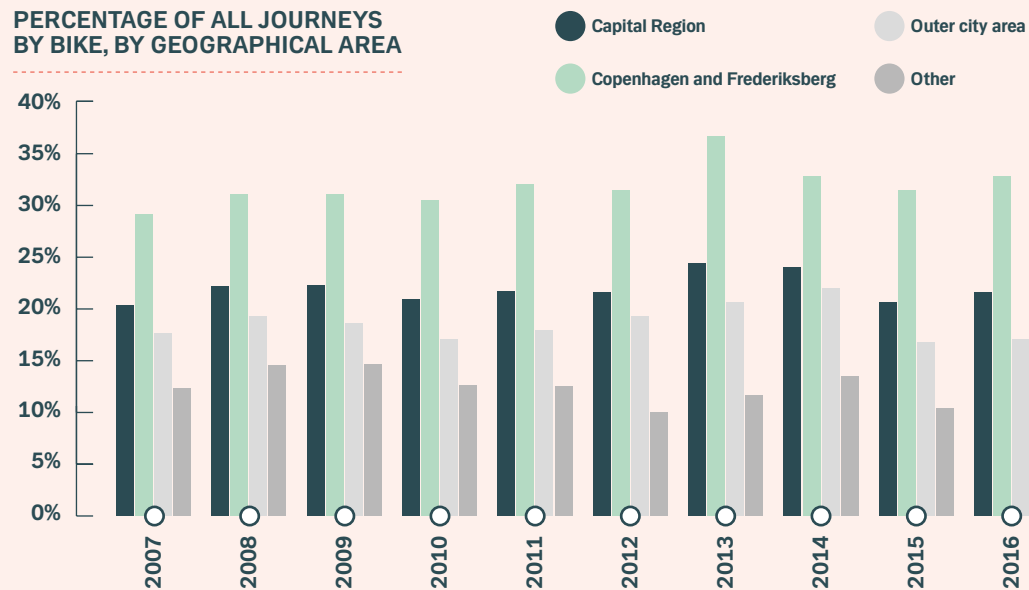
- Bus
- Train
- Car

## LESS NO<sub>x</sub> AND PARTICULATE POLLUTION

Cycling reduces pollution from particulates and NO<sub>x</sub> caused by transport in the Capital Region. As a result of cycling, particulate emissions were reduced by 3.2 tonnes and NO<sub>x</sub> emissions were reduced by 147 tonnes compared with other modes of transport in 2016. This is accounted for by a reduction in road traffic for the most part (75%-80%). However, using fewer buses or cleaner buses (electric buses, for example) can help to reduce pollution.

# REPORT 2016

PERCENTAGE OF ALL JOURNEYS  
BY BIKE, BY GEOGRAPHICAL AREA



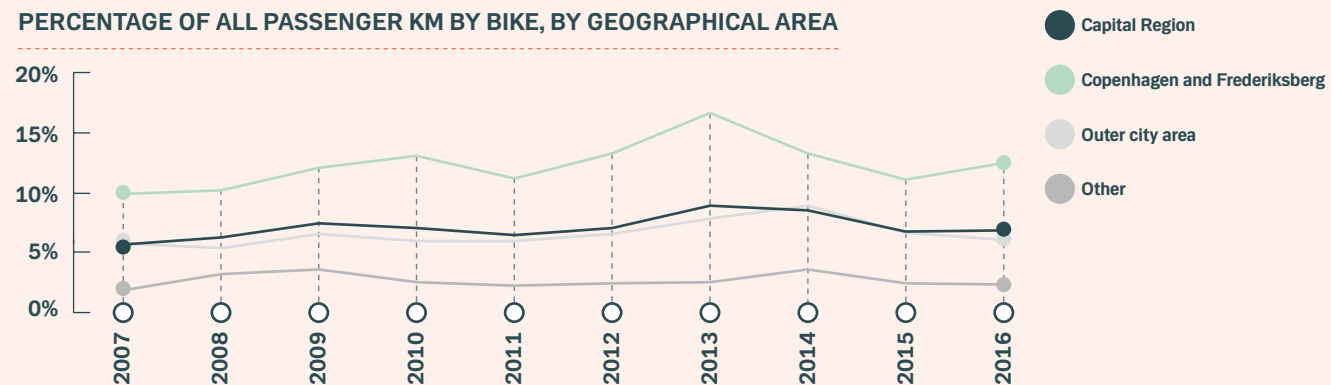
PERCENTAGE OF ALL JOURNEYS BY BIKE, BY JOURNEY LENGTH

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Less than 2 km	29.1%	32.6%	29.7%	27.4%	28.2%	29.5%	30.7%	27.9%	25.7%	26.8%
2-5 km	31.4%	32.0%	33.7%	29.8%	33.6%	31.1%	34.9%	36.7%	31.5%	33.5%
5-10 km	17.9%	20.2%	19.2%	22.4%	21.5%	21.3%	28.7%	25.5%	21.0%	23.4%
10-25 km	4.7%	5.1%	5.7%	5.9%	4.7%	7.6%	10.2%	8.0%	7.5%	6.1%
More than 25 km	0.7%	0.3%	2.1%	0.7%	0.5%	0.9%	1.6%	1.8%	0.4%	0.8%

KM CYCLED PER DAY, BY AGE GROUP

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
All (ages 10-84)	2.0	2.1	2.4	2.1	2.2	2.3	2.7	2.6	2.2	2.3
Young people (aged 10-17)	2.2	2.1	2.6	1.8	1.8	1.5	1.6	2.1	1.9	2.1
Others (aged 18-65)	2.1	2.3	2.7	2.4	2.5	2.8	3.2	3.0	2.4	2.6
Elderly (aged 66-84)	0.9	1.1	0.9	0.8	0.8	0.7	1.2	1.2	1.1	1.0

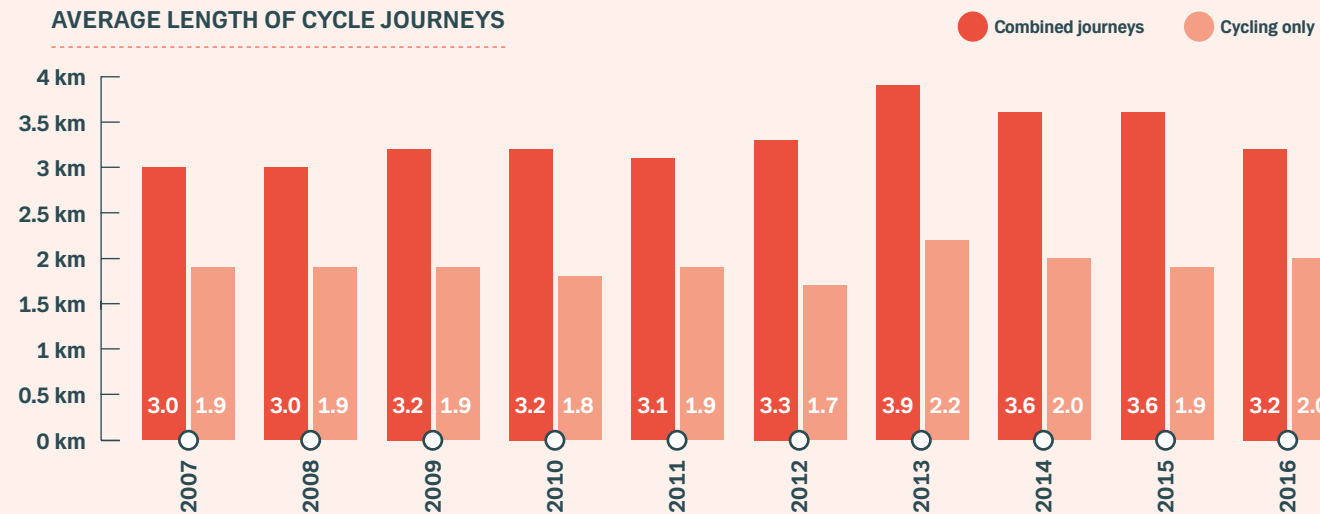
### PERCENTAGE OF ALL PASSENGER KM BY BIKE, BY GEOGRAPHICAL AREA



### KM CYCLED PER YEAR, BY GEOGRAPHICAL AREA (MILLION KM)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Capital Region	1,018	1,090	1,271	1,139	1,165	1,257	1,489	1,439	1,212	1,317
Copenhagen and Frederiksberg	521	571	682	663	657	697	906	714	687	751
Outer city area	370	333	387	327	372	396	436	514	370	403
Other	127	186	202	149	136	163	147	211	155	163

### AVERAGE LENGTH OF CYCLE JOURNEYS



### **The Capital Region**

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**The Capital Region  
of Denmark**